



Strategic Information Systems

10.1 Definition of Strategic Information system

Strategic Information System are those computer systems that implement business strategies. They are those systems where information services resources are applied to strategic business opportunities in such a way that the computer systems have an impact on the organization's products and business operations. Strategic information systems are always systems that are developed in response to corporate business initiative. The ideas in several well-known cases came from information services people, but they were directed at specific corporate business thrusts. In other cases, the ideas came from business operational people, and information services supplied the technological capabilities to realize profitable results.

Strategic information system delivers information products and services that play a direct and prominent role in helping a firm achieve its strategic goals. It also supplies an organization with business intelligence or competitive information. It consists of internal and external data used to assess and analyse opportunities and threats in the business environment.

An information system is classified as strategic system based on how it is used and on the benefits it provides to the organization. Any Information system can be viewed as an strategic information system if it is used in creative ways to achieve the goals and fulfil the mission of the organization. Basically a strategic information system is classified into two parts:

1. Internal Strategic Information System: It is used by employees within the organization and do not have a value added component. They focus on issues such as improving the quality of products and services and enhancing the decision making capabilities of managers. This type of system are often used in all level of organization.

2. External Strategic Information System: It is used primarily by external entities in the business environment, such as customers, suppliers and distributors and have a value added component that gives developers some time to read the benefits of system innovation.

Classification of Strategic Information System:

In general, strategic information system can be divided into three broad areas, based on three strategies:

1. System that focus on innovation for competitive advantage: It helps companies to be responsive to customer needs. It include customer-oriented system and planning systems. For example: Merrill Lynch's cash management account system allows customers to withdraw cash, conduct credit transactions, and analyse investment options using just a single account. This can manage their financial portfolios by moving money among stock, bonds and other financial instruments, at their convenience, all free of charge.

Name	Description
Customer service system	Order, order enquiry, service systems
Marketing planning system	Forecasting, sales analysis

2. Systems that use information as a weapon: It provides help to the manager with vital financial and statistical data that enhance internal decision making. Financial planning, executive information, logistics systems, electronic data interchange, external database access and expert system can be considered as information service system.

Name	Description
Financial planning system	System with mathematical models to aid financial planning.
Executive information system	It allow stock management to retrieve internal and external data and information direction from the computer.
Electronic data interchange	It sends bills, payments or orders to suppliers and customers.

3. *Systems that increase productivity and lower the costs of goods and services:* These are the support system such as transaction processing, inventory management, centralized databases, production planning, personnel, factory floor control systems and other systems that help to increase the overall productivity of the organization.

Name	Description
Transaction processing	Accounting, billing, payroll
Inventory management	Raw materials, finished products, work process
Centralized DBMS	Software system to facilitate access to all organizational data and information.

Characteristics of Strategic Information System:

There are three common characteristics of strategic information systems:

1. Telecommunication: It is a central part of SIS. The most successful SIS are those that transcend traditional organizational boundaries and eliminate the barriers of time and space through the use of telecommunication. Developing and implementing information systems that rely heavily on telecommunication is an extremely challenging task and is often cited as one of the development bottlenecks in SIS.

2. Multiple Vendors: SIS often requires the integration of complex technologies, such as several vendors are needed to develop an SIS. One of the critical ingredients of an SIS is the ability to identify, coordinate, and manage transactions with a number of vendors and effectively bring together diverse technologies to achieve a goal.

3. Inter-organizational system (IOS): IOS are systems shared by two or more companies, in the spirit of cooperation and collaboration rather than that of blind competition. IOS often involve bringing together a diverse group of assets and talents such as ventures often result in powerful systems that enhance productivity, reduce operating costs, increase market share and create new partnerships, especially for companies that conduct business transactions in global markets.

10.2 Strategic information system plan

The strategy that a company chooses to follow in order to capture and retain markets and to achieve its mission is in strategic information system plan. In the company identifies and defines its strategic mission and its overall goals. It also include what is popularly referred to as the SWOT analysis: strengths, weakness, opportunities and threats in the marketplace. Identifies the information system and technologies required to support the business strategy identified in the strategic business plan. It is like a roadmap that helps IS managers determine where to go and how to get there by identifying current and future information requirements and matching these needs with existing system and technologies to identify and potential gap between what is available and what should be available to promote good decision making.

It is the analysis of a corporation's information and processes using business information models together with the evaluation of risk, current needs and requirements. The result is an action plan showing the desired course of events necessary to align information use and needs with the strategic direction of the company. SISP thus is used to identify the best targets for purchasing and installing new management information systems and help an organization maximize the return on its information technology investment.

The SISP identifies emerging technologies and explores the ways these technologies can strengthen the competitive posture of the company.

It specifically targets the following four areas:

- Aligning IS investment with business goals.
- Exploiting information technologies for competitive advantage.
- Ensuring the efficient management of IS resources.
- Developing technology policies and practices.

10.3 Strategy for developing strategic information system

Strategic systems are among the most difficult to develop. If a company is successful in developing a strategic system, it is extremely difficult and challenging to maintain a strategic edge over the long term as competitors relentlessly pursue new ways to improve their operations. It includes several steps:

- Establish the purpose of the plan and develop a broad outline describing what the plan will address.
- Update the strategic business plan and the goals of the business. Reassess the current business environment.
- Identify the existing information systems including hardware, software and networking capabilities. Determine future information needs and system.
- Identify the new systems, projects and capabilities required to meet the changing environment and changing information needs.
- Identify the resources required to implement the plan and to win the support of top management for the plan.

There are not set of rule or formula for building a successful strategic system, only some guidelines that eventually lead to one. In most cases innovation, risk taking and a good deal of luck seem to be the main ingredients of a successful strategic system.

Barriers of SMIS:

If a company were to follow some the strategies, it might still face many barriers to developing an SIS. Some of these barriers are identified as follows:

1. **Problem definition (Development):** This process is particularly difficult in organizations that do not encourage risk taking or experimentation and that penalize their employees for failure. Defining a strategic idea requires that business managers communicate clearly with technical managers. If the two group cannot communicate clearly, it can be a barrier to the development of strategic systems.

Some of the development barriers are as follows:

- Generating workable ideas requires leadership and teamwork.
- Many innovative ideas are technically infeasible.
- Many innovative ideas are prohibitively expensive.
- Many ideas die because they lack a sufficient market.

2. **Implementation:** If companies cross the barriers to defining an idea they often have a difficult time to implementing it. Strategic systems rely heavily on telecommunication and other leading edge technologies; many companies lack the talent necessary to build such systems.

Some of the implementation barriers are as follows:

- Telecommunication increases the complexity of implementing SIS.
- Multiple systems are difficult to integrate.
- SIS systems often require inter-organizational cooperation.
- State – of-the-art technologies are difficult to implement.

3. **Maintenance:** Strategic system are often expensive to maintain and can sometimes be an enormous drain on the corporate budget. When competitors diligently try to imitate the strategic idea, the success of a strategic system can be diminished.

Some of the maintenance barriers are as follows:

- Competitors can copy SIS.

- Unanticipated demand can overwhelm the usefulness of an SIS.
- Applications can be expensive to maintain or enhance.
- High exit barriers can cause devastating losses.