IRAQI Academic Scientific Journals
العراقية المجلات الأكاديمية العلمية
University of Kut Journal
ISSN (E): 2616 - 7808 II ISSN (P): 2414 - 7419
www.kutcollegejournal.alkutcollege.edu.iq
k.u.c.j.sci@alkutcollege.edu.iq
Vol. 10 , Issue 2 , December 2025

Control of Information and Programming Standards in the Institutional Planning for Electronic Management

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Abstract

E-administration plays the biggest role in managing time well, intensifying efforts and limiting costs. It always seeks to keep pace with the age of speed that does not leave the manager to think about the goals that must be achieved, but only to meet the needs of clients. This requires it to maintain its advantages and goals that should not be ignored no matter what. Therefore, it is necessary to control the work of e-administration by establishing principles that govern it, with the necessity of working with the goals. However, it should not be forgotten that this type of management is likely to create a kind of satisfaction with routine accompanied by pressures on the worker to work quickly and perform multiple and nerve-wracking jobs. E-administration is a device that constantly adapts to meet the increasing demand for state services, as well as responding to the needs and tastes of new generations and keeping pace with the modernity of administrative systems technology. The administration's adoption of the new method in managing administrative work was initially just a project that all countries aspired to and sought to implement in practice and benefit as much as possible from the advantages offered by e-administration.

Keywords: Management, worker, scientific techniques, objectives, traditional management

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Paper Info.
Published: Dec. 2025

ضبط معايير المعلومات والبرمجة في التخطيط المؤسسي للإدارة الإلكترونية

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المستخلص

تلعب الإدارة الإلكترونية الدور الأكبر في حسن إدارة الوقت ومساره، وتكثيف الجهود، والحد من التكاليف، إذ تسعى دائمًا لمواكبة عصر السرعة الذي لا يترك للمدير التفكير في الأهداف الواجب تحقيقها، بل لتلبية احتياجات المتعاملين فقط، ويتطلب منها الحفاظ على مزاياها وأهدافها التي لا ينبغي إغفالها مهما كانت. لذا، لا بد من ضبط عمل الإدارة الإلكترونية بوضع مبادئ تحكمها، مع ضرورة العمل وفق الأهداف. مع ذلك، لا ينبغي إغفال أن هذا النوع من الإدارة من المرجح أن يخلق نوعًا من الرضا بالروتين المصحوب بضغوط على العامل للعمل بسرعة وأداء مهام متعددة ومرهقة. الإدارة الإلكترونية هي جهاز يتكيف باستمرار لتلبية الطلب المتزايد على خدمات الدولة، بالإضافة إلى الاستجابة لاحتياجات وأذواق الأجيال الجديدة ومواكبة حداثة تكنولوجيا النظم الإدارية. إن تبني الإدارة للمنهج الجديد في إدارة العمل الإداري كان في البداية مجرد مشروع تطمح إليه كل الدول وتسعى لتطبيقه عمليا والاستفادة قدر الإمكان من المزايا التي توفرها الإدارة الإلكترونية .

الكلمات المفتاحية: الإدارة، العامل، التقنيات العلمية، الأهداف، الإدارة التقليدية

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معلومات البحث
تأريخ النشر: كانون الاول 2025

1. Introduction

The tremendous revolution in recent decades that the world has witnessed in various fields, whether technological or scientific, has been clearly reflected in the general administration, as it was considered the mechanism by which the wheel of development is moved in the state to serve citizens. Therefore, there has been a strong trend towards programming information in planning and preparing for administrative work and formulating concepts, foundations and terms specific to

classical administration and replacing them with modern tools that keep pace with the change that has occurred, i.e. the shift towards a programmed information society based on real data and moving to modern industries directed towards advanced organizational goals. What is known as electronic administration has emerged. It also derives its strength and prestigious position in any society through seeking to create effectiveness and finding rules that govern and organize it with citizens dealing with it, with continuity and stability in work and predicting what will happen in the future. This led to the emergence of some experiments in some developed countries that started their projects in 1999. With regard to Arab countries, after the introduction of the Internet in 1995, information technology awareness increased in building a society that relies on knowledge as a scientific basis[1]. The first signs of this appeared in 1997, when the Strategic Committee for Information Technology was established, aiming to grow and strengthen the conditions of good governance, improve the relationship between the administration and the citizen, and facilitate everyone's access to knowledge.

This awareness can be considered the first focus of reform in the public administration system, which focused on workshops to reform public facilities and modernize them as a major task proposed by countries. Accordingly, the year 2002 was a prominent event in the context of the pursuit of electronic administration and its entry into actual implementation, as it witnessed the holding of a major debate on administrative reform, and among its basic pillars were introducing this modernity into technology and enhancing electronic workshops and improving the services of technical modernity and harnessing it towards the importance of developmental support for that. Based on the continuous changes internally and externally and the progress of scientific technologies, the traditional management style has seen a type of patterns based on the aspect of information technology for communications as one of the important pillars of modern management. Which prompted the administration to provide many services to its clients at a level of extreme accuracy with the lowest costs and effort and speed in time, to shift towards modern administrative methods[1].

2. Research Methodology

2.1 The Research Problem.

The strategy of transitioning to electronic administration is governed by several controls because it is immune to obstacles that may affect it, including administrative obstacles and human obstacles, as well as technical and legal obstacles, with the necessity of providing a security cover for electronic administration that would protect it from cybercrime, as each administration aims to improve and develop its performance to reach the superior, which varies according to the efficiency and goal of each administration, which makes us pose the problem below[2]:

- How to determine the directions for adopting electronic administration planning using information programs, in line with the management by objectives approach?

2.2 Research Objectives

The role of programming in collecting facts, data and information that departments rely on in their electronic work, which leads to saving effort and reducing time and cost, while ensuring security, confidentiality and privacy of information at any time and place, is among the features and objectives of electronic management that should

not be ignored no matter what. However, it should not be forgotten that this type of management is likely to create a kind of sufficiency in routine accompanied by pressures on the worker to work quickly and perform multiple and nerve-wracking tasks, with a kind of distance and arrogance and the lack of consultation of the president who manages this department with the worker in the matters he assigns him to implement, which makes the manager on the one hand restricted and very far from the design for which he was created, which is to prove himself in administrative work, with no control over the positive contributions made by each official in his position through freedom of work and action as required by circumstances, and on the other hand ignoring the lofty style of management, which is "flexibility and development", and from this the objectives of the study came to clarify the following[3]:

1. Data programming has basic concepts that are clarified through administrative information programs in relation to electronic management at the present time.
2. Study of management by objectives methods, its importance and reasons for using it in management performance.
3. The necessity of taking the initiative to find quick, multiple and easy solutions when moving to the e-management model, while trying to revise a previous plan that is not in line with the new circumstances, so that it does not remain just accurate digital data, in the middle of electronic devices.
4. Clarifying the possibility and mechanisms of introducing the necessary improvements for the success of the e-management plan and its objectives in a flexible manner[4].
5. Demonstrating the necessity of resorting to actual practice of information programs in e-management, and the extent of the possibility of applying them in a manner that represents administrative objectives.

2.3 The Importance of the Research

Keeping pace with progress in general is important to keep up with scientific changes and developments in management and technical methods, and it is among the essential issues on which it is based if it wants to continue and survive, and with the increase in competition between departments and organizations, it created an urgent need to provide mechanisms that distinguish that department that seeks to compete to achieve success, which is the goal of every department, so it relied on data and facts in making decisions and using technological development, which is what is called today electronic management, and the importance of the study is represented in [5]:

1. Administrative importance: Defining goals, measuring performance, making decisions, simplifying complex procedures and processes, and making administrative work more effective are the most important foundations of electronic management.
2. Technological importance: The emergence of the Internet and keeping pace with rapid technological changes in turn necessitated the existence and development of technologies to accomplish administrative work that could support stimulating competitive advantage within every department.
3. Economic importance: which enjoyed electronic technical services to reduce costs, speed, and permanent availability at any time, everywhere, especially in remote and distant places, which is of great importance that work from this perspective acquires from

management.

4. Competitive importance: The reliance of some departments on information technology to achieve a competitive advantage generated competition in the rest of the departments in the market in use to maintain continuity [6].
5. Practical importance: The continuation of dealers in their activities throughout the time and throughout the days and weeks and the increase in the rate of Internet use, and the development in the corresponding needs of the beneficiaries of customers is the motive that necessitated the creation of a department that is compatible with the desires of its users

2.4 Research Hypotheses

1. The first hypothesis: There is a significant and positive correlation between the foundations of electronic planning and modern management.
2. The second hypothesis: There is a significant impact of modern administrative behavior with the structure of administrative organization [7].

2.5 Research Methodology

We adopted the descriptive approach to clarify general concepts, and the analytical approach to analyze data. For the practical aspect, we adopted the case study approach because it is appropriate for this section. We relied on several methods, including observation, questionnaires, and field visits to the entities that comprise the research sample. This study relies on the analytical description approach to achieve its objectives, to know the theoretical foundations of electronic management, and the reality of its application. It has adopted information programming in administrative work, as well as to identify the extent of the possibility of applying the management by objectives method as a basic rule for the continuity of development in everything related to electronic management.

2.6 Research Determinants

The facts of digital information data and its programming rules that are used to complete transactions in administrative activities, prepare digital services, and enhance democratic dealings with concerned employees, are based on two principles that represent the foundations of electronic management:

- The first factor is technical: It can be represented by transmitting information and preparing it electronically by relying on the Internet to ensure its confidentiality and security.
- The second factor is procedural: It can be represented by ensuring the optimal implementation of the credibility of remote services to facilitate the flow of transactions [8].

3. Conceptual Framework

3.1 E-administration

It is considered a revolution in the world of modern management due to its positive impacts in facilitating administrative processes, reducing the time and cost of completing tasks, making information available at all times, improving job performance, and raising the level of efficiency and productivity of the organization through the use of technology and information systems to support the management process. The benefits of e-administration are not limited to administrative aspects, but extend to the economic, political, and social aspects of the organization, making its study and its impact an important topic that must be

highlighted (1).

3.2. Productive Administrative Work

It is a term that refers to work that adds value to a company or organization, whether through the production of goods or services, or through improving administrative processes and increasing efficiency. In other words, it is work that contributes to the effective and fruitful achievement of the organization's goals.

3.3 The Nature of E-management

The concept here goes beyond the idea of automating administrative work within the organization, as it includes the idea of integrating data and programming information across various departments, as well as using these facts and data that affect the procedural business policies in the institution to achieve its goals and give it ease in updating and changing the necessary to adapt to changing internal and external influences. The ability to update data and facts continuously and use them to achieve goals is what distinguishes the ability of electronic technical management, which includes all management requirements, including organization, implementation, observation, evaluation and encouragement. Developing the structure of data facts and information of the institution and how to integrate vision and work performance is essential for e-management. as shown in Figure (1).

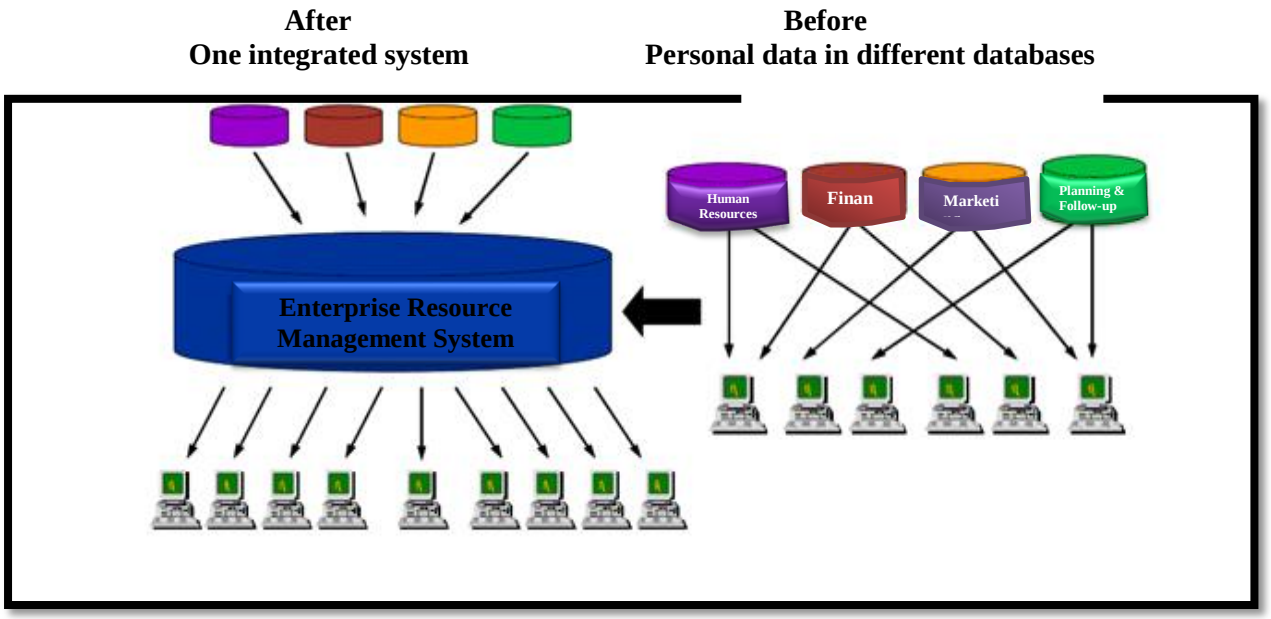

Figure (1) Enterprise Resource Management System

3.4 Elements of the Stages of Electronic Management

Administrative creativity is the result of scientific principles and rules that must be adhered to, not a random event. Among these rules are the availability of knowledge and the involvement of thought. Many ideas have developed that dictated the duties of managers in recent years. At present, dealing with people, money or other administrative tasks is no longer the issue for classical management. As institutions are modern to face the continuous external developments in the work environment, the issue for managers now is the best way to manage the change that is constantly

occurring in the company. Relying on data and technical facts of information and the widest circulation of communications has become one of the basic principles of contemporary management. Change management has been decisively controlled by updating facts, data and communications information, and it has now become possible to rely on the available data to support the company's goals. The concept of using information and programming it in management has developed significantly. In the beginning, reports were used to convey "what actually happened" within the company, then after that the reports were analyzed to determine "why it happened" in relation to certain variables. With the adoption of technologies [9], reliance on facts and programmed data and achieving goals has developed. So that the matter is "what will happen?", and then the matter developed into a comprehensive technical vision with different effects that result in decisions, and finally it reached the most development where information is used to accomplish "what we want to happen", as shown in Figure (2):

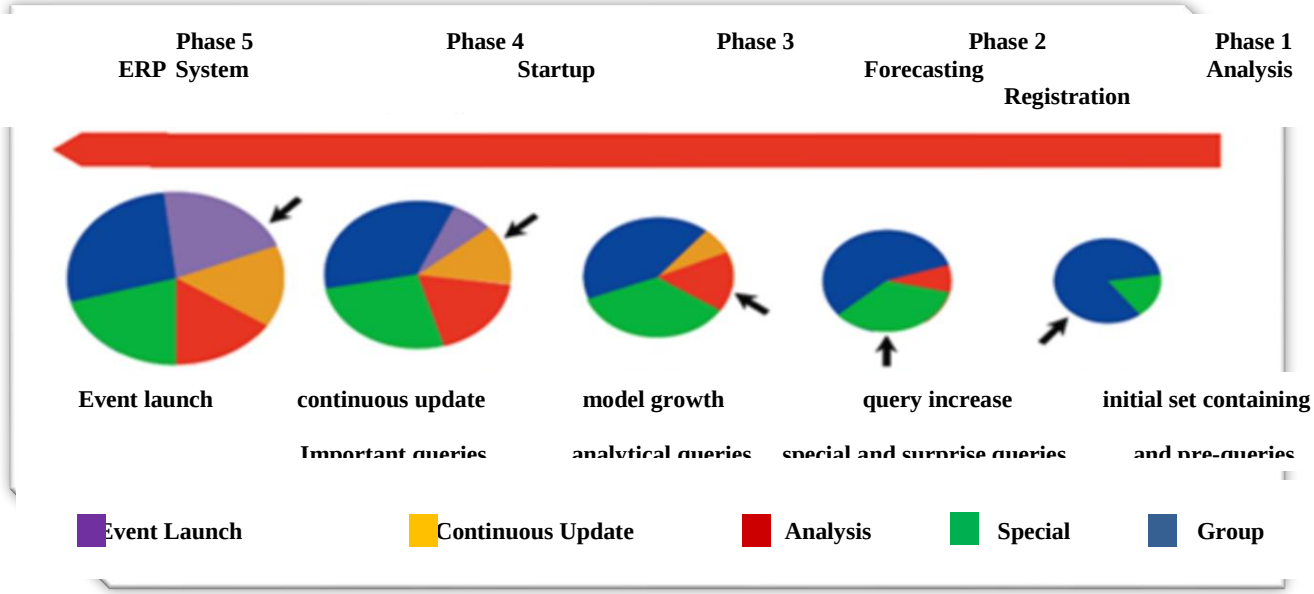

Figure (2) Stages of electronic management

3.5. Features of E-management:

E-management allows for the elimination of paper thanks to its ability to raise the efficiency and performance of management, in addition to using electronic technologies to store and retrieve data. This management aims to transcend the limits of place and time in order to efficiently accomplish the administrative responsibilities assigned to it. This management differs from traditional management in a number of aspects as a result. Moreover, the latter becomes more important when it adopts the updated data technology approach, which is one of the main motivations behind countries integrating e-management into their institutions. These features include the following [10]:

- The basics of daily dealing directly with customers.
- Accomplishing work requirements tasks with exceptional speed.
- Working without restrictions remotely.
- Honest and direct supervision.
- Confidentiality and security.

3.6 Foundations of the Components of E-administration

Traditional administration has different foundations and components to be successful and continuous. It has the ability to perform its work to serve the citizen. It also needs components through which the tasks assigned to it are carried out [11].

3.6.1 E-administration and its Human and Technical Requirements:

The framework for improving e-administration services requires certain components in the employee to enable him to serve in it, the most important of which is to rely primarily on his qualifications and scientific skills in terms of administration to demand familiarity with emerging technologies due to their rapid spread and adoption in many fields, and the public employee in particular must be familiar with the benefits of administrative application technology means, and prepare training courses for its employees to train on advanced machines, and this means that providing technical culture to employees is necessary and makes it easier for senior management to prepare strategies to implement e-administration and raise the level of culture among human elements, whether they are newly appointed or were there before, and in the end, without the human element, departments cannot perform their functions to the fullest. As for the technical aspect, there is no e-administration without networks, computers and other devices. This equipment is essential, because in the absence of technological innovation, the management staff will not be able to perform their jobs optimally. As a result, the specifications of that management vary across modern technology initiatives. Then the management will require a diverse package of modern technical work, such as a comprehensive network, computers, databases and information applications [12].

3.6.2 Security Requirements for E-government

Institutions and members of the public are viewed as customers or beneficiaries who seek to benefit from the facts and data used technically and based in their work on the basics of e-government and linked to a real natural administration that adopts it as a source of information and services. The development of information technology has led to new types of crimes and attacks, such as computer thieves breaking into networks and stealing databases. This information poses a security risk because it is an essential link for various social sectors. As a result, some users still view the Internet as a dangerous tool that hinders the ability of the administration to conduct large-scale operations and stops the sharing of personal data. Since it is the useful tool in implementing.

This raises concerns about the security and preservation of public data and information, despite its benefits, e-government has led to unintended consequences. It needs to be accompanied by data integrity in order to succeed. Keeping personal data safe during the information processing stage is a great difficulty. The security of people's data from hacking, such as information and tools, must be ensured in order for this administrative model to be successful. It is known that every computer connected to the Internet is vulnerable to hacking. Therefore, in order to achieve this security, e-government needs to take certain measures, such as enacting human rights legislation, updating computer operating systems, and ensuring that important data is backed up and stored securely so that e-government can maintain

the user's identity and interactions across the network [13].

4. Programmable Administrative Data and Information

4. 1. System Definition

The management system is one of the most important administrative institutions systems supported by modern technological technologies. It is one of the best systems in the Middle East for managing the institution's resources due to its high capabilities and potential that provide flexible solutions for transforming data into knowledge and knowledge into work through its ability to support data analysis and extract results. Thus, the user obtains accurate information at the most appropriate time, which enables him to develop appropriate plans, make decisions, determine policies, and provide follow-up to correct the path, as shown in Figure (3).

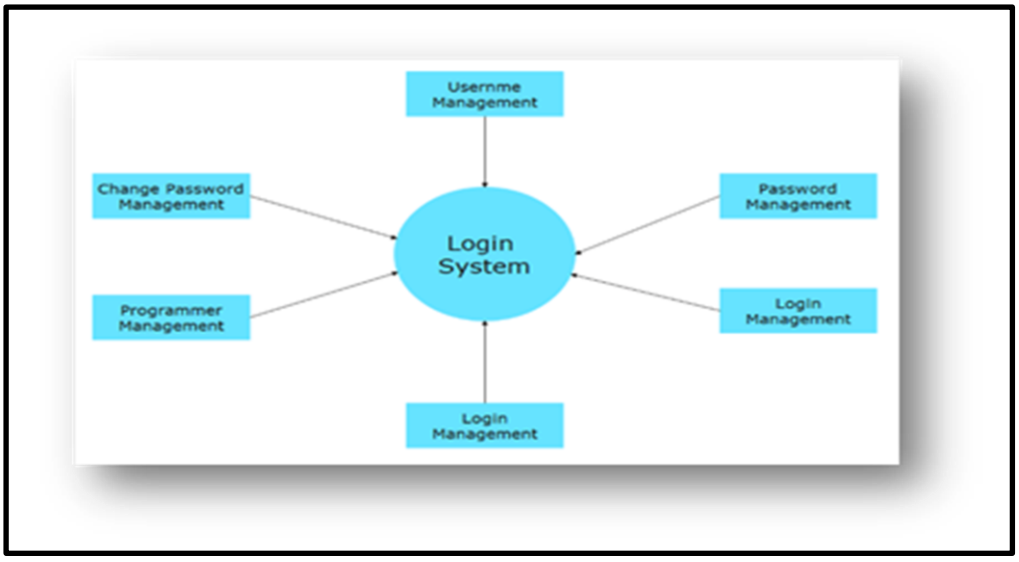

Figure (3) Paths of system information programs

4.2. Benefits of Management Information Systems:

- Providing comprehensive details about everything related to the organization and its employees.
- Maximizing the use of the organization's resources and improving its efficiency. Motivating senior management to supervise and support the organization's operations and resource management, in both the financial and administrative aspects, as well as the human and information aspects.
- Monitoring the organization's operations, including customer service, planning, design, implementation, and supervision[14].
- Providing employees with a variety of electronic tools so they can communicate, collaborate, learn independently, and share information.
- Getting used to the work routine, as the system automatically monitors employee performance on tasks and provides management with progress reports.
- Storing and recording all work, outputs, documents, and raw data related to the organization's technical base.
- Establishing an electronic technical link between the organization's branches spread

across multiple regions.

- Extraordinarily adaptable ability to update and circulate information on a regular basis.
- Integration with a range of subsystems, including financial, press, office bulletin, electronic correspondence, attendance, human resources management and development, and self-guarding.
- Ability to work within the organizational structure of any organization.

as shown in Figure (4).

Figure (4): The administrative institution and its electronic management systems

5. Benefits of IT Programming Used in e-administration:

- Opening and expanding databases to support the institution's higher management.
- Fulfilling information needs by departments.
- Achieving the principle of transparency in internal transactions.
- A comprehensive confidentiality system that secures operating rights and data exchange.
- Reducing the cost of photocopying publicly available paper documents.
- Reducing and lowering internal management expenses.
- Reducing mail correspondence and data transmission costs (between the institution's main headquarters).
- Providing opportunities for performance improvement for various departments.
- Continuous progress relative to open systems [15].

6. The Function of E-Management

Management is characterized by a set of important tasks and functions, enabling it to complete its assigned tasks to the fullest extent. In addition, these functions contribute to unifying decisions and achieving specific goals. These functions are largely similar to those found in traditional management, but the difference between them is that traditional, routine management relies solely on traditional methods to accomplish these tasks. However, e-management relies on information technology as the fundamental foundation it relies

on to modernize workflow methods. Consequently, e-management is viewed as a new approach that has had a significant impact on various fields and organizations, most notably the method of reforming software structures. Consequently, these important electronic developments have changed the structure and purposes of the traditional administrative process, in addition to helping to establish a new administrative model. The four most important administrative functions are planning, design, implementation, and post-implementation supervision.

6.1. Planning:

It is the act of anticipating and preparing for future events. It is also the process that enables the identification of goals and the best ways to achieve them. The planning function has several characteristics, such as precision in the various parts and stages of the planning process, the ability to organize and address multiple and constantly changing issues, and the ability to be flexible enough to adapt to new situations without compromising effectiveness.

In contrast to traditional planning, which sets goals, planning is a mechanical process toward broad, adaptable, renewable, and constantly changing objectives. This suggests that, in contrast to traditional management, e-planning involves shifting the planning function from higher to lower levels of management, involving employees and management in both planning and implementation. Planning in the context of e-management is based on developing multiple plans for different circumstances. These plans are highly flexible, enabling a dynamic response to changes, focused on customers and their current and potential needs. Trust is the primary tool, and planners are the initiators, both managers and employees, with citizen participation.

6.2. Organization:

Since electronic organization makes planning an implementable reality, it is viewed as a complementary administrative role. Organizational methods have become more effective and influential, and they have a significant capacity to keep pace with various developments, due to the use of technological methods in information processing. This is now known as the electronic organization. The depth of electronic management's involvement can be demonstrated through its methods in modernizing the organizational process and creating flexible structural plans that enhance communication and cooperation among various groups of people. The organization is a large-scale internal network employing highly experienced and specialized employees, in addition to remote workers who work on computers for all employees. The ability to monitor management performance, and thus the possibility of raising performance levels, underscores the importance of organization. In addition to helping to differentiate between goals, purposes, and means, organization also helps achieve the optimal use of financial and human resources while reducing time, effort, and cost.

6.3. Guidance:

Guidance is unique among all other functions, as it is linked to the implementation of work or activity. Therefore, it becomes essential for management to exercise the task of guiding human resources in a direction that helps achieve objectives. Guidance refers to the coordination of collaborative efforts aimed at achieving a common goal. The function of guidance relies on the administrative method and style through which a leader can motivate their

subordinates to perform to their full potential within a framework that satisfies their desires and achieves their personal goals. To effectively fulfill the function of guidance, two important activities must be undertaken: the first issuing orders, and the second is motivating and encouraging employees to carry out orders. Proper guidance can present a positive image of the work assigned to management and avoid various work errors that arise due to the absence of a group work culture at the structural level of management [16].

6.4. Oversight and Supervision:

This is the final stage of management processes, playing a key role in ensuring that work is completed according to plan and that the goal is achieved accurately. It should be noted that oversight increases and diversifies with the size of the administration, the number of employees, and the type of work it undertakes.

Thus, oversight within the framework of e-governance is the monitoring and measurement of achieved performance and results, and comparing these to pre-planned goals. The definition of oversight means controlling and identifying weak points and determining whether anything is occurring inaccurately. This helps identify defects and errors with the aim of addressing them, correcting them, and preventing their recurrence.

However, what is observed in various public facilities is the widespread absence of oversight of administrative work. This leads to failure to complete the tasks assigned to the administration and a failure to address deficiencies to correct them. This reduces the efficiency of the services provided by the administration to its clients. In general, effective management of its various functions will enable it to achieve its expected goals. This will not be possible in light of the presence of imbalances at all levels, starting with the absence of future planning processes and continuing with the bloat suffered by departments, which is linked to a lack of efficiency. Added to this is the hierarchical relationship among department employees, which leads to deficiencies in communication, follow-up, and motivation between managers and other employees, which results in a lack of oversight.

7. The Administrative Reform Plan:

Discussions about administrative reform are both current and future-oriented, as they relate to developing the administration as a tool for development, on the one hand, and to monitoring future prospects based on the current situation, on the other. In this regard, the administrative reform plan is based on three fundamental references: the contents of the Constitution, which call for supporting good governance and subjecting public services to the principles of fairness, quality, continuity, equality, neutrality, transparency, and integrity. The second of these references relates to the general directions of the government program, which emphasizes the need for administrative reform and improving the relationship between the administration and citizens[17].

The new administrative reform plan is based on three foundations: improving the relationship between the administration and citizens by placing citizens and businesses at the core of the administration's concerns; and strengthening the bonds of trust between the administration and citizens by improving the quality of services. This will be achieved by improving reception, simplifying and digitizing procedures, and introducing methods for resolving complaints and redressing grievances.

7.1. Valuing Human Capital:

In order to develop the human resources management system, improve the management of these resources, and ultimately enhance social protection, it is believed that valuing human capital is a crucial element in any administrative reform and promoting a culture of public service.

7.2. Developing Governance and Organizational Mechanisms:

This is achieved by establishing mechanisms that ensure the consolidation of the general principles of good governance, based on successful international practices, to keep pace with the concept of regionalism and strengthen the effectiveness and management of administration. This is achieved through adopting transparency and integrity, maintaining organization and decentralization, and modernizing management methods and approaches in public administration. The timeline for the administrative reform plan extends over four years, according to a specific program. After reviewing everything related to the main axes of the administrative reform plan, as well as the timeline for its implementation, we will work to extract the most important points related to e-administration according to this plan. These points can be summarized as follows[18]:

7.3. Simplifying and digitizing procedures:

The administrative reform plan, implemented since last year, highlights the current state of the administration, which is characterized by difficulties in documenting and regularly publishing procedures, and the slow implementation of measures and procedures. This negatively impacts users and the investment-friendly environment. Therefore, the reform's content in this area has two main dimensions:

- Business Procedures Portal www.busines.procedurr.ma: This portal will display procedures related to the administration and the business, step by step, in a precise manner. Furthermore, the administration will be required to comply with procedures related to the business and process them within a period not exceeding 48 hours. This measure will enable businesses to provide information related to administrative procedures without having to visit the administration.
- Adoption of the Government Gateway Platform: According to the administrative reform plan, the adoption of this platform will enable the storage of exchanged information through a shared database and its use as a tool for interoperability between administrative information systems. Therefore, this platform will aim to save time and facilitate the verification of information, in addition to reducing the costs of providing administrative services for both citizens and the administration. This will result in a reduction in the number of administrative documents required, shorten deadlines, and ease the burden of citizens' travel to the administration. All of this will lead to improved quality of public services.

7.4. Use of Information and Communication Technology to Improve Human Resources Management

One of the main objectives of the administrative reform strategy is the development of human resources. The following are the most important ways in which information and communication technology has been integrated into human

resources management to achieve this goal: Cooperation to create a collaborative information system for use by public administrations in human resources management. This program will focus on predictive human resources management and the rationalization and regulation of associated financial costs (SIRH).

- Using the InfoCentreRH central human resources database to prepare periodic reports containing data, statistics, and guidelines on human resources personnel within public departments.
- Maintaining and expanding the InfoCentreRH central information database.
- Maintaining and developing the smart application and public employment portal [19].

7.5. Developing Governance and Organizational Mechanisms:

The administrative reform plan relies on several approaches to develop governance and organizational mechanisms. These include adopting honesty and openness as a policy aimed at combating and combating corruption. One of the most important measures is to begin reviewing the mandatory asset declaration system and defining the list of relevant jobs and positions, by adopting an electronic declaration and publication system. Another approach is to modernize management methods and approaches within public administrations, through collaboration and exchange between administrations on the level of best practices and experiences. In the field of e-governance, the administrative reform plan focuses on the integration of information systems within public administrations, such as the inventory management system and the administrative correspondence management system.

8. Testing the validity of the study's hypotheses:

8.1 - Descriptive analysis of the data:

It clarifies the characteristics of the responding individuals in terms of gender, age, educational qualifications, job grade, and years of experience. The results of the analysis in the following paragraphs represent a description of the personal characteristics of the responding individuals, based on the data derived from the questionnaire form, which was distributed to members of the community. Their characteristics were as follows, as shown in Table (1): Personality characteristics of the responding individuals.

Table (1) Descriptive statistics for personal data

Distribution		%	Number
Gender	Male	62.92	302
	Female	37.08	178
Age	30 -20	17.71	85
	40 -30	31.46	151
	50 -40	27.29	131
	60 -50	18.75	90
	60 or older	4.79	23
Educational	PhD	44.38	213

Qualification	**Master's**	**12.71**	**61**
	Bachelor's/Diploma	**35.63**	**171**
	other	**7.29**	**35**
Years of Experience	**5-1**	**15.42**	**74**
	10 -5	**15.00**	**72**
	20 -15	**21.46**	**103**
	20 -15	**13.33**	**64**
	25 -20	**14.58**	**70**
	30 -25	**10.21**	**49**
	More than30	**10.00**	**48**

8.2- The descriptive statistics table for demographic data shows the following:

- The distribution of the study sample's components according to the "gender" variable indicates that the majority of the study sample is male, representing 62.92%, and the female category, representing 37.08%.
- The distribution of the study sample's components according to the "age" variable indicates that the majority of the study sample is in the 30-40 age group, representing 31.46%, while the 40-50 age group represents 27.29%, followed by the 20-30 age group, representing 17.71%, followed by the 50-60 age group, representing 18.75%, and finally the 60 and over age group, representing 4.79%, according to the study sample's responses. The distribution of the study sample components according to the variable "educational qualification" indicates that the majority of the study sample is from the category of those who hold a doctorate, with a percentage of 44.38%, followed by the category of those who hold a bachelor's degree, with a percentage of 35.63%, then the category of those who hold a master's degree, with a percentage of 12.71%, and finally those who hold intermediate qualifications, with a percentage of 29.7%.

The distribution of the study sample components and the "years of experience" category indicates that the majority of the study sample falls into the category (more than 10 to 15 years) at a rate of (21.46%), followed by the category (one to five years) at a rate of (15.42%), then the category (more than 5 to 10 years) at a rate of (15%), then the category (more than 20 to 25 years) at a rate of (14.58%), then the category (more than 15 to 20 years) at a rate of (13.33%), then the category (more than 25 to 30 years) at a rate of (10.21%), and finally the age category (more than 30 years) at a rate of (10%).

8.3- Validity and reliability test

After the initial design of the questionnaire, the researcher conducted validity and reliability tests using Cronbach's alpha test to test the reliability of the scales of all variables (digital technology and its dimensions, and job performance). The data in Table (2) indicate the values of the reliability and self-validity coefficients for the independent variable (digital technology).

Table (2): Values of the reliability and self-validity coefficients for the scale of study variables

Variables	Number of statements	Reliability coefficient	Self-reliability coefficient
Digital Technology	**20**	**0.971**	**0.939**
Hardware	**1-4**	**0.864**	**0.895**
Software	**5-8**	**0.852**	**0.912**
Databases	**9-12**	**0.902**	**0.876**
Networking	**13-16**	**0.796**	**0.915**
Human Resources	**17-20**	**0.921**	**0.895**
Job Performance	**10**	**0.963**	**0.946**

Source: Prepared by the researcher based on the results of the SPSS statistical analysis.

Table (2) shows the following:

The scale has a high degree of reliability, given that an alpha coefficient ranging from 0.50 to 0.60 is considered sufficient and acceptable, while an alpha coefficient of 0.80 is considered excellent and reliable (Idris, 2008). Therefore, it can be said that these are statistically significant coefficients for achieving the research objectives and can be relied upon to generalize the results to the research community as a whole.

Regarding the digital technology scale, the alpha coefficient for the scale as a whole was 0.971, indicating a high degree of reliability. The reliability coefficient values ranged between a minimum of 0.796 and a maximum of 0.921 for the digital technology dimensions. For the job performance scale, the alpha coefficient for the scale as a whole was found to be 0.971, which indicates a high degree of reliability for the scale.

8.4- The Relationship Between Digital Technology and Job Performance:

- H1: A statistically significant relationship is expected between digital technology and employee job performance.

The researcher conducted a Pearson correlation analysis to determine the nature of the correlation between the study variables (digital technology in its dimensions and job performance). This was done to determine the strength and direction of the relationship between these two variables. The closer the correlation coefficient value is to one, the stronger the correlation between the variables. A positive sign indicates a direct relationship, while a negative sign indicates an inverse relationship.

Table (3) shows the value of the correlation between the independent variable (digital technology) and the dependent variable (job performance), as follow:

Table (3): Correlation Coefficients between the Dimensions of Digital Technology and Job Performance

Functional	Performance Variables
Hardware	**0.766**
Software	**0.831**
Databases	**0.883**

Networks	**0.824**
Human Resources	**0.911**

** Significant correlation coefficients at the 1% level

Table (3) shows the following:

Pearson's correlation coefficients between the dimensions of digital technology and job performance ranged between (0.766 and 0.911), with the weakest correlation between the physical components and job performance, at (0.766), while the strongest correlation was between human resources and job performance, at (0.911). These coefficients were found to be significant at the 1% significance level. This indicates a positive correlation between the dimensions of digital technology and job performance, which validates the first hypothesis: "A statistically significant relationship is expected between digital technology and job performance."

8.5- The impact of digital technology on job performance:

- **H2: A statistically significant impact of technology is expected on employee job performance.**

In light of the correlation analysis between the study variables, it was found that there is a direct correlation with statistical significance between digital technology and job performance. To clarify the impact of digital technology on job performance among the research sample, the simple and multiple regression method was used. This part of the statistical analysis discusses testing the research hypotheses, related to testing the impact of digital technology on job performance. The following can be explained the results of the correlation and multiple regression of the dimensions of digital technology as independent variables and job performance as a dependent variable, as in Table No. (4):

Table (4) Results of regression analysis of the impact of digital technology on job performance

Dependent Variable	Independent variable	R2	F	Sig		B	T	Sig
Job Performance	Digital Technology	0.930	48.546	0.001	Constant	1.180	1.540	0.022
						1.200	6.971	0.000

Source: Prepared by the researcher based on the results of the SPSS statistical analysis.

The data in Table (4) indicate:

- The regression model is significant, according to the ANOVA table to verify the suitability of the independent variables on the dependent variable. The F value reached (48.546), which is significant at a significance level of 1%.
- There is a significant effect of the independent variable (digital technology) on the dependent variable (job performance), as the probability value from the ANOVA is less than 0.50.
- The regression coefficients for digital technology and the fixed term are significant, as the T value for the fixed term reached (1.540) at a significance level of 5%. The interpretation coefficient value, R^2, reached (0.930), which means that digital technology

explains 93% of the changes that occur in job performance, and the remaining 7% is due to the influence of other factors not included in the model.

- Based on the above, the validity of the second hypothesis is clear: "A statistically significant impact of digital technology on job performance is expected."

9. Study Results:

The researcher discusses the most important findings used in light of the statistical analysis results. The general results are reviewed, in addition to developing a proposed vision for the most important features that must be present in the policies of governmental and private institutions to care for and pay attention to digital technology. This is followed by a proposal for the most important components for improving employee job performance. Finally, recommendations specific to the field of study are addressed, as follows:

- Discussion of the Results of the Study's Hypotheses:

*** H1:** A statistically significant relationship is expected between digital technology and the job performance of employees. The analysis results indicated a statistically significant relationship between digital technology and the job performance of employees in governmental and private institutions. To test this hypothesis, Pearson's correlation analysis was used, with Pearson's correlation coefficients between the dimensions of digital technology and job performance ranging between 0.766 and 0.911. The weakest correlation was between physical components and job performance, reaching 0.766, while the strongest correlation was between human resources and job performance, reaching 0.911. These coefficients were found to be significant at the 1% significance level.

*** H2:** A statistically significant effect of digital technology is expected on job performance in governmental and private institutions. The analysis results indicated a statistically significant effect of digital technology in its five dimensions (digital components, software, databases, networks, and human resources) on employee job performance. To test this hypothesis, the multiple regression method was used, where the F value reached (48.546), which is significant at the significance level (sig=0.000), and the T value for the fixed term reached (1.540) at the significance level (sig=0.05), and the interpretation coefficient R^2 reached (0.930), which means that digital technology explains 93% of the changes that occur in job performance, and the remaining 7% is due to the influence of other factors. This result indicates the acceptance of the hypothesis.

10. Research Results and Proposals

10.1 Results*:*

1 - Digital technology, such as virtual computers and networks, has contributed to increasing the number of employees in productive civil and governmental institutions by increasing productivity, making it easier to complete their duties and saving time and effort quickly and efficiently.

2 - Digital technology offers numerous advantages, including improving organizational functions and time management, which has helped achieve goals even in the recent past.

3 - Digital technology enhances communication and collaboration among employees, whether in the same location or across different business locations.

4 - Communication tools facilitate communication between employees via email, chat, voice calls, and photography. The use of these tools enables effective and rapid communication in the process of improving products and coordinating tasks.

5 -The inability to distinguish between e-governance and management by objectives. In the absence of such a distinction, this contemporary management approach becomes a passive observer of events rather than an active participant, especially in light of competing advantages and the need to implement effective controls to survive in the face of intense competition [20].

10.2 Proposals

1. Fully activating digital technology and converting all traditional administrative procedures to electronic ones.
2. Developing regulations, laws, and legislation regulating electronic transactions.
3. Raising awareness among government and private sector employees about digital technology, the systems they already have in place, new systems being implemented, and how to leverage them to facilitate business by attracting ICT experts to assist them in providing practical training courses.
4. Developing and modernizing the digital technology infrastructure, particularly telecommunications and internet networks, and providing the latest infrastructure equipment to facilitate the digital transformation
5. The ability to distinguish between e-governance and management by objectives. In the absence of such a distinction, this contemporary management approach becomes a passive observer of events rather than an active participant, especially in light of competing advantages and the need to implement effective controls to survive in the face of intense competition.
6. Aligning electronic systems operations with actual business needs, paying attention to the communication network to ensure the systems respond quickly to required commands, developing systems to include all tasks and procedures, eliminating paper transactions, and focusing on increasing the protection and security features of the systems [21].

11. Conclusion

It is concluded that the shift to e-management and its applications, and its elevation to the status of one of the pillars and principles of modern management art, has become an absolute necessity. For this reason, e-management represents the most important development in the administrative apparatus and creates a positive culture among all stakeholders. It also ensures the transformation of e-administrative work from efficient administrative work to purposeful and productive administrative work, in accordance with the fundamental administrative principle of "flexibility, continuity, and development". Based on the above, we can conclude the transition to e-management and its applications, placing it at the core of the theory and practice of this field.

12. Acknowledgement

The success achieved by advanced knowledge and technology has opened doors to scientific discoveries and their results into actual facts. These technologies have helped to accomplish tasks and work with greater efficiency. Their advantages include reducing administrative errors,

increasing speed, reducing time and effort, and converting all documents from paper to digital format. This has become widespread, as has the emergence of e-books and e-libraries. It has also facilitated communication. My thanks to everyone who facilitated my academic mission electronically and practically.

Reference

[1]. E-Government, Raafat Radwan, Head of the Information and Decision Support Center, Cairo, 2004.

[2]. Dr. Yahya Muhammad Abu Maghaidh, E-Government: A Revolution Against Traditional Administrative Work, Riyadh, 2004.

[3]. Dr.Ahmed Muhammad Ghoneim, E-Government: Present Prospects and Future Aspirations, 2004.

[4]. Dr. Bashir Abbas Al-Alaq, Digital Management: Areas and Applications, First Edition, Emirates Center for Studies and Consulting Research, Abu Dhabi, 2005.

[5]. Khairy Othman, Management by Objectives, Arab Organization for Administrative Sciences, Publication No. 173, Cairo, 1975.

[6]. Dr. A. Raafat Radwan, E-Government, Information and Decision Support Center of the Council of Ministers, Cairo, 2004.

[7]. Kenneth Cook, Planning Strategy in Small Enterprises, translated by International Ideas House, Riyadh, 2003.

[8]. Dr. Muhammad Al-Sayrafi, E-Government, Dar Al-Fikr Al-Jami'i, Alexandria, 2006

[9]. Dr. Muhammad Abd Al-Hussein Al-Faraj Al-Ta'i, The Complete Encyclopedia of Computer-Based Administrative Information Systems, Dar Zahran Publishing, Amman, 2002

[10]. Dr. Najm Abboud Najm, E-Government: Strategy, Functions, and Problems, Dar Al-Marikh Publishing, Riyadh, 2004

[11]. Dr. Alaa Abd Al-Razzaq Al-Salmi, E-Government Networks, First Edition, Dar Wael Publishing and Distribution, Amman, 2005

[12]. Dr. Muhammad Abd al-Mun'im Khamis, "Requirements for Implementing Management by Objectives in Developing Countries," Arab Journal of Administration, Volume 1, Arab Organization for Administrative Sciences, Cairo, 1977.

[13]. Nael Abd al-Hafiz al-Awamleh, "The Quality of Management and E-Government in the Digital World: A Survey Study," King Saud University Journal of Administrative Sciences, Volume 15, Riyadh, 2003.

[14]. Ali Hasan Bakir, "The Comprehensive Concept of E-Government Implementation," Opinions on the Gulf, Gulf Research Center, Issue 23, UAE, August 2006.

[15]. Badr bin Muhammad al-Malik, "The Administrative and Security Dimensions of E-Government Applications in Saudi Banks," a thesis submitted for a master's degree, Naif Arab University for Security Sciences, Riyadh, 2007.

Websites

[16]. Anwar bin Salem Al-Madshal, Management by Objectives, an article published on the website: http://www.hrdiscussion.com

[17]. Mahdi Abdul Sahib, E-Government: A Fundamental Change in the Culture of Service Delivery, published on the Al-Sabah newspaper website: www.alsabaah.com/paper.php?source=akbar&mlf=interpage&sid=: 64703, 2014

[18]. Wael Kanzi Abbas, What is Information Technology?, an article published on the website:http://bawaseltech.com/2011/06/23/-information-technology

References in foreign languages:

[19]. Newman.B and Conard.K, a Framework for Caracterizing Knowledge Management Methods, Practices and Technologies, The Knowledge Management Theory Papers, The Knowledge Management forum, 1999.

[20]. Prahalad. C and Hamel. G, Strategy as a field study, why search for a new paradigm, strategic management journal, Vol 15, 1994.

[21]. Seresht, Hossein Rahman, Fayyazi Marjan and Asi Nastaran simar Emanagement: Barriers and challenges in Iran, phd Thesis, allameh tabatabaee University, 2008.