Chapter 1
Information Systems in Global Business Today

Introduction

Computers and Information technology (IT) are changing every aspect of our lives from entertainment to shopping, from the work we do and where we do it, to how we communicate with friends and relatives. Many companies are remodeling their businesses and information systems with the Internet in mind. IT is dramatically changing the business landscape and significantly affecting strategic options and creating opportunities and issues that managers need to address in many aspects of their business. Some of the key impacts of technology and the implications for management are:

- → **Business Strategy** - collapsing time and distance, enabling electronic commerce
- → **Organization Culture** - encouraging the free flow of information
- → **Organization Structures** - making networking and virtual corporations a reality
- → **Management Processes** - providing support for complex decision making processes
- → **The workplace** - allowing work from home and on the move

The Role of Information Systems in Today's Business

Information systems are essential for conducting day-to-day business as well as achieving strategic business objectives. Some firms, such as Amazon and ETrade, would be nonexistent without information systems. It is difficult to imagine some service industries, such as finance, insurance, and real estate industries, could not operate without information systems. The ability of a firm to use IT is becoming intertwined with the firm's ability to implement corporate strategy.

As electronic business and electronic commerce grow in popularity and more firms digitize their operations, having useful information is becoming even more important to the global business community. Business firms invest heavily in information systems to achieve six strategic business objectives: operational efficiency, new products, services & business models, customer and supplier intimacy, better decision making, competitive advantage, and survival.

How Information Systems Are Transforming Business

Wireless communications, including computers and mobile hand-held computing devices, are keeping managers, employees, customers, suppliers, and business partners connected in every way possible. Email, online conferencing, the Web, and the Internet, are providing new and diverse lines of communication for all businesses, large and small. Through increased communication channels and decreased costs of the communications, customers are demanding more of businesses in terms of service and product, at lower costs. E-commerce is changing the way businesses must attract and respond to customers.

What's New in Management Information Systems?

The use of technology now extends far beyond the simple desktop computer, especially in the business world. There are three interrelated changes that are affecting companies worldwide:

→ **The emerging mobile digital platform**: More and more business computing is moving from PCs and desktop machines to mobile devices like IPhones, iPads, Smart Phones etc. Managers are increasingly using these devices to coordinate work, communicate with employees, and provide information for decision making.

→ **Growth of businesses use of big data**: The use of Big Data — large pools of data that can be brought together and analyzed to discern patterns and make better decisions — will become the basis of competition and growth for individual firms, enhancing productivity and creating significant value for the world economy by increasing the quality of products and services.

All companies need to take Big Data and its potential to create value seriously if they want to compete. For example, some retailers embracing big data see the potential to increase their operating margins.

→ **Growth of cloud computing**: Cloud computing is a type of computing that relies on sharing computing resources rather than having local servers or personal devices to handle applications. Main objective is to provide different services — such as servers, storage and applications —to an organization's computers and devices through the Internet. The cloud has changed the fundamental nature of computing and how business gets done. According to the research done by Global Industry Analysts Inc, cloud computing came as a boon for companies during tough economic and financial climate, given that the technology can potentially slash IT costs by over 35%

Globalization Challenges and Opportunities: A Flattened World

Customers no longer need to rely on local businesses for products and services. They can shop at any time and any day of a week for virtually anything and have it delivered to their door or desktop. Companies can operate at any time from any geographic location around the world. Jobs can just as easily move across the state or across the ocean. The emergence of the Internet into a full blown international communications system has drastically reduced the costs of operating and transacting business on a global scale.

The move to a global economy has been facilitated by advanced telecommunications networks and particularly by the Internet. At the same time globalization adds challenges to businesses. In a global market cost of labor, varies widely among countries. In general, labor costs are higher in developed countries than in developing countries. Also, developed countries usually pay high fringe benefits to employees, which make the cost of doing business even higher. Therefore, many labor-intensive industries have moved their operations to countries with low labor costs. These moves are greatly facilitated with IT.

The Emerging Digital Firm

A **digital firm** is one in which nearly all of the organization's significant business relationships with customers, suppliers, and employees are digitally enabled, and key corporate assets are managed through digital means. These digital networks are supported by enterprise class technology platforms that have been leveraged within an organization to support critical business functions and services. Some examples of these technology platforms are Customer Relationship Management (CRM), Supply Chain Management (SCM), Enterprise Resource Planning (ERP), Knowledge Management (KMS), Enterprise Content Management (ECM), and Warehouse Management System (WMS). Making a firm digital is not about just adding a computer system to the mix. Throwing a computer system at outdated business processes is exactly the wrong thing to do. A truly digital firm has several characteristics that distinguish it from most of the firms claiming to be digitized:

- → Significant business relationships with customers, suppliers, and employees are digitally enabled and mediated.
- → Core business processes are accomplished through digital networks spanning the entire organization or linking multiple organizations.
- → Key corporate assets – intellectual property, core competencies, and financial and human assets – are managed through digital means.
- → They sense and respond to their environments far more rapidly than traditional firms.
- → They offer extraordinary opportunities for more flexible global organization and management, practicing time-shifting (business being conducted 24 hrs x7 day) and space-shifting (business being conducted globally or beyond traditional geographic boundaries).

Strategic Business Objectives of Information Systems

Strategic planning for an organization involves long-term policy decisions, like location of a new plant, a new product, diversification etc. Information technology has played an important part in the U.S. and global economies. Companies rely on IT for fast communications, data processing and market

intelligence. Specifically, business firms invest heavily in information to achieve six strategic business objectives:

→ Operational excellence
→ New products, services, and business models
→ Customer and supplier intimacy
→ Improved decision making
→ Competitive advantage
→ Survival

Operational Excellence: This relates to achieving excellence in business in operations to achieve higher profitability. For example, a consumer goods manufacturer may decide upon using a wide distribution network to get maximum reach to the customers and exposure. A manufacturing company may pursue a strategy of aggressive marketing and mass production.

New Products, Services, and Business Models: This is part of growth strategy of an organization. With the help of information technology, a company might even opt for an entirely new business model, which will allow it to establish, consolidate and maintain a leadership in the existing market as well as provide a competitive edge in the industry. As successful as Apple Inc., BestBuy, and Walmart were in their traditional brick-and-mortar existence, they have all introduced new products, services, and business models that have made them even more competitive and profitable.

Customer and Supplier Intimacy: When a business really knows its customers, and serves them well, the way they want to be served, customers generally respond by returning and purchasing more. The result is increased revenues and profits. Likewise with suppliers: The more a business engages its suppliers, the better the suppliers can provide vital inputs. The result is a lower cost of doing business. JC Penney is an excellent example of how the use of information systems and technologies are extensively used to better serve suppliers and retail customers. Its information system digitally links the supplier to each of its stores worldwide. Suppliers are able to ensure the continuous flow of products to the stores in order to satisfy customer demands.

Improved Decision Making: A very important pre-requisite of strategic planning is to provide the right information at the right time to the right person, for making an informed decision. Well planned Information Systems and technologies make it possible for the decision makers to use real-time data from the marketplace when making decisions. Previously, managers did not have access to accurate and current data and as such relied on forecasts, best guesses, and luck. The inability to make informed decisions resulted in increased costs and lost customers.

Competitive Advantage: Doing things better than your competitors, charging less for superior products, and responding to customers and suppliers in real time all add up to higher sales and higher profits that your competitors cannot match. Toyota and Walmart are prime examples of how companies use information systems and technologies to separate themselves from their competition. Toyota worked its way to top of its industry with the help of its legendary information system. Walmart is the most efficient retail store in the industry based in large part on how well it uses its information resources.

Survival: Firms also invest in information systems and technologies because they are necessities for doing business. Information systems are not a luxury. In doing so, they had a major competitive advantage over their competitors. In order to remain and survive in the retail banking industry, other banks had no choice but to provide ATM services to banking customers.

Data Vs Information

Data is a collection of raw facts that may or may not be meaningful for managers. Input to any system may be treated as Data. It is very difficult to understand data and needs to be processed to understand. Data may not be in the order.

Information is the outcome derived after processing the data and is always meaningful. Output after processing the system is Information. Processing is performed by performing arithmetic logical calculations on data of simply by rearranging the data. It is very easy to understand information. Information should be in the order.

For example, researchers who conduct market research survey might ask a member of the public to complete questionnaires about a product or a service. These completed questionnaires are data; they are processed and analyze in order to prepare a report on the survey. This resulting report is information.

Characteristics of Information

Good information is that which is used and which creates value. Experience and research shows that good information has numerous qualities.

- **Availability/accessibility:** Information should be easy to obtain or access. Information kept in a book of some kind is only available and easy to access if you have the book to hand. A good example of availability is a telephone directory, as every home has one for its local area.
- **Accuracy:** Information needs to be accurate enough for the use to which it is going to be put. To obtain information that is 100% accurate is usually unrealistic as it is likely to be too expensive to produce on time. Accuracy is important. As an example, if government statistics based on the last census wrongly show an increase in births within an area, plans may be made to build schools

and construction companies may invest in new housing developments. In these cases any investment may not be recouped.

- **Reliability or objectivity:** Reliability deals with the truth of information or the objectivity with which it is presented. You can only really use information confidently if you are sure of its reliability and objectivity. Unless you know who the author is, or a reputable university or government agency backs up the research, then you cannot be sure that the information is reliable. Some Internet websites are like vanity publishing, where anyone can write a book and pay certain (vanity) publishers to publish it.
- **Relevance/appropriateness:** Information should be relevant to the purpose for which it is required. It must be suitable. What is relevant for one manager may not be relevant for another. The user will become frustrated if information contains data irrelevant to the task in hand. For example, a market research company may give information on users' perceptions of the quality of a product. This is not relevant for the manager who wants to know opinions on relative prices of the product and its rivals. The information gained would not be relevant to the purpose.
- **Completeness:** Information should contain all the details required by the user. Otherwise, it may not be useful as the basis for making a decision. For example, if an organization is supplied with information regarding the costs of supplying a fleet of cars for the sales force, and servicing and maintenance costs are not included, then a costing based on the information supplied will be considerably underestimated.
- **Level of detail/conciseness:** Information should be in a form that is short enough to allow for its examination and use. There should be no extraneous information. For example, it is very common practice to summaries financial data and present this information, both in the form of figures and by using a chart or graph. We would say that the graph is more concise than the tables of figures as there is little or no extraneous information in the graph or chart. Clearly there is a trade-off between level of detail and conciseness.
- **Presentation:** The presentation of information is important to the user. Information can be more easily assimilated if it is aesthetically

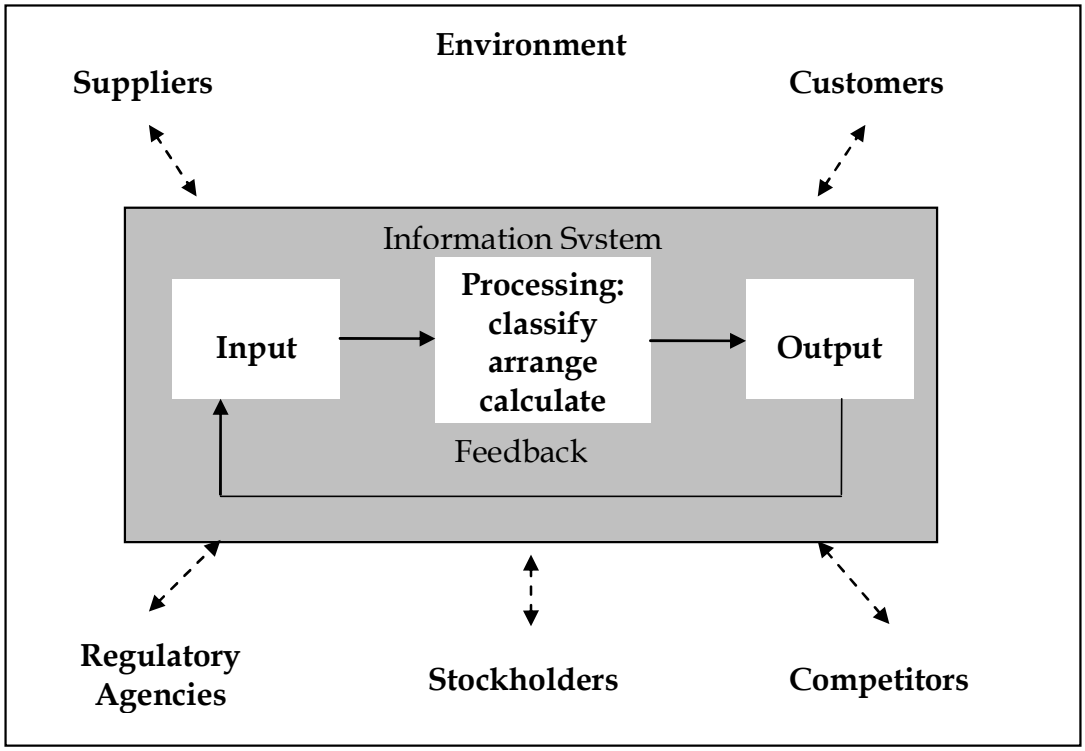
pleasing. For example, a marketing report that includes graphs of statistics will be more concise as well as more aesthetically pleasing to the users within the organization.

- **Timing:** Information must be on time for the purpose for which it is required. Information received too late will be irrelevant. For example, if you receive a brochure from a theatre and notice there was a concert by your favorite band yesterday, then the information is too late to be of use.

Information Systems

In a simplest sense, a system that provides information to people in an organization is called **information system (IS)**. It can be defined as a collection of interrelated components working together to collect, process, store, and disseminate information to support decision making, coordination, control, analysis, and visualization in an organization. An information system is an organized combination of people (persware), hardware, software, communication networks, and data resources.

Information systems in organizations capture and manage data to produce useful information that supports an organization and its employees, customers, suppliers and partners. So, many organizations consider information system to be the essential one. Information systems produce information by using data about significant people, places, and things from within the organization and/or from the external environment to make decisions, control operations, analyze problems, and create new products or services. As already mentioned, **Information** is the data shaped into a meaningful form. **Data**, on the other hand, are the collection of raw facts representing events occurring in organizations or the environment before they have been organized and arranged into a form that people can understand and use.



The three basic activities to produce information in an information system are *input, processing, and output*.

→ **Input** captures or collects raw data from within the organization or from its external environment for processing. Normally input is hardware component of information systems.

→ **Processing** converts raw data into the meaningful information. Normally processing is done by software. Processing is done either by performing arithmetic or logical calculations on the data or by simply rearranging the data.

→ **Output** transfers information produced from processing data to the people who will use it or to the activities for which it will be used.

Information systems also include two additional components: *feedback and control*.

- **Feedback:** It is data about the performance of a system. It is the idea of monitoring the current system output and comparing it to the system goal. For example, data about sales performance is feedback to a sales manager.
- **Control:** On the basis of feedback, the control function makes necessary adjustments to a system's input and processing components to ensure that it produces proper output. For example, a sales manager exercises control when reassigning salespersons to new sales territories after evaluating feedback about their sales performance.

The two types of information systems are **formal** and **informal**. **Formal information systems** are based on accepted and fixed definitions of data and procedures for collecting, storing, processing, disseminating, and using these data with predefined rules. **Informal information systems**, in contrast, relay on unstated rules. Formal information systems can be **manual** as well as **computer based**. **Manual information systems** use paper-and-pencil technology. In contrast, **computer-based information systems (CBIS)** relay on computer hardware and software for processing and disseminating information.

Dimensions of Information Systems

An information system represents a combination of management, organization, and technology elements. The management dimension of information systems involves leadership, strategy, and management behavior. The technology dimensions consist of computer hardware, software, data management technology, and networking/telecommunications technology (including the Internet). The organization dimension of information systems involves the organization's hierarchy, functional specialties, business processes, culture, and political interest groups.

Organizations

Organizations are formal social units developed to the attainment of specific goals. The key elements of an organization are its **people, structure, operating procedures, politics, culture**, and **functional specialties**.

- **People:** Organizations require many different kinds of skills and people like managers (such as senior, middle, and operational) who make decisions and plans to solve organizational problems, knowledge workers (such as engineers, architects, or scientists) who design products or services and create new knowledge, data workers (such as secretaries, bookkeepers, or clerks) who process the organizations paperwork, and production or service workers (such as machinists, assemblers, or packers) who actually produce the organizations products or services.
- **Structure:** Organizations coordinate work through a structured hierarchy. The hierarchy arranges people in a pyramid structure of rising authority and responsibility. The upper levels of hierarchy consist of managerial, professional, and technical employees, whereas the lower levels consist of operational personnel.
- **Standard Operating Procedures (SOPs):** Standard operating procedures (SOPs) are formal rules that have been developed over a long time for achieving organizational goals. Firm's business processes are based on its SOPs.

- **Organizational Politics:** People in organization occupy different positions with different specialties, concerns and perspectives. As a result, they naturally have divergent and differing viewpoints about how Resources, Rewards, and Punishments should be distributed. This will result in political struggle for resources, competition and conflict within every organization.
- **Organizational Culture:** It is a set of fundamental assumptions about what products the organization should produce, how it should produce them, where, and for whom. Organizational culture is a powerful restraint on change, especially technology change. Any technological change that threatens commonly held cultural assumptions usually meets a great deal of resistance.
- **Business Functions:** The major business functions, or specialized tasks performed by business organizations include sales and marketing (selling the organization's products and services), manufacturing and production (producing products and services), finance (managing the organization's financial assets like cash, stocks, etc.), accounting (maintaining the organization's financial assets and accounting the flow of funds), and human resources (attracting, developing, and maintaining the organization's labor force; maintaining employee records).

Management

Management's job is to make decisions and formulate action plans to solve organizational problems. Managerial roles and decisions vary at different levels of the organization. Senior managers occupy the topmost hierarchy and are responsible for making long-range decisions. Middle managers occupy in the middle of the organizational hierarchy who are responsible for carrying out the plans and goals of senior management. Operational managers monitor the day-to-day activities of the organization.

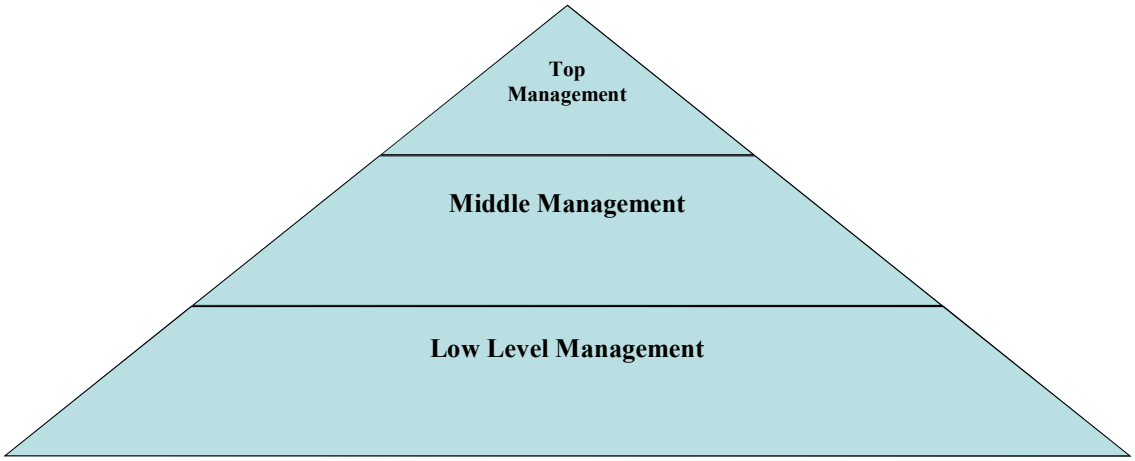
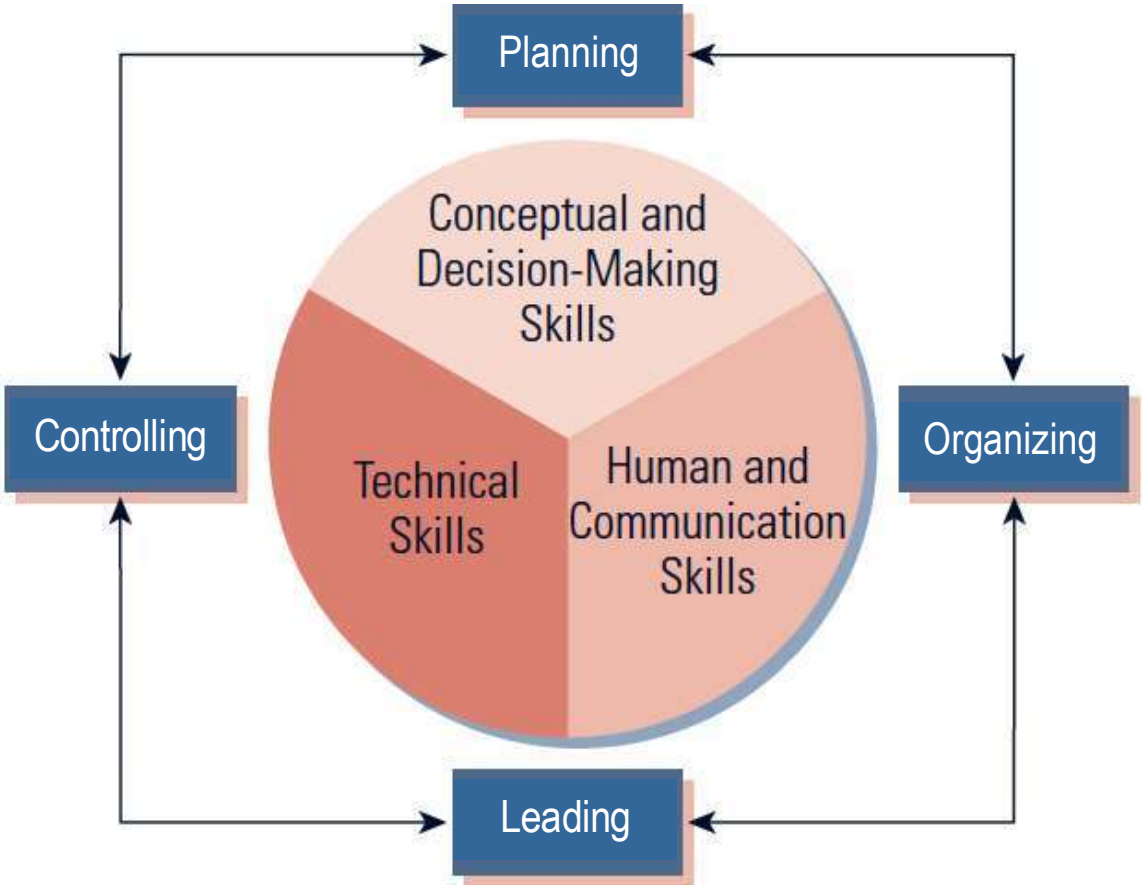


Fig: Different level of management

Managers play an important role in organizations. We can understand managerial functions by examining classical and contemporary models of managerial behavior.

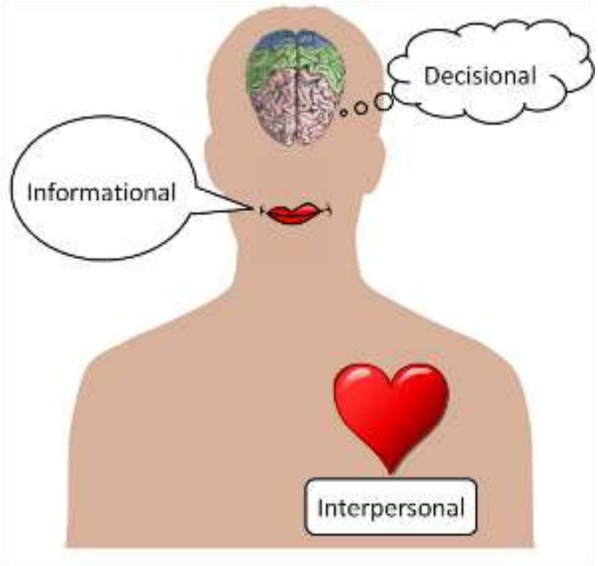
- **Classical Models of Management:** The classical descriptions of management focuses on five classical functions of managers like **planning**, **organizing**, l**eading**, and **controlling**. These terms actually describe formal managerial functions and are unsatisfactory as a description of what managers actually do in their jobs. For example, these terms do not address what managers actually do when they plan, decide things, and control the work of others.



Above figure shows systems relationship among the management functions. **Planning** includes setting objectives and determining in advance **exactly** how the objectives will be met. **Organizing** means delegating and coordinating tasks and allocating resources to achieve objectives. Managers should also show **leadership**. He/she should influence employees to work towards achieving objectives. **Controlling** means managers should establish and implement mechanisms to ensure that objectives are achieved.

- **Behavioral Models of Management:** These models describe management based on what managers actually do in their jobs. Managers' day-to-day behavior can be classified into 10 managerial roles. **Managerial roles** are expectations of activities that managers should perform in an organization. These roles fall into three categories: interpersonal, informational, and decisional.

- **Interpersonal Roles:** Interpersonal management roles are grouped into three roles involving working with other people. Managers act as figureheads, leaders, and liaisons.
- **Informational Roles:** Informational management roles are divided into three different communication-based roles. Managers act as nerve centers, disseminators, and spokespersons.
- **Decisional Roles:** Decisional management roles are sorted into four action-based roles for making and implementing decisions. Managers act as entrepreneurs, disturbance handlers, resource allocators, and negotiators.



Information Technology

Information technology is the tool used by managers to deal with change. The technology dimension consists of computer hardware, software, data management technology, and networking/telecommunications technology

- **Computer Hardware:** It is the physical equipment used for input, processing, and output activities in an information system. It consists of processing unit; various input, output, and storage devices; and physical media to link these devices together.
- **Computer Software:** It consists of detailed preprogrammed instructions that control and coordinate the work of computer hardware components in an information system.
- **Data Management Technology**: In order to keep track of all of the information stored, we need **data management** software that is

designed to organize the information so that we can readily retrieve what we are looking for.

- **Communication technology:** It includes physical devices and software that link various computer hardware components that transfer data from one physical location to another. This technology helps to connect computers and communication equipments for sharing voice, data, images, sound, or video in networks. A **network** links two or more computers to share data and resources.

All the above technologies collectively form the firm's **information technology (IT) infrastructure**. The IT infrastructure provides the foundation or platform on which the firm can build its specific information systems. So, each organization must carefully design and manage its IT infrastructure according to the needs of the information system.

A Business Perspective on Information Systems

From a business perspective, an information system provides a solution to a problem or challenge facing a firm and provides real economic value to the business. The decision to build or maintain an information system assumes that the returns on this investment will be superior to other investments in buildings, machines, or other assets. These superior returns will be expressed as:

- Increased productivity
- Increased Revenues
- Superior long-term strategic Positioning

As already mentioned information systems collects data from environment and produces information. This information is useful for managers to perform managerial tasks such as planning, coordinating, controlling and decision making. On the other hand information produced by these systems will be helpful to different business processes such as supply-chain management, customer relationship management, and knowledge management. Combination of these two perspectives ultimately helps in increasing firm's profitability and achieving strategic position. There are three ways an information system can add value to a business:

- Help managers make better decisions
- Help make business processes more efficient
- Increase profitability

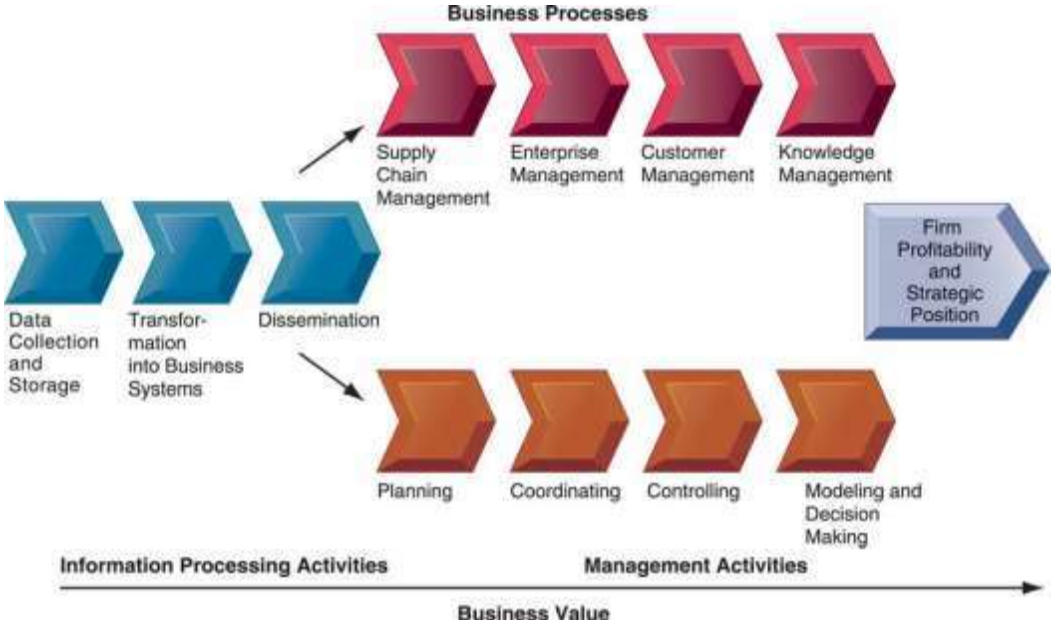


Figure: The Business Information Value Chain

Complementary Assets: Organizational Capital and the Right Business Model

Assets that are required to derive value from primary investment are called complementary assets. For example, to get real value from water resources requires investments in hydropower's, transmission lines, legal regulatory structures etc. Thus theses investments are complementary for getting real values from investments in water resources. In the same way investing just in IT may not give attractive returns to organizations.

Studies show that there are considerable variations in returns from investments in information technology. Some organizations invest great deal of amount and also able to achieve great deal of values from this investment. On the other hand some organizations invest great deal of

amount and are only able to achieve little value from this. Third variation is the organizations that invest little in information technology but able to get great deal of returns. The fourth types of organizations are those that invest little in IT and also get little and also get little returns from it. This clearly indicates that investing in information technology does not guarantee good returns. The reason behind this is the concept of complementary assets.

Investments in information technology alone cannot make managers and organizations more effective. Thus, to get proper returns from investment in IT, organizations needs to invest in complementary assets also. Some organizations do not invest in discovering new business model or seeks to preserve existing business model even after investing in new technology. Due to this organization may be unable to take advantages of new technology and hence unable to get returns from investment in new technology.

According to Kauffman et. al. complementary assets for investment in information technology are investment in new business models, new business process, management behavior, organizational culture, trainings etc. Organizations that do not invest in theses complementary assets can no get superior returns from investments in IT.

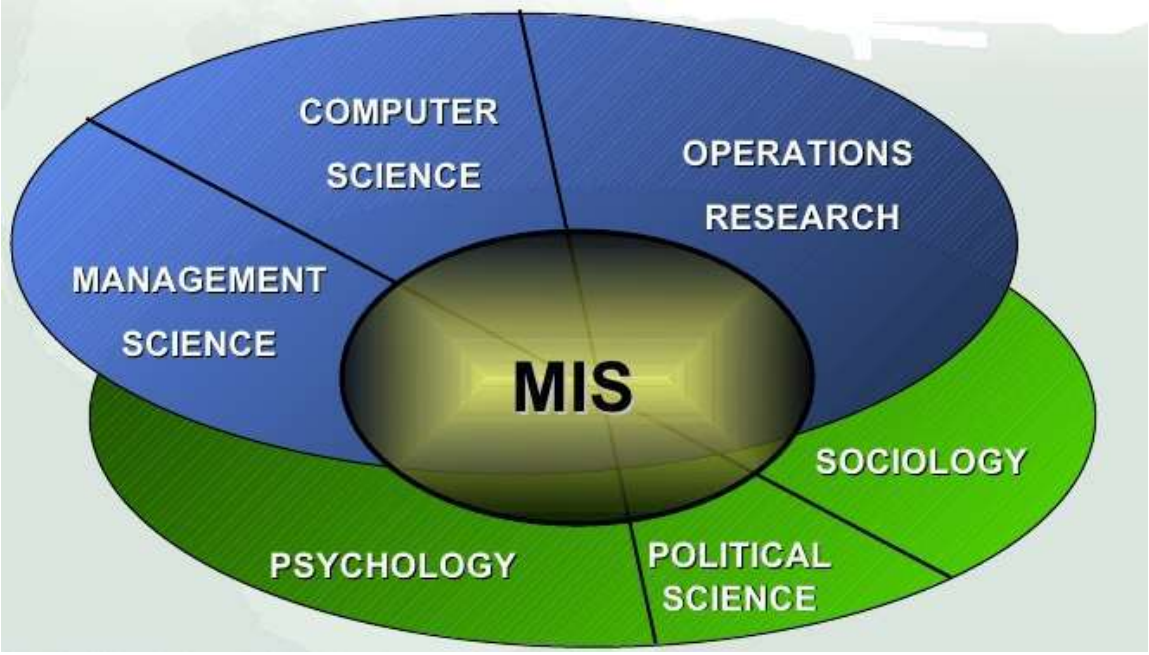
Main complementary assets for investment in information technology can be categorized into following three classes:

- → **Organizational Assets:** It includes investments in selecting appropriate business model, efficient business process, decentralization, distributed decision making rights, supportive organizational culture that values effectiveness and efficiency, Strong team for developing information systems.
- → **Managerial Assets:** It includes senior management that supports investments in new technologies and change, incentives for new management innovations, Collaborative work environment, Training programs to enhance skills of using information systems in decision making etc.

→ **Social Assets:** It includes investments in establishing internet and telecom based infrastructure, conducting and launching IT-enriched educational programs, developing standards, laws and regulations etc.

Contemporary Approaches to Information Systems

When an information system is being developed, much importance should be given to the structure of the organization, culture of the organization, etc. But along with these, especial attention should also be given to the technical side of MIS. The various contemporary approaches to MIS development are: *Technical Approach, Behavioral Approach, and Socio Technical Approach***.**



The Technical Approach

Technical approach says that all business information systems were combinations of computer science, management science, and operations research. Computer science considers knowledge of subjects like Data structures and algorithms, Database Management Systems, Computer Networking, Theory of computing, Business data processing, Programming languages, System Analysis and design etc. was essential for

designing any business information system. Management science considers theories like motivation and leadership theories and models had their impact on the information system. Operation Research Techniques such as Linear Programming, Game theory, Transportation Problem, Fuzzy logic etc helped to enhance capabilities of information systems. Business Management adopted Operation Research Techniques such as CPM & PERT for project management in the management process through information system.

Behavioral Approach

MIS also concerned with behavioral issues surrounding the development, use, and impact of information systems, which are typically discussed in the fields of *sociology, economics, and psychology*. Business Organizations are social economic groups wherein individuals work together with common motive. Every individual possesses certain values, beliefs and assumptions and have specific mind set. Therefore every individual have their influence on shaping up the information system. This social aspect influenced development of every information system and people in the world along with time e.g. e-Banking, e-Governance, e-Booking etc. **Psychology** refers to cognitive capability of human beings. The individual as well as group psychology has its own influence on the information system. People are still scared of e-Transactions like e-Payments. Study of economics plays vital role in planning and while designing of any information system. We can find out the ways for profit, growth and sales maximization as **economics** includes the study of labor, land, and investments, of money, income, and production, and of taxes and government expenditures.

Socio Technical Approach

In the socio technical view of systems, optimal organizational performance is achieved by jointly optimizing both the social and technical systems used in production. Adopting a socio technical systems perspective helps to avoid a purely technological approach to information systems. Technology must be changed and designed, sometimes even "de-optimized," to fit organizational and individual needs. Organizations and

individuals must also be changed through training, learning, and planned organizational change to allow technology to operate and prosper.

MIS Hands on Project: Sales Trend Analysis and Forecasting

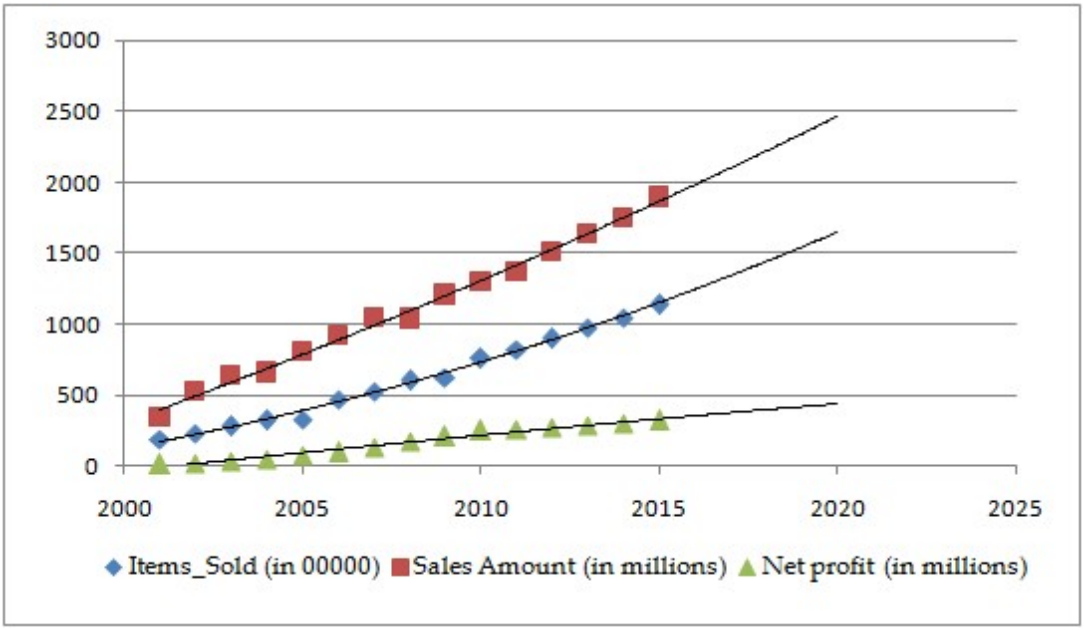
The term trend implies a change over time. One type of forecasting is quantitative, and involves analyzing time-series data, and then predicting what the future might be. For example, sales at an ice cream stand at the town park in June of each of the last five years has been good, but in July it was about 20% more than in June. If this year, the stand took in $10,000 in June (a new record), how much would you predict it will take in July? Well, if we were correct in our assumption based on the historical data, we'd estimate the July figure would be 20% higher, or $12,000.

Microsoft Excel offers some built-in tools for forecasting. One of these allows you to add a trendline to existing data points on a chart. This allows the user to interpolate (i.e., to find a data point between existing points) or to extrapolate (i.e., to find a data point past either end of the current data, either by forecasting foreword, or backcasting to an earlier period). Besides this, MS Excel provides built-in forecast function to predict future. Given the following historical data of a company, MS Excel is used to identify trend and to make prediction of upcoming five years data. Based on this prediction management can make better decisions to develop plans for future.

In the above table value of last five rows are predicted by using MS. Excels FORECAST function. The *FORECAST(x, known_y's,known_x's)* function returns the predicted value of the dependent variable (represented in the data by known_y's) for the specific value, x, of the independent variable (represented in the data by known_x's) by using a best fit (least squares) linear regression to predict y values from x values. The parameter x must have a numeric value, known_y's and known_x's must be arrays or cell ranges that contain equal numbers of numeric data values. If we plot graph for above data and add trend lines, it looks like below:

XYZ Companies Sales History, Trend Analysis and Prediction of Future Sales

Year	Items_Sold (in 00000)	Sales Amount (in millions)	Net profit (in millions)
2001	184	341	12
2002	230	523	23
2003	279	641	37
2004	324	660	51
2005	332	810	73
2006	470	915	98
2007	523	1045	132
2008	602	1040	175
2009	621	1205	211
2010	758	1295	252
2011	824	1372	260
2012	896	1506	274
2013	974	1637	289
2014	1049	1752	305
2015	1138	1894	322
2016	***1171***	***1944***	***367***
2017	***1250***	***2043***	***395***
2018	***1330***	***2151***	***422***
2019	***1409***	***2264***	***448***
2020	***1487***	***2367***	***472***



To plot this graph we can flow following steps

→ Select the historical data

→ Click insert menu and select proper scatter from it

→ Select one of the data point representing value of items sold

→ Right click on it and select add trendline option in popup menu

→ Select proper trendline options. In above graph forecast is set to 5 forward periods

→ Repeat previous step for all scatters in the plot