Information Technology Management in Institutions

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Abstract
The great role that modern information and communication technology has come to play in the lives of individuals, societies and economies has made it part of the infrastructure of many institutions that want to keep pace with modern developments, especially economic institutions that recognize the role of innovation and the effectiveness of innovations. Adapting to new inputs is inevitable, and Western institutions were the first in the field of introducing modern information and communication technology, and Algerian institutions were also not isolated from this development, as information and communication technology entered the core of their daily activities, and from this standpoint, this study directed us to go deeper. In the reality of the actual use of this technology in our institutions, we tried, within the framework of this study, to understand how information and communication technology contributes to the embodiment of effective time management in our institutions, because time management in the reality of the institution has become an urgent developmental necessity that can make the difference between institutions with new information technology. Our choice of this topic was not random, but rather the result of several reasons, both subjective and objective.

Keywords: Information; Technology Management; Institutions; communication.

Purpose of the study

In our hope to delve deeper into the subject, the objectives of our study were as follows:

- An attempt to reveal the role of new information and communication technology on effective time management within the organization.

 - Knowing the various opinions and trends of individuals regarding their use of various new means of information and communication technology. -Trying to link the theoretical background and the empirical field through my studies through contact with the field of reality. To achieve these goals, use tools collecting information:

on-the-spot observation to reveal some facts, as well as the interview, where at the beginning of the study we relied on the "exploratory phase" on a semi-directed interview, to collect information about... The history of the institution and its activities, as well as the technologies used and the individuals using them.

The study Problem

There are a number of obstacles facing information technology management institutions in developing countries, which can be summarized in a number of points:

•The lack of a large number of human capabilities that possess the skill to absorb continuous technology updates. This is due to the distance of some people, in their previous professional careers, from dealing with any modern technological field due to the fact that it was not necessary for this to happen in dealing with those fields at that time.

•Lack of technological means and modern techniques necessary to carry out some operations

•Some iInternational companies avoid dealing with developing countries, which deprives those countries of the opportunity to benefit from the updates provided by those companies.

The concept of information technology management

- It is a group of operations and strategies that aim to manage, protect and develop automated and technical fields related to networks, computers, applications and systems, in addition to developing precise automated services to benefit from the integration of these fields with the human factor.
- The Information Technology Department is also concerned with managing, directing, developing and supporting employees with the aim of obtaining the greatest human productivity and an integrated mechanism that reduces time and effort.
- Societies in general have needed the presence of institutions tasked with managing information technology, which turns the digital development taking place into a tool for modernization and prosperity for individuals, communities and countries as well.
- Information technology management institutions are considered the cornerstone of the development of societies and their constant pace with global technology updates, in addition

to managing those updates and managing their repercussions on the economic, social, and educational fields in a correct manner that aims to serve the goal of those institutions.
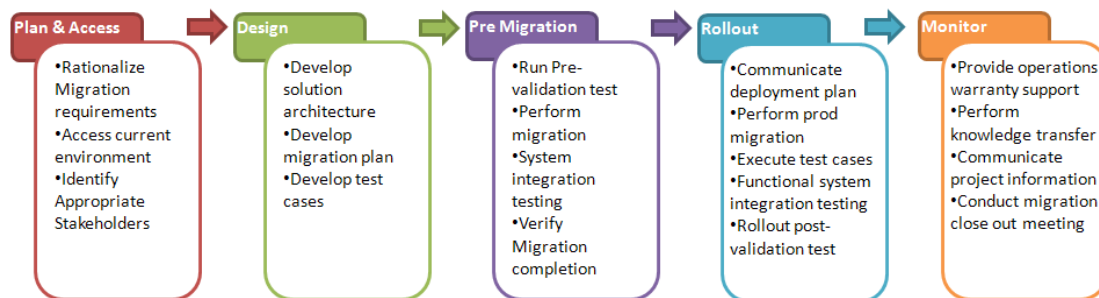
- The field of information and communications technology management is responsible for achieving harmony between human tasks and automated tasks, according to precise standards that achieve the best possible results.
- Information technology institutions have provided great services to humanity, and their importance has clearly emerged in many countries that have witnessed a true embodiment of exploiting machine genius to achieve human goals[2].

Elements of information technology management

The IT management mission requires four elements[3]:

1- The presence of effective management capable of making useful and appropriate decisions based on the information and data that has been analyzed.
2- The presence of information or data that can be analysed, processed, interpreted, and extracted by the information technology department.
3- Providing an accurate scientific approach with a specific goal that is followed to make the right decisions objectively.
4- The presence of a human element that enjoys flexibility and the ability to develop, direct, and receive technological updates in order to serve the goal of information technology management.

Feg.1 Elements of information technology management

Tasks of the Information Technology Department

The Information Technology Department is concerned with fulfilling the following responsibilities [1]:

1- Permanently supervising automated computerized operations and transactions and working to manage the development of strategies followed within these operations.
2- Developing applications and technologies used in doing business to keep pace with global updates.
3- Continuously reviewing, learning and teaching the number of technologies to employees and those qualified to work who are capable of continuous development.
4- Qualifying and training employees and creating systems and a cooperative interactive environment among them with the aim of achieving the element of comfort and thus obtaining the highest possible productivity.
5- Creating daily records, financial tables, and accurate and continuous academic studies of the proposed project schedule in an accurate, effective, and fast manner as well.
6- Organizing and distributing the work in an appropriate, logical manner that achieves the best possible results, ensuring the complete protection and security of the information, data, and process being carried out.
7- Ensuring the protection and security of information, data, and the process that is carried out completely, updating the plans followed in a way that suits the goal, in addition to developing an alternative and backup plan without using it in critical times, or what is called risk management.
8- Continuously reviewing the results and providing accurate evaluations of the work completed, whether in relation to the quality of the plan followed or in relation to the employees as well.

Positive effects of information technology management

The positive effects and results of information technology management appear clearly in the following points [4]:

- Organizing and structuring transactions and operations, which makes their completion easier, shortening the time needed to complete work and thus providing more time to complete more work, which means greater productivity in less time.
- Eliminating problems related to geographical distances, as information technology management provides the possibility of completing work remotely without the necessity of actual physical presence in the place.
- Accuracy in the results. The view is that automated intelligence takes over many of the decision-making and management processes, which ensures the objectivity, impartiality and accuracy of the results.
- Providing advanced systems and methods for analysis, which ensures successful and effective decision-making based on these accurate and logical analyses. Adopting new methods and effective strategies in general management and human resources management.
- Giving all employees equal opportunities consistent with their abilities and qualifications. Evaluating employees with great accuracy and distinguishing the hardworking employee, which creates an effective motivational work environment.
- Evaluating the performance of employees with great accuracy and distinguishing the hardworking employee, which creates an effective motivational work environment.

- Developing employees automatically as a result of them undergoing continuous training with the aim of keeping pace with the use of modern technology to accomplish work
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- Providing the possibility of achieving the expected results from operations, mostly due to a precise and specific scientific approach.

Negative effects of information technology management

It is surprising that the field of information technology management has some negative effects, given that this field constituted a huge leap in the world of business and a positive exploitation of information technology and machine technology for the benefit of humans, but every field in which machine technology prevails must have some negative effects, and we mention them among them [5]:

1- High unemployment. There are thousands of people who felt that various job tasks have been replaced for them by technological techniques that carry out their tasks quickly and accurately, in addition to saving a lot of money as well.
2- Increasing the social gap between the groups that keep up with technology and the groups that are isolated from it.
3- Some employees suffer from psychological pressure as a result of the need to constantly keep up with technology updates, which creates a state of boredom and a feeling of helplessness for them at times.
4- A decrease in the rate of social interaction between employees due to the lack of necessity for their communication or presence outside the computer, as meetings have been replaced by digital communication and communication through communication applications, which requires the information technology department to exert more efforts aimed at activating realistic social communication through successive social activities for employees.
5- The existence of specific types of operations in which the precise, automated results that follow a specific scientific method are not completely correct, just like the operations that require the intervention of moral human values to make the correct decision.
6- There is a possibility that some processes and data may be exposed to hacking or viruses as long as they are processed digitally. Therefore, the possibility of damage to some sensitive information cannot be eliminated from time to time.

The importance of information technology management [3]

ITM is concerned with managing all IT components that support an organization's business operations. The set of IT components to be managed can be very complex and dynamic. In this section, we will explain this by describing some of the most important technological and organizational movements and problems related to the ITM function:

As more and more regulation job. as a result of Parties involved in the development Information technology in the organization Which also affects Suppliers.Despite increasing decimation of products and supplies The major movements in information technology affecting the function of ITM as seen in the literature (as well as in practice are as follows:

- Rapid development of technology.
- Distribution of processing power.
- Diversification of products and suppliers.
- Outsourcing IT tasks.
- Integration.
- Increasing maturity of end users.
- Increased costs.
- Increasing customer orientation.

Information technologies change rapidly, which increases the complexity of their management. Prior studies have suggested that rapid developments in information technology could cause eleven different types of problems for those charged with managing them. From these studies, we developed a survey tool based on certain specific aspects of these problems. This survey tool was sent to a focus group of one thousand information professionals from across the country. Two hundred and forty-six provided usable results. The results confirm and clarify nine of eleven types of problems associated with rapid change in information technology. The categories are the negligent seller, the overzealous seller, dilemmas in purchasing decisions, maintenance costs, resistance to change, needs that lead to others, new integration, mistakes, and training needs.

Evolution of IT management technology

IT Management Sophistication Effective IT management requires coordinated efforts in planning, organizing, controlling, and directing the deployment and use of IT resources within firms. The concept of IT management sophistication (also called IT maturity) can be used to characterize the effectiveness of the IT management function. Greater IT management sophistication implies that IT managers are aware of the firm's longterm strategic plans, the firm's future strategic plans are explicitly included in IS planning , and IS performance is evaluated based on its contribution to the firm's overall objectives and not on cost savings alone. Moreover, firms with greater IT management sophistication are expected to have an IT-literate top management who would participate proactively in the IS planning process [48]. The technology assimilation model suggests that IT management strategies evolve as firms move toward greater IT management sophistication. This model segments the IT assimilation process into four distinct phases [6]:

(1) Technology identification and investment,

 (2) Technology learning and adaptation,

(3) Rationalization/ management control, and

(4) Maturity/widespread technology transfer.

 In the final maturity phase:

(1) Benefits and experience with new IT are quickly disseminated to other business units,

(2) Learning is relatively complete

(3) Long-term analysis and planning are emphasized, and

(4) The technology base is installed and integrated into business strategy formulation, and

(5) The IT function evolves from data processing orientation into strategic orientation

Coordinating IT Management COORDINATION OF INFORMATION TECHNOLOGY MANAGEMENT across diverse areas of the enterprise presents a major challenge to organizations today. Downsizing of computer hardware, deployment of applications development to functional areas, and business demands to manage resources in creative, flexible ways are all trends that have comminuted to the gradual decentralization of IT management and a corresponding shrinking of the central IT function. Indeed, recent surveys indicate that more IT organizations are decentralized in their operations than centralized.

The tradeoffs between centralized and decentralized IT management are well known: decentralization provides local ownership of resources and greater responsiveness to business unit needs; centralization facilitates standardization, integration, and economies of scale. Between these extremes are hybrid models of organizing in which some resources, such as telecommunications and large-scale computer operations, are managed as central utilities, while other resources, such as office computing and applications development, are managed locally. Such hybrid arrangements have been referred to as "centrally decentralized" IT organizations or the "information economy within a business". Hybrid fonns of organizing would seem to be a reasonable strategy for balancing the relative advantages ofcentralized and decentralized management. Indeed, simultaneous differentiation and integration of IT efforts has been shown to be effective in organizations that confront a high degree of complexity, change, and uncertainty. Critical to the success of hybrid forms of organizing is a clear understanding on the part of both the central and various distributed IT units of their respective roles in IT planning and ongoing operations. In other words, simply distributing IT management responsibilities across corporate and business unit locations is not sufficient to guarantee successful use of IT resources [7]. Coordinating mechanisms are needed to assure that the various efforts of the IT management units are synchronized, so that IT goals and operations remain aligned with those of the enterprise and so that efficiencies and learning can take place through sharing of knowledge or specific technologies. The greater the degree of differentiation, the more difficult coordination becomes and the more likely are business practices to diverge across units. How should coordination of dispersed IT practices take place? What mechanisms can be used to link planning and other activities that occur across business units? Since some mechanisms may be more effective than others in achieving integration, the range of possible approaches must be considered. For example, establishing reporting requirements among units or holding information-sharing sessions will likely achieve only low levels of integration. On the other hand, mutual IT planning procedures, leading to common objectives and standardized practices, may achieve high levels of integration [8]. IT Can Be Managed Using an Integrated Planning and Evaluation Cycle When building scorecards, one needs to identify business goals and the (potential) drivers of business success. When all relevant drivers contributing to business goals have been identified, measures (or norms) per driver have to be determined.

The Balanced Scorecard therefore introduces overall goals and quantified norms, including those for IT. Subsequently, these goals and norms can be used to prioritize investment plans. Investment plans in this way are based on business goals in which IT is fully integrated; there are no longer separate business and IT plans. As a consequence, separate IT investment plans will no longer exist when the Balanced Scorecard is used as a management system. Management can use exactly the same goals and norms during the development of projects and the operational use of IT systems to evaluate how well things are going[9]. By measuring the realization of common business and IT goals, it is possible to measure the contribution of IT to the business. A beneficial side-effect of the use of the Balanced Scorecard is that, when all measures are being reported, one can calculate the strength of relations between the value drivers.

Recommendations

IT management must be organized efficiently and most of all effective in order to optimally support the organization's business operations. The IT department should focus more on its customers and the services provided to support their business operations, thus enabling customers to gain competitive advantages from IT. Therefore, the IT department should be treated as a separate business unit with its own distinct services and business processes.
The complexity of IT infrastructure should be reduced by dividing it into parts according to the type of function performed by its components. Each part must be treated as a separate unit, with its own services, relationships and responsibilities. All of this required a major reorganization of the IT department. This paper presents the first results in developing a practical approach to organizing the IT management function and bringing about inevitable organizational changes.

Conclusion

Readers of JGITM are well-placed to contribute to addressing these gaps in the history of information technology management, thereby contributing to the development of a more complete understanding of information technology's impacts on society and the ways in which technology can be best utilized to address some of the grand challenges the world faces.

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