Information Management and Its Role in Supporting the Activities of Different Organizations and Sectors

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Abstract

Background/Objectives: The success of an organization depends on the amount of accurate, correct and clear information it has. This study aims at identifying the role of information in supporting the activity of different organizations and sectors; as well as the effectiveness of its role in achieving organizational goals. Methods/Statistical Analysis: The study followed the surveying descriptive approach depending on the previous studies in this subject. It is revealed through this study the effectiveness of the role of information as pivotal and essential in achieving organizational goals through sound administrative performance and rational decisions. The study used 18 of previous studies as references. Findings: The study clarified that the focus of organizations on exchanging knowledge, culture, and experience among individuals; as well as the different uses of information technology, fully integrates the elements of the overall structure of the organization, and leads to the use of them in making the right future predictive decisions in the right direction and on the right time. Improvements/Applications: The information managed by any organization includes both electronic and non-electronic information; therefore, the organizational structure must be able to manage and process all phases of the information lifecycle regardless of its origin and nature.

Keywords: Information Life Cycle, Information Management, Information Science, Information Strategy, Information Systems

1. Introduction

The basic characteristic of our current era is the phenomenon of information explosion, which means the wide range of the area in which information works to cover all aspects of humanity. It concepts has developed and resulted in many associated terms, including information management which is simply a scientific field in the way to become more common and organized, it ensures access to information, and provide security and confidentiality of information; in addition to the transfer of information to those who need it using information technology tools to provide more effective and efficient use of all information available to assist the community, organization, or individuals in achieving their goals.

The problem of the current study makes the following question: What is the role of information in supporting the activities of different organizations and sectors? A survey of previous studies revealed the effectiveness of the role of information as pivotal in achieving organizational objectives through sound administrative performance and rational decisions. The study also explained that the focus of organizations on exchanging knowledge, culture,
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and experience among individuals; as well as the different uses of information technology, fully integrates the elements of the overall structure of the organization, and leads to the use of them in making the right future predictive decisions in the right direction and on the right time.

The writings of Frederick Taylor, which was primarily directed at industrial and commercial institutions, influenced the thought of the United States; especially the book of principles of scientific management, which focused on the need to replace the personal judgment practices with laws, regulations, and procedures; thus rendering the concept of management to a science that has concrete origins and well-established rules. Taylor’s application of scientific principles to management came at a time when people were looking for efficiency in work and economy. Taylor defined management as having the right knowledge of what individuals were going to do, and making sure they were doing it in the best and cheapest way.

Thanks to Taylor’s attributions, the scientific principles of management have been developed to ensure the achievement of progress and prosperity for both the employer and worker alike. Taylor’s views have been taken as a basic basis for decision-making practices in modern organizations. This effect was evident in the routine management of libraries such as supply, indexing, loaning, shelving, and binding. Although the American libraries did not fully follow Taylor’s views, his management idea remained influential in the US library movement.

In the context of the historical development of information management, the term information economics appeared in 1876, which is concerned with the preparation of lists and tools for the specific elements of intellectual production. However, this term did not live long. Then came the term library study which deals with a particular aspect of library science and library management. In the last quarter of the nineteenth century and the first third of the twentieth century, the term library science appeared which was unique to the field of libraries. This period has seen some developments in information production and different patterns of demand for information.

In 1895, the Universal Bibliographic Repertory was founded by Paul Otlet and Henry LaFontaine. The term bibliography covered all aspects of information resources. In 1937, the American Documentation Institute was founded; the term documentation is used to denote methods of assembling, processing and retrieving documents. In 1966, information science appeared, and the Documentation Committee was replaced with American Library Association’s Information Science and Automation Division (ISAD). In 1968, the name of the American Institute of Documentation was changed to the American Society for Information Science and Technology.

In the 1980s, the Paperwork Reduction Act of 1980 was issued, and federal agencies were forced to follow information management procedures. Research was then carried out in the concepts of information management, and there was a considerable growth in the literature dealing with this subject in the early eighties till the second half of the nineties. In today’s are of information, the term information management has emerged as a new term that replaced library management and information centers. The old term has disappeared, and the new term evolved and emerged forward, where it encompassed the old and added new dimensions to it.

It is somehow difficult to find a definition of information management that directly linked to the terms information resources and information resources management. However, Maltz has defined the term information management as: A senior-management function to develop a set of policies, programs, and procedures to plan and manage information requirements in a productive and effective manner. While Brenberg defines it as: The process by which a set of data and resources are collected, organized and directed to meet the specific needs of a beneficiary. Whereas defines it as: The process involves the use of IT tools to provide more effective and efficient use of all information available to assist the community, organization, or individuals in achieving their objectives.
Also[^3] defines it as: A set of activities, processes and practices aimed at achieving efficiency in the organization, and finding appropriate ways and means of organizing and processing information for use in decision-making and forecasting future steps on the management of the company’s operations.

From what has been mentioned above, we find out that there are various definitions of information management. Therefore, the researcher believes that information management is: collecting, organizing, and storing data from different sources to produce information and retrieve it to serve individuals, institutions, or organizations; and assist them in making decisions and achieving their goals more effectively and efficiently.

The importance of information management is that it is one of the most important administrative tools on which institutions and organizations rely on to develop their reality, improve their performance, and achieve their quality. Its importance stems from its effective role in the survival of the institution, and its competitiveness through its ability to make decisions and assess the reality, and the effectiveness of its role in the integration of information technology within the administrative process of planning, organizing, controlling, and decision-making. Information management is the core of integrity, consistency and coordination of the key elements; it has a vital effect on the formation of the structure of the organization, and helps in the full integration inside the organization. Furthermore, information management creates good communications channels, enables different departments to help one another, and provides decision-makers in institutions with appropriate information at the time they need[^4].

2. Literature Survey

Information was collected from more than one source including many Arab and foreign studies; they are stated as follows:

- In[^5], stated that the public sector must achieve its objectives by increasing and improving accountability, transparency, efficiency, productivity and quality of services. This study focused on the factors that influence information management in public sector management in an effective way to manage information correctly, and led to the discovery of three categories of critical success factors: 1. Organizational Culture, 2. Senior-Management Support, and 3. Strategies. And four main categories of critical failure factors: 1. Personnel, 2. Operations, 3. General policy, and 4. Technology.

- In[^6], analyzed the factors that contribute to the development of library education and information management, based on theories of change management and transfer of innovation, and the contextual factors suggested by comparative library theories. The researcher adopted a case study of developments in Iraq until 2003 and studied library education and information management based on the background of the library and information services in the country, its broader context and social development. The study recommended further work including checking the impact of traditional and cultural attitudes on the development of education in the field, and understanding how generations can evolve.

- In[^7], the issue of innovation and information management is addressed in the supply chain. The study highlighted a number of similarities and differences in the management of information and knowledge between entities using ICT outsourcing and those that do not. Based on the results of this study, the researcher concluded that:
  - That a high level of innovation process helps to develop products to meet customer needs in a short time; and in the supply chain, this can be achieved through cooperation with external entities i.e. outsourcers.
  - This technology has become an increasingly important infrastructure for innovation due to the gradual shift from internal innovation i.e. innovation of products and services within the company, to open innovation in the research, development, production, distribution and sale of services, processes and products.
• Internal and external capabilities, skills and knowledge (from employees, suppliers, customers and research institutions) are combined in order to create better innovations in a shorter time and promote them throughout the supply chain for additional and competitive value.

• ICT-based innovations aim at increasing the cooperation relationships between the supply-chain partners in order to reinforce cooperation between them which is critical for knowledge creation and transfer.

• The study also indicates that if the company is willing to cooperate in the field of ICT, it is usually more open to cooperation in other areas.

• This means that outsourcing provides a kind of collaboration and the ability to create more relationships and innovations in the supply chain, which is the basis for further development to implement innovative solutions in the future.

• In\(^4\) studied on Management Information System for Medium and Small Corporations and presented a new design for information management that resulted in:
  - New more clear information system
  - Establishing clearer relationships between the sub-systems of the structure that are more rational, and easier to implement and expand.

• In\(^8\) studied on the Impact of The Implementation of Government Financial Information Management Systems on The Quality of Government Accounting Information in The State of Kuwait. One of the most important recommendations was to increase the interest of government departments in implementing the government financial information management system because of its importance in planning, monitoring and decision making, and improving the quality of government financial information.

• In\(^2\) studied the Impact of Using Management Information Systems on The Efficiency of Corporate Performance. The researchers made the following recommendations:
  - Make use of all the features of the devices and equipment available in order to increase the efficiency of services.
  - Provide a suitable work environment and training for human calibers in order to raise their efficiency and give them the needed skills.
  - In\(^4\) studied on the Management Information Systems and their Relationship to the Skill of Decision-making for Managers and Assistants of the Education Administration in Mecca Region from the Point of View of Its Employees. The researcher pointed out that one of the most important obstacles to administrative decision-making are: the internal difficulties; in addition to the social difficulties, and the lack of enough resources to implement the decisions taken. One of the most noticeable findings of the researcher is that the management information systems applied in the Department of Education in Mecca in total are of high degree. The researcher recommended the enhancement of the features of the information systems used in the education administration of Mecca; in addition to the preparation of a guide for employees, and provide training in decision-making skills, stressing on importance of providing enough resources to help them achieve their goals.

• In\(^5\) explored the added value of the methodological bases for building and developing knowledge management strategies in information institutions. The researcher then suggested some recommendations to strengthen communication ties through a structured strategy for knowledge management through the applications supporting the cooperative work system in the digital environment and the consequent need to control the flow of information and content within different institutions.

• In\(^2\) studied the Impact of Using Modern Techniques in Information Management on Managers and Their Assistants: An Applied Study in the National Water Company and The General Directorate of Water in Jeddah. The researcher mentioned a number of recommendations, including:
• The need to pay attention to the process of spreading information in the management of the water sectors and this is by providing all the infrastructure used in the process of spreading through the recruitment of information specialists.
• The need for the management of water sectors in the National Water Company and the General Directorate of Water to pay more attention to the process of archiving and keeping records.
• Providing all sources of information in both sectors and focusing on the well-organization so that it is easily accessible.
• In addition to promoting and developing elements of information management in both sectors that are well applied, such as information gathering and development, information resource management, information production, and information availability and storage.
• In\textsuperscript{11} studied the Impact of Management Information System on Decision-Making. The study community consisted of Petronas’ 102 employees. The study included a hypothesis: that there is a relationship between management information systems and the availability of information to make decisions and identify problems. The researcher came to the importance of giving more attention to management information systems, especially providing information and constantly updating it to be ready when any problem takes place to make better decisions.
• In\textsuperscript{12} studied on The Concept of Information Management and its Working Methodology. Accordingly, management must adapt to changes through information coming from the environment to the institution and vice versa, as well as the ability of management to anticipate threats and the ability to think creatively. The researcher also explained several concepts of information pinpointing that they form the blood of the veins of any given institution. In addition to clarifying the concept of information management and the ways in which we can measure and evaluate the effectiveness of information management. The researcher also referred to the key points covered by information management (i.e. received information inputs, information produced within the institution, and information produced by the institution for external audience’s outputs).
• In\textsuperscript{11} studied on Information Management and its Role in the Development of Human Resources from the Point of View of the Officers of the Information Center and Departments Headed by the National Guard. The study community consists of all officers working in the center and information departments headed by the National Guard; 415 officers. The researcher used the descriptive analytical methodology. The most important results of the study:
• Respondents agree that shared data and information are fully confidential
• Developing information systems to improve the performance of the members of the National Guard
• Protection, maintenance and classification of data and information. Data collection and information. Guidance and guidance of new employees
• Improving the performance responsibilities of each individual. Lifting the spirits of the employees
• Putting the right person in the right place
• Improving the working relations between the employees of the National Guard
• The most important recommendations were:
• Raising awareness of the importance of the role of the information center and management in the development of human resources, through the rehabilitation of sufficient number of calibers to transfer and communicate information to all employees.
• The need to investigate the accuracy of data and information; as well as creating an effective communication environment for the delivery of information.
• In\textsuperscript{14} studied on Information Management in Medical Institutions. The study community consisted of
25 institutions belonging to the private sector. The researcher emphasized the importance of information management in administrative work as an important part in management.

- In [12], studied on The Shift from Information Management to Knowledge Assets Management. The study stated that: the life cycle of information management is an integrated mix of policies, processes, management practices and various tools used to get the best value from the information available from the moment of its inception until the disposal of it through the best structures of information technology at the lowest cost possible. The researcher explained the stages of the life cycle of information management: in general can be summarized in Figure 1, which is as follows:

  - The stage of acquisitions and collection of information from various sources, both electronic and non-electronic.
  - The stage of management, processing and sharing with those who need it within the organization.
  - The stage of providing information to others and distributing it through different channels and means; such as, reports, research and data mining tools, and various electronic applications.
  - The stage of retention and storage of information safely for long periods of time as electronic or paper records.

At the end of his study, the researcher reached several conclusions:

- The institutions that are able to distinguish between different concepts and terms are successful institutions and are able to combine knowledge and information patterns.
- Information management is not a technology in itself, yet it is a mixture of processes and
techniques that determine how data flows or passes through any given environment.

- Cost is a very important factor, so it links the economic value of information to the least cost in building the required information infrastructure, not only in the storage and management of information, but in the processing, transmission, distribution and other stages.

- Information management fully combines the objectives set by the institution itself and the information infrastructure, which requires the translation of goals into policies implemented within networks, computers, storage tools and other components of information architecture.

- In\textsuperscript{14} studied on Computer Engineering and the Role of Information Management in the Preparation of Linking Maps. The study community consists of 1,379 students in computer engineering at the University of Berkine. In his study, the researcher described the components of information management (tools software - hardware + people + processing); In his study, the researcher compared the life cycle of information vs the life cycle of the system. This is explained in Table 1.

### 3. The Importance, Objectives and Functions of Management Information Systems

In\textsuperscript{11} states the importance of Management Information Systems in the following points:

- Making decisions on a sound basis by providing appropriate information in a timely manner.

- Preventing management from making mistakes in planning and organizing business.

- Contributing to the best investment of available data.
Identifying and measuring the relationships between variables and contributing to their use in predicting the future of the institution.

Integrating marketing, production and financing data to provide a comprehensive picture of management.

Providing information with minimal duplication, and enabling the use of techniques in the analysis, presentation and preservation of information.

In believes that information is the fundamental basis of individual and collective work and its importance is illustrated in Figure 2:

4. Objectives of Information Management

- Establishing a structure to implement the budget of programs and performance.
- Establishing a financial database to support decision makers.
- Ensuring accuracy, integrity and transparency across all stages of the work.
- Connecting all business sectors electronically.
- Facilitating storing and retrieval of information and data.
- Providing accurate statistical information to help the decision maker in formulating future poli-
cies and plans and taking appropriate executive decisions.

According to^{18}, the functions of information management can be summarized in Figure 3 as follows:

5. The Benefits of Different Organizations and Sectors When Applying the Concept of Information Management

The application of the concept of information management in organizations brings to the organization a set of benefits that create a competitive advantage in the way of implementation of its activities and effectiveness and thus make decisions efficiently, effectively and quickly. For instance:

- The application of information management ensures that the organization is able to monitor all its information needs on a permanent and ongoing basis.
- It helps the organization to quickly and efficiently respond to those needs and to provide information resources and services to all sections of the organization without restrictions.
- It ensures that the database within the organization is updated to ensure that information is up-to-date and reviewed in line with the changing needs of the organization.
• It helps the organization to follow a systematic approach in organizing all available sources of information.
• It provides adequate storage, retrieval and communication system that allows the transmission of information to all branches and sections of the organization at the lowest possible cost.

The following are the basic characteristics of information management, as shown in Figure 4:
- Interweaving
- Content-centric
- Inclusion of the entire organization
- Dynamic
- Strategic

6. Prominent Features and Characteristics of Information Strategy

• The strategy focuses on the information needs of the information institution.
• It focuses on the priorities that may be faced by work teams and all active actors in the process of organizing information activities, which help to understand and recognize the relationships between these different activities.
• It is like a document that provides officials, the working body and all active actors with information on the description and methods of achieving the ultimate goal, as well as the overall perception of the issues, solutions, and options available to achieve them. Once approved and accepted, the document becomes a reference to the planning, management, and evaluation of information activities and services for a period of time ranging from two to three years.
• The adopted information strategy should be reviewed after a period of approval with the aim of studying and exploring new trends and challenges that may arise.

7. Conclusion

In this study, the researcher discussed the historical development of information management and
mentioned several concepts of information management from the perspective of many researchers; as well as the importance of information management, its objectives, functions, benefits, and characteristics. Through a review of the above elements, recent studies of information management were reviewed from 2010 to 2016. It was found that the concepts of information management are developed by the development of the means and information technology, and the diversity of the fields dealt with. In addition, the relationship and concepts of information management have also become apparent in other sciences, where a close association is associated if it is not all by the vast majority of other branches of science.

According to what the researcher has discussed, information management aims at achieving efficiency and quality in educational and professional institutions. The interest in information management has increased as a result of the massive information flow on the Internet, which leads to unintentional information or misinformation and thus leads to the failure of enterprise management. This has forced companies and institutions to find appropriate ways and means to organize and deal with information in order to take advantage of it in making appropriate decisions and predict future steps on the management of institutions and companies. The information to be managed by any organization includes both electronic and non-electronic information; therefore, the organizational structure must be able to manage and process all phases of the information lifecycle regardless of its origin and nature.

8. Acknowledgement

This paper has been presented and discussed during the International Conference on Communication, Management and Information Technology- ICCMIT 2019, Vienna, Austria.

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