

Information System

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## Information System

With the passing time, the business market is becoming more complicated. The management authorities are trying to find out different ways to stay in advantageous position in the market. The information system can be considered as a well-known tool, which is helpful to gather necessary information from the market and contributes actively in the management decision making. According to Baskerville and Wood-Harper (2006), there are different types of the information system that are helpful to generate information for specific users depending on their needs. The information system can be used in day to day work or for a long term planning. Development of information system is important in terms of improving the decision making management and stay ahead in the competition. Since change is a constant scenario in the business market, the information systems need to go through development continuously.

Managing the information system and its development is costly. However, it is not only important but also crucial to consider information system properly. It is mainly because the growth of the organization or industry is hugely dependent on the information systems used by the management. According to Ward and Peppard (2016), the information should be utilized by the directorate as well as by the employees. It is found that some information systems are developed to aid the management in decision making where the some of the other information systems are designed to meet the needs of the employees. From the study of Melville (2010), it is noticed that employees in different levels bear various types of responsibilities. Therefore, when the position of an employee changes, it is found that the information systems can help that employee to learn about the increased responsibilities. Unlike the employees, the supervisors and other operational managers use a different type of information systems. Although various types of information systems exist in the business management out of which four kinds of information systems are

considered as the most important. These four types of information systems may include transaction process system, management information systems, decision support systems and executive information systems. These four types of information systems also help to cover all of the functional areas within a business such as sales and marketing, finance and accounting, product manufacturing and human resource.

With the support of this research, it is tried to explain the importance of information systems within a business structure. Among the different types of information systems, four major types of information systems are selected and discussed in this essay. Advantages and disadvantages of using information systems can be identified. It can be assumed that a set of recommendation scan be developed based on the findings of the work.

### **Aim**

The purpose of the current essay is to understand the importance of information system in terms of producing more accurate and targeted information about customers, markets, suppliers and competitors to improve the decision making capabilities of the business.

### **Objectives**

- To identify the relevant types of information system in business
- To understand the impact of different types of information systems on business
- To determine advantages and disadvantages of using information systems

### Identification of the various types of Information Systems

As opined by Bonham-Carter (2014), different types of information systems can be identified through a classification procedure. In business management, classification of

information systems is a process that helps to determine and categorize the information systems in such a way that they can be treated as a group. The authors mentioned that the classification of information systems is a bit confusing because any natural law does not control the information systems but the human factors (Watson, Boudreau and Chen, 2010). A "type" of information systems is just a "concept," which is developed based on the kinds of information need by the authority or client. Therefore, it can be said that depending on different concepts of information required the information systems can be categorized. As opined by Ian (2010), one of the oldest methods, which is widely used to classify the information system is the pyramid model.

### **Advantages and Disadvantages of Information System**

The achievement and benefits of an organization are hugely dependent on their skills of using the information systems. The purpose of using information systems is to deliver the right information to the right person so that it can enhance the decision-making system. Following are the advantages and disadvantages identified of using the information systems.

There are many benefits of using the information system. These advantages may include the improvement of communications, reduction of globalization and cultural gap and development of new job roles. With the implementation of the information system, the management can share the information and develop a good employee relation within the organization (Urquhart, Lehmann and Myers, 2010). On the other hand, the use of information technology helped an organization remain open for 24×7 in all over the world. It is also proved as helpful to manufacture cost effective products within minimum time. The application of information systems promotes effective work culture within the organization, which in turn improves the decision making process. Although

many of the employees get frustrated to use information systems, it is found that the development of frustration is the result of inadequate training and poor performances of systems.

The numbers of disadvantages of using the information systems are also not negligible. The major disadvantage of using the information systems is the increase of lack of job opportunity and unemployment. With the help of information systems, most of the paper workers can be completed within short time, and the financial transaction can be easily calculated without the involvement of any extra employees. With the implementation of higher technologies, the organizations tend to decrease their employee number. Apart from that, the implementation of information systems globalized the business system, which may experience dominance of greater power on the weaker one, which can hamper the decision-making system. With the use of information systems, the communication mode of business is becoming English. Therefore, people with lack of English proficiency are suffering to get a job. The expense of implementing information systems is too heavy for many organizations. Therefore, strong economic backup required before implementing an information system.

### **Transaction Process System**

Transaction processing system is concerned as an information system that contributes towards the collection, modification and retrieving of the data transaction for a concerned enterprise. The system is efficient for the production of the accurate data related to consumers and suppliers that are essential for the businesses. This system is associated with providing the reliable processes transaction towards the commercial organizations that ensure the consumers' order met on time (Stair and Reynolds, 2013). It is also concerned with the partners and suppliers to get the

payment and make the payment on time. Thus, it has ensured a vital portion of the effective business management process for the business organizations.

It is associated with several characteristics that enable the transaction processing systems to offer the deals with the consideration of smooth flow of data and maintain the progression of the process throughout the enterprises. Rapid processing feature enables the system to perform the transactions instantly, reliability incorporate comprehensive safeguard to the disaster recovery system to make it error free, and standardization process helps in the process to acquire identical data for each transaction regardless of the consumers (Siponen and Vance, 2010). Apart from this controlled access, atomicity, consistency, isolation, and durability helps in the process of batch processing and real time processing of the information.

### **Management Information Systems**

Management information system is capable of providing the managers of an organization, the ability to organize, evaluate and effectively manage the departments within the organization. MIS is providing the tool towards the managers with a computer-based system. The principal purpose of the system is concerned with providing the managers the opportunity to make strategic, tactical and operational decisions to manage the data with efficient and productive manner (Chaffey and White, 2010). It is necessary for the managers to rely on the particular data associated with the consumers, suppliers and competitors that enable the business managers of all level to rely on the reports generated by the system. Besides, MIS is effective enough that it helps in the process of evaluating the daily activities of the business and concentrate on the problems that enable the managers to make decisions and track progress in the firm.

Moreover, it is considered as the broadly used three-resource based system that required for effective organizational management. These resources are based on people, information, and technology. It is concerned with the computer automation service that contributes towards the quality and efficiency determination of the business operation and improves the human decision making capabilities (Chen et al., 2010).

### **Decision Support Systems**

Decision support system is mainly considered as the set of the related computer program and data that assist the business organizations to analyze and make a decision within the internal operations. The program is capable of collecting the data related to consumer and suppliers and present the data towards the management to make the decision-making process easy. It is different from the operational application and rather known as the informational application. Considering the application of the DSS at the enterprise level, it has been found that it serves as an informational application (Galliers and Leidner, 2014). With the aid of the informational application, DSS helps in the process to gather information related to comparative sales figures of every week; revenue figures projected based on the new product sales assumptions, and provide data related to the consequences of the previous experiences (Rainer et al., 2013).

DSS is considered as the broad scope application of the Management Information System that helps in the process to report on the performance based on cost and profitable or unprofitable projects. Applications of the DSS system in the organizations have indicated that it is a powerful tool as it depends on the OLAP (On-Line Analytical Processing) technologies (Bharadwaj et al., 2013). It provides the permission of browse, query, analyzes and summarizes the large extent of data with interactive and dynamic way.

### **Executive Information Systems**

Executive Support System is concerned with the application of the executive information system that associated with the development of facilitating and supporting the senior executive information that maintains the decision-making needs of the organization. The system is capable enough that it maintains the access balance between the internal and external information and keep it coordinated to achieve the organizational goal (Teece, 2010). ESS is concerned with various characteristics that help the organization keep track of the information related to the business such as consumer and suppliers data. Informational features help in the process to produce relevant information; orientation characteristics offer secure access to data, managerial characteristics supports the need and executive capabilities offers the telecommunication capacity to be implemented in the enterprise (Boehm and Thomas, 2013).

Also, the development of the ESS is mainly based on the integration and aggregation of data that mainly display the pattern to the enterprise to understand better. Moreover, the application of the ESS is beyond the EIS that include the communication extent, office automation process, and provide the analysis support to the enterprise to make an effective decision (Willcocks, 2013).

### **Green Information Technology**

Green IT is associated with maintaining the positive relationship between the environment and the use of the computers. The process is helping the organization in the aspect of managing the corporate social responsibility efficiently. This information technology is concerned with the energy related issues such as rising cost of the energy, power limitation, and enhancement of the performance demand. It has enabled the organizations to concentrate towards the design,



manufacturing, disposal and reallocation extent to reduce cost and maintain effective consumer relationship (Laudon and Laudon, 2011).

The extent of the IT solutions that Green IT provides is associated with the data that metering energy concern and the network coverage. As for example related to the application of the Green IT, it has been found that arrangement of the video conference has reduced the carbon emission by reducing the travel expenses and transportation reduction. The basic working pattern of the Green IT system is associated with asset removal and logistics maintenance (Vom Brocke and Rosemann, 2010). On the other hand, pickup, sorting, and data destruction is concerned with asset tag removal and detailed reporting process. It also provides the disposition option to the organizations as it enables the company to recycle, lease return and employee purchase processes in the organization.

## **Conclusion**

From the overview of the different types of information systems, it can be said that all of these information systems are essential for the growth of the organization. The use of information systems contributed in the globalization of the business management. The advanced use of information system already proved as beneficial for the extensive growth of the organizations. The authors who worked in the field of business management identified several types of information systems. It is found that the types of the information system are dependent on the concepts of information required by the employees and the management authority. There is a misconception existing regarding the necessity of information systems. Previously it was assumed that only the management authority and operation management required the information systems. However, later it is proved that the use of information systems by the employees is also beneficial in terms

of improving the responsibility senses among the employees. From the study of previous authors, it is found that employees are promoted from one level to another. With the help of information systems, the employees can quickly identify and understand their new job roles and responsibilities.

With the help of pyramid model, the authors showed the classification of information systems. Four major types of information systems are identified that are widely used in the business sector, such as Transaction Processing System, Management Information System, Decision Support System and Executive Information System. All of these information systems are helpful in the collection of valuable data for a particular organization and improve their decision-making system. The Transaction Processing System or TPS is considered as a computerized system, which performs and controls information (transactions) that are required in business. Mainly it is a fund that the TPS accumulate and process the business transaction data. Therefore, it can be said that this particular information system is controlled by the management authority or the operation management of a particular company. Certain changes in the transaction process can be easily evaluated with the Transaction Processing System. On the other hand, the Management information system or MIS is helpful to accumulate and process information that is required in the management of an organization. It is found that the management information system extract and process the data obtained from the Transaction Processing System. This information system helps the managers to direct the organization and control the functional areas in a better way. This information system is also beneficial to of accurate feedback and offers pre-specified reports to the different level of managers. On the other hand, the decision support system is identified as an interactive information system, which is important to develop models and data manipulation tool regarding helping the managers in semi-structured and unstructured situations. Apart from these

systems many other systems are identified that can have an impact on the decision-making systems, such as communication systems, office automation systems, and expert systems. However, several flaws of introducing the information systems are also identified such as increase of unemployment, security issues (data breaching) and expenses of implementing information systems.

### **Recommendations**

Despite the positive sides of implementation of information systems, it can be said that few challenges are limiting the efficiency of information systems. Following are the recommendations offered based on the flaws identified in the implementation process of MIS.

- It is found that the use of information systems is constrained within the hand of managers and the operation management. The limited use of information may be influencing the decision-making process, but it is certainly not helpful for the overall growth of the company. To maintain overall growth within the organization, different level of the information system should be accessed by the employees. The use of information system by the employees helps them to monitor their growth rate and understand their job responsibilities easily.
- The information system is dynamic in nature based on the changes occurring in the universe. It is sometimes difficult to the managers to keep pace with the sudden changes that took place in information systems. Henceforth, strategies should be taken by the managers so that can easily tailor the available information and use them effectively. Strategies should be taken to remain up to date with the current market situation.

- Different departments use information systems in a different way, which may affect the decision-making system. In order to improve the decision making system, it is important to maintain a proper alignment and communication between different departments. Henceforth, steps should be taken to align the strategic plan of the various departments with the business objectives. Matching the current capabilities of the organization with the future needs of the information technology is required.
- Before implementation of the information system, it is important to identify the possible threats. With the help of information technology, an organization can evaluate the market risks and analyze the possible difficult situation. Implementation of information system without proper risk assessment can be limited its performance. On the other hand, an action plan should be developed to minimize the risks that are related to information systems.
- Improvement of the technology infrastructure is crucial to implement the information system quickly. Lack of proper technological infrastructure cannot ensure the proper outcome of information systems. Therefore, the organizations need to ensure that the performance of the available technical supports meets the department computing objectives. Apart from that, they need to adopt different hardware (advanced models), which are cost effective.
- Maintenance of the system security is vital for an organization. With the implementation of the information systems, the organizations are becoming more dependent on the computers to keep their data and its logical result. The lower security system can lead to the security breaching, and the company can lose valuable information that can affect their market positioning. Procedures should be implemented to report, detect and respond the

security threats. Firewalls should be activated that can control and limit internet protocols through the firewall.

- The recruitment of physical security is also essential to secure the information technology and its related equipment from theft. Also, steps should be taken to maintain disaster recovery.

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