

Changing Face of Business Environment Using Information Systems

Kingsley Kwabena Ansong

Methodist University College

IT Department

Abstract

In today's information and communication age, there is a constant reference to information systems and management of information systems. In the digital age data, storage and retrieval are done through various systems and interfaces. An information system, therefore, can be defined as set of coordinated network of components which act together towards producing, distributing and or processing information. An important factor of computer based information system is precision, which may not apply to other types of systems. In a system, network of components works towards a single objective, if there is lack of co-ordination among components, it leads to counterproductive results. A system may have following features: Adaptability: some systems are adaptive to the exterior environment, while some systems are non-adaptive to the external environment. For example, anti-lock braking system in car reacts depending on the road conditions, whereas the music system in the car is independent of other happening with the car. Limitation: every system has pre-defined limits or boundaries within which it operates. This limits or boundaries can be defined by law or current state of technology. Common definition of information is data. However, data is no true information. Data gets its meaning and significance if only it is information. Information is represented with data, symbols and letters. Information has following properties: Objective: One of the key properties of information is its objectiveness. Objective information is a key component of any modern scientific research. Subjective: Set of information which is useful to science may be abstract or irrelevant for others. Therefore, information is subjective also and Temporary: Information is temporary with every update in the database.

Keywords: Changing Face, Business Environment, Information Systems

1.0 INTRODUCTION

Information is represented with help of data, numbers, letters or symbols. Information is perceived in a way it gets represented. Decimal system and binary system are two ways of representing information. The binary circuits of computers are designed to operate under two states (0,1). The way in which information is organized directly affect the way the information is managed and retrieved. The simplest way of organizing information is through linear model. In this form, data is structured one after another, for example, in magnetic tapes, music tapes, etc. In a **binary tree model**, data is arranged in an inverted tree format where it assumes two values. The **hierarchy model** is derived from a binary tree model.

In this model, branch can assume multi-value data, for example in the UNIX operating system this model is used for its file system. The **hypertext model** is another way of organizing information; World Wide Web is an example of this model. **Random access model** is another way of organizing information. This model is used for optimum utilization of available computer storage space. Here data is stored in specified location under direction of the operating system. Information is networked through network topology. The layout of all the connected devices, and it provides virtual shape or structure to the network is known as network topology. The physical structure may not be representative of network topology. The basic types of topology are bus, ring, star, tree and mesh. The above topologies are constructed and managed with help of Hubs, Switches, Bridges, Routers, Brouters and Gateways. Security of information as well as an information system is critical. Data back-up is on the way through which Information can be made secured. Security management for network and information system is distinct for different setup like home, small business, medium business, large business, school and government.

2.0 LITERATURE REVIEW

The last decade has shown rapid development in the information technology and its application. This has helped changed the way we look at the world as well as the way business is conducted. Both business and trade have gained under the wave of information technology with improvement in efficiency, productivity and bottom line. Productivity improvement has facilitated speedy and accurate production in large volumes. Indian financial sector has also benefited from advancement in information technology.

2.1 Business and Information Technology

Current global and competitive business environment constantly asks for innovation, existing knowledge base is getting obsolete, continuously thriving for advancement in process improvement. The learning curve is always put to test, and every company is striving to remain ahead of the curve. Due to this shift in the way business is getting

conducted has thrown out new reality of ever shortening product and service life cycle. More and more companies are coming out with customized products and finding ways to differentiate from competition. A recent survey conducted has highlighted that the change in the business environment can be summarized with following:

- Globalization and opening up of markets has not only increased competition but also has allowed companies to operate in markets previously considered forbidden.
- Inclusion of information technology as integral part of business environment has ensured that companies are able to process, store and retrieve the huge amount of data at ever dwindling costs.
- Globalization has encouraged free movement of capital, goods and service across countries.

2.2 Characteristics of Business Environment

To understand business environment and drivers of change, it is first important to study its characteristics. They are as follows.

- Business environments are complex in nature as well as dynamic because they are dependent upon factors like political, economic, legal, technological, social, etc. for sustenance.
- Business environment affects companies in different industries in its own unique way. For example, importers may favor lower exchange rate while exporters may favor higher exchange rate.
- With change in the business environment, some fundamental effects are short term in nature while some are felt over a period of time.

2.3 Business Process Outsourcing

Business Process Outsourcing involves contracting one or many front end (customer related) or back end (finance, HR, accounting, etc.) activities within a company to a third party service provider. The number of jobs within BPO industry has increased exponentially in last decade. BPO is one of the new faces in business environment. Outsourcing has help companies reduce their overhead expenses, improve productivity, shorten innovation cycles, encourage new market penetration and also improving customer experience. India has seen tremendous growth in BPO industry within function like customer care, finance/accounts, payroll, high end financial services, human-resource, etc.

2.4 Emerging Trends

The recent explosion of information technology has seen few but significant emerging trends, for example, mobile platform for doing business, cloud computing, technology to handle a large volume of data, etc. These fresh technologies and platforms are offering numerous opportunities for companies to drive strategic business advantage and stay ahead of the competition. Companies need to work on new plans as to maintain flexibility and deliver customer satisfying products and services.\

3.0 TYPES OF INFORMATION SYSTEMS - COMPONENTS AND CLASSIFICATION OF INFORMATION SYSTEMS

An information system is integrated and co-ordinate network of components, which combine together to convert data into information.

3.1 Components of information systems

An information system is essentially made up of five components hardware, software, database, network and people. These five components integrate to perform input, process, output, feedback and control. Hardware consists of input/output device, processor, operating system and media devices. Software consists of various programs and procedures. Database consists of data organized in the required structure. Network consists of hubs, communication media and network devices. People consist of device operators, network administrators and system specialist Information processing consists of input; data process, data storage, output and control. During input stage data instructions are fed to the systems which during process stage are worked upon by software programs and other queries. During output stage, data is presented in structured format and reports.

3.2 Classification of Information System

In any given organization information system can be classified based on the usage of the information. Therefore, an information system in an organization can be divided into operations support system and management support system.

Operations support system: In an organization, data input is done by the end user which is processed to generate information products i.e. reports, which are utilized by internal and or external users. Such a system is called operation

support system. The purpose of the operation support system is to facilitate business transaction, control production, support internal as well as external communication and update organization central database. The operation support system is further divided into a transaction-processing system, processing control system and enterprise collaboration system.

Transaction Processing System (TPS): In manufacturing organization, there are several types of transaction across department. Typical organizational departments are Sales, Account, Finance, Plant, Engineering, Human Resource and Marketing. Across which following transaction may occur sales order, sales return, cash receipts, credit sales; credit slips, material accounting, inventory management, depreciation accounting, etc. These transactions can be categorized into batch transaction processing, single transaction processing and real time transaction processing.

Process Control System: In a manufacturing organization, certain decisions are made by a computer system without any manual intervention. In this type of system, critical information is fed to the system on a real-time basis thereby enabling process control. This kind of systems is referred as process control systems.

Enterprise Collaboration System: In recent times, there is more stress on team effort or collaboration across different functional teams. A system which enables collaborative effort by improving communication and sharing of data is referred to as an enterprise collaboration system.

Management Support System: Managers require precise information in a specific format to undertake an organizational decision. A system which facilitates an efficient decision making process for managers is called management support system. Management support systems are essentially categorized as management information system, decision support system, expert system and accounting information system. Management information system provides information to manager facilitating the routine decision-making process. Decision support system provides information to manager facilitating specific issue related solution.

4.0 INFORMATION SYSTEMS VS INFORMATION TECHNOLOGY

It is often observed that term information system and information technology are used interchangeably. In a literal sense, information technology is a subset of information systems. Information systems consist of people, processes, machines and information technology. The great advancement in information systems is due to development in information technology and introduction of computers.

Information System: An information system can be defined as set of coordinated network of components, which act together towards producing, distributing and or processing information. An important characteristic of computer-based information systems information is precision, which may not apply to other types. In any given organization information system can be classified based on the usage of the information. Therefore, information systems in business can be divided into operations support system and management support system.

Information Technology: Everyday knowingly or unknowingly, everyone is utilizing information technology. It has grown rapidly and covers many areas of our day to day life like movies, mobile phones, the internet, etc. Information technology can be broadly defined as integration of computer with telecommunication equipment for storing, retrieving, manipulating and storage of data. According to Information Technology Association of America, information technology is defined as “the study, design, development, application, implementation, support or management of computer-based information systems.” Information technology greatly enhances the performance of economy; it provides edge in solving social issues as well as making information system affordable and user friendly. Information technology has brought big change in our daily life be it education, life at home, work place, communication and even in function of government.

4.1 Comparison of Information System and Information Technology

Information system and information technology are similar in many ways but at the same time they are different. Following are some aspects about information system as well as information technology.

Origin: Information systems have been in existence since pre-mechanical era in form of books, drawings, etc. However, the origin of information technology is mostly associated with invention of computers.

Development: Information systems have undergone great deal of evolution, i.e. from manual record keeping to the current cloud storage system. Similarly, information technology is seeing constant changes with evermore faster processor and constantly shrinking size of storage devices.

Business Application: Businesses have been using information systems for example in form of manual books of accounts to modern TALLY. The mode of communication has also gone under big change, for example, from a letter to email. Information technology has helped drive efficiency across organization with improved productivity and precision manufacturing.

5.0 CONCLUSION

Information technology has shown exponential growth in the last decade, leading to more sophisticated information systems. Today's information technology has tremendously improved quality of life. Modern medicine has benefited the most with better information system using the latest information technology. Information systems have been known to mankind in one form or the other as a resource for decision making. However, with the advent of information technology information systems have become sophisticated, and their usage proliferated across all walks of life. Information technology has helped managed large amount of data into useful and valuable information. An information system can be categorized based upon activity into strategic planning system, tactical information system and operational information system.

We are drowning in a sea of information. We are inundated with news, views, opinions, facts, and information every time we log in to the internet or turn on the TV. This constant barrage of information thrown at us nonstop in a 24/7 cycle makes us weary and lost in this never-ending repetitive world. Therefore, it is very important for professionals, students, and anyone who wants to focus and concentrate to learn the art of separating the wheat from the chaff and to lead productive lives that are meaningful and deep. For instance, knowing what is happening all over the world instantaneously and uninterruptedly would produce a fatigue in our minds and lead to exhaustion that can drain productivity and lead to loss of focus. One does not need to know all the news and happenings on Twitter, Facebook, Blogs, and on TV all the time. Unless one learns the habit of separating what one wants from what is available, most likely one would end up with what has been called information overload that denotes the extraordinary amount of information that we are being bombarded with constantly.

5.1 The Consequences of Information Overload

Many companies have banned social media sites and even internet sites in an attempt to make the employees focus on the work. Despite these measures, many employees still find ways and means to get updated and to log in to other sites much like addicts who would do anything for a fix. While we are not against getting facts and information from diverse sources in a bid to stay ahead of the curve, what we are advocating is the trend of being constantly on the move by surfing continuously which can have adverse side effects. It must be remembered that this trend when it goes out of control is as bad as getting hooked on to psychotropic substances and much like that it can lead to shorter attention spans, need for instant gratification, and a general sense of being frazzled.

The truly productive employees are those who do not multitask nor spend endless hours watching the big game scores or news and event updates from around the world. Indeed, one of the reasons investment bankers and consultants are much sought after is that they have learnt to distinguish between short term and ephemeral trends and instead, detect longer-term trends and extrapolations from existing information that is meaningful and makes business sense.

5.2 Present Shock and Generation Y and their Impact on Society and Businesses

The present generation Y has grown up not knowing what it is like to live without the internet or the TV. This means that their attention to detail is as short as the cryptic SMS (Short Messaging Service) or the Tweet and therefore, many occupational and lifestyle experts are worried that this aspect would lead us to a situation where we lose sight of the longer and deeper narrative and instead, settle for the fleeting moment that leads us to a "Present Shock" where the immediacy is more important than the longer term and where the present overwhelms us leading to a general sense of disorientation. This is not the way businesses and institutions have been built in earlier decades and this constantly changing and ever flux-filled times are proving to be a challenge for marketers, policymakers, and business leaders.

5.3 Managing Information Overload

Apart from this the crux of the issue is that when we are inundated with information overload, there is a danger that we might lose the essential information and instead, pick up drivel and nonsense from the information sources which would lead to situations where businesses make the wrong decisions based on faulty information and wrong assumptions. This is the danger that information overload poses to us and it is better sooner than later that we as individuals learn to "switch off" when needed and to master the art of managing too much information and develop the skill of finding the right data instead of paying attention to meaningless data.

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