

CHALLENGES ENCOUNTERING IMPLEMENTATION OF ELECTRONIC MANAGEMENT IN HUMAN RESOURCE

AMINA DRICI

Faculty of Law and Political Science, Djillali Liabes University, Sidi Bel Abbas, Algeria

Email : amina.drici@univ-sba.dz

Received: 15/12/2023; Accepted: 15/05/2024; Published: 06/06/2024

Abstract:

The quality and effectiveness of administrative work necessitate a shift towards digitizing management through the dedication of modern technology to ensure the speed and transparency of administrative services. This has led Algeria to adopt and consolidate the concept of electronic administration, gradually moving away from traditional management with its complexities and drawbacks, including time wastage and bureaucracy. The integration of human resource management with the idea of electronic administration represents the development of electronic human resource management (E-HRM) by enhancing the administrative apparatus and strengthening its human capabilities.

The topic of electronic administration in human resource management remains a subject of academic interest, particularly from a legal perspective, due to its novelty and importance. The study emphasizes the need to define the concepts by defining electronic administration and related terminology, as well as defining electronic administration in human resource management. Furthermore, the study examines the challenges faced by Algeria in adopting this concept as a manifestation of the Algerian e-government project and the obstacles encountered in its implementation.

Keywords: *electronic administration, human resource management, e-government project.*

INTRODUCTION:

The global development witnessed by institutions through the adoption of modern technology in transactions and customer communication has compelled Algeria to keep pace with this progress in order to ensure the continuity of its institutions by entering the world of competition and modernizing its administrative apparatus. This includes embracing technological advancements in its management, both internally within the organization itself and externally in its relationship with customers.

The use of modern technology and efficient information systems by institutions plays a crucial role in the success, development, and quality of their services. This is achieved by eliminating bureaucracy, reducing costs, expediting transactions, and ensuring administrative transparency.

The use of modern technology has become a fundamental factor in the success or failure of any establishment in the present time. The importance of this lies in the fact that modern technology and information are utilized as tools for coordinating and supporting the administrative process and decision-making, both within the organization and in communication with the surrounding environment¹.

In order to achieve these objectives, Algeria has hastened to institutionalize the concept of e-governance and has adopted the Algerian e-Government project through the utilization of information technology and the modernization of various administrative devices across different sectors. Additionally, new legislation has been enacted to align with this new direction.

The adoption of the concept of e-governance can only yield results through the qualification of the human element, as it represents the cornerstone of the organization through the functions performed by the employees. Human resource management is the most important management aspect within the organization, thus it should be updated and developed by blending its concept with that of e-governance, which will provide the organization with competitive advantages and ensure its continuity and service quality.



In light of this, the following problem is posed: What are the challenges in institutionalizing e-governance in human resource management? To answer this problem, two hypotheses are proposed:

1. The concept of e-governance from a modern perspective has become an inevitable necessity, and it is this concept that defines its characteristics and objectives.

2. The integration of e-governance with human resource management is a strategic choice for organizational effectiveness, but it faces difficulties and obstacles that hinder its implementation.

This study aims to shed light on the importance and effectiveness of e-governance in enhancing the quality of services provided to customers, as well as the efforts made by Algeria to establish a legislative framework for the adoption of e-governance through the Algerian e-Government project. Furthermore, the study explores the application of e-governance in the field of human resource management.

To comprehensively address various aspects of the topic and answer the research problem, in accordance with the methodologies adopted in legal studies, an inductive approach will be followed using a descriptive and analytical method. The research is divided into two main sections: 2. The concept of e-governance, and 3. The concept of e-governance in human resource management and the obstacles it faces.

2. THE CONCEPT OF E-GOVERNANCE:

Addressing the concept of e-governance involves defining e-governance and differentiating it from related terms, as well as identifying its characteristics and objectives.

1.2 Definition and Characteristics of E-Governance:

There are various interpretations of the term e-governance, although most of them indicate the reliance of the administrative apparatus on technology in communication and interaction with the beneficiaries of the organization's services. This imparts specific characteristics to e-governance that need to be delineated.

2.1.1 Definition of E-Governance:

The transition from traditional administration to e-governance, according to some, resulted from the application of modern information and communication technologies, including the establishment of computer networks and the interconnection of various organizational units. This aims to facilitate access to administrative data, information, and documents in order to enhance the level of administrative services provided to beneficiaries and achieve efficiency and quality, while reducing the cost of administrative services and ensuring time efficiency².

The term e-governance refers to the management of administration in a modern way using contemporary communication methods³. Some define it as "...a networked institution that primarily relies on knowledge producers, as well as electronic archives, email, electronic directories, references, and voice messages. Its aim is to achieve better services for organizations, their clients, and the general public with efficiency and effectiveness by optimizing time and minimizing costs.⁴" Others define it as the utilization of advanced electronic means and technologies in the management of the administrative apparatus. Therefore, it is an information resource management that primarily relies on the internet and modern communication networks⁵. The achievement of its objectives depends on intellectual capital and knowledge, which is sufficient in utilizing its resources⁶.

Some also emphasize that the concept of e-governance is associated with reducing paper usage, simplifying procedures, increasing speed in administrative work and transactions while ensuring accuracy, and eliminating routine tasks. By doing so, an e-governance system can be built, which is subsequently qualified for integration with e-government⁷.

Accordingly, it can be deduced that e-governance involves modernizing and updating the administrative apparatus by relying on technology for communication and transactional processes. This ensures the swift completion of electronic transactions and marks the beginning of the decline of paper-based transactions.

Some individuals perceive e-governance to have two main dimensions: e-business and e-government. There appears to be a strong relationship among "e-governance," "e-business,"⁸ and "e-government," with the internet being the common factor that brings these three systems together.



With the advent of the internet, e-governance has become information-based management, replacing the physical management of resources⁹. To understand the relationship among these three systems, some present the following diagram¹⁰:

E-Management

E-Business

E-Government

2.1.2 Characteristics of e-governance

E-governance exhibits several key characteristics, including:

1. Speed in information processing: This is achieved through the use of information and communication technologies in performing tasks, delivering services, simplifying work procedures, promptly responding to customer requirements, overcoming temporal and spatial limitations that restrict transactional movements, and maintaining effective communication among employees in the realm of e-governance¹¹.

Some classify the characteristics of e-governance into four main groups¹²:

1. Proficiency in task performance: This entails instant processing of requests and precision and clarity in executing administrative transactions.

2. Cost reduction: Embracing the concept of e-governance helps save significant amounts of money in management.

3. Simplification of procedures: Modernizing and updating administration through the adoption of advanced technology leads to the simplification of procedures and thus transcending the complexities of traditional management.

4. Transparency: Transparency refers to an approach based on clarity, rationality, teamwork, openness, honesty, and participation in decision-making. It involves holding administrative practices accountable and subjecting them to continuous monitoring through the flow of information and the openness of communication channels¹³. Transparency is not limited to providing access to information to individuals but also emphasizes the importance of facilitating the process of accessing information while considering everyone's financial ability to access that information¹⁴.

One of the key distinguishing features of e-governance is the disappearance of paper documents in transactions, the absence of direct interaction between the parties involved, and the speed in completing transactions¹⁵.

2.2 Objectives of e-governance:

E-governance achieves several benefits that positively impact business organizations. These benefits include promoting transparency, initiatives, creativity, and innovation. It expands participation in information exchange by employing modern communication technologies and aids in decision-making processes. It simplifies procedures within business organizations and enables swift execution of various administrative transactions¹⁶.

E-governance relies on principles that ensure the achievement of its objectives. Some consider the fundamental principles of e-governance to include providing superior services, focusing on results, facilitating the widespread use of e-governance in all areas of life, reducing costs, and embracing continuous change.

E-governance has direct objectives that involve tangible gains, such as achieving speed in completing administrative tasks, time-saving, reducing working hours in administrations, minimizing paper usage in administrative activities, and enabling remote work¹⁷. It also has indirect objectives, such as reducing errors, keeping pace with the adoption of e-governance by advanced countries, and enhancing the competitiveness of various administrations¹⁸. Additionally, it aims to improve service levels, reduce administrative complexities, and lower costs¹⁹.

Furthermore, the adoption of the concept of e-governance aims to eliminate bureaucracy and achieve comprehensive quality management within business organizations²⁰.

While some emphasize the significant importance of e-governance in keeping up with the continuous scientific and technological advancements that have resulted from the ongoing information revolution²¹, others believe that e-governance achieves multiple objectives that can be categorized into four groups²²:



- Objectives related to the beneficiaries and stakeholders of the organization²³.
- Objectives related to the efficiency of administrative work²⁴.
- Objectives related to increasing the efficiency and effectiveness of administrative decision-making²⁵.
- Objectives related to enhancing the organization's local and global competitiveness²⁶.

On the other hand, some classify the objectives of e-governance differently, dividing them into the following categories:

1. Administrative objectives: Aimed at developing administration through the utilization of modern technologies, leading to the improvement of administrative work.

2. Social objectives: Involve combating bureaucracy, promoting transparency, and protecting the rights of citizens.

3. Scientific objectives: Focus on employing technology as a global demand and maintaining the confidentiality of administrative documents.

4. Economic objectives: The e-governance in this domain aims to reduce administrative transaction costs, achieve speed in their completion, and accomplish a large number of administrative transactions in a short time²⁷.

3. The concept of e-governance in human resource management and the obstacles to its implementation.

The integration of e-governance with human resource management (HRM E-) is considered a development in electronic HRM by enhancing administrative processes, improving services, and enhancing human capabilities. Therefore, it is necessary to define e-governance in human resource management (3.1) and then discuss e-governance in human resource management: its challenges and obstacles (3.2).

3.1 Concept of e-governance in human resource management:

The discussion of the concept of e-governance in human resource management includes defining e-governance in human resource management, specifying its objectives in human resource management, and finally, outlining the tasks of e-governance in human resource management.

3.1.1 Definition of e-governance in human resource management:

E-governance in human resource management is referred to by several terms such as virtual human resources, web-based human resources, and internet-based human resources²⁸. Some use the term E-HRM, while others prefer the term web-based. Some even favor the term virtual HRM²⁹.

Some define it as a new approach that relies on the use of modern information and communication technologies in performing the core functions of human resource management and development³⁰.

While others see it as the utilization of technology in the functions of human resource management and communication, facilitated through technology-driven networks between the organization and its employees. It is also seen as a method to implement strategies, procedures, and policies of human resource management within the organization through direct and conscious support, leveraging various web-based technologies³¹.

From another perspective, it refers to the implementation of human resource management strategies and policies within the organization based on internet technologies. It is an integration process between human resource management and modern communication technologies, aiming to enhance the administrative apparatus within the organization³².

E-governance in human resource management entails managing human resources through modern technology in line with the contemporary business environment. It involves abandoning traditional management methods and transitioning to a management approach that keeps pace with technological advancements, ensuring speed, accuracy in executing activities, and streamlining procedures³³.

3.1.2 Objectives of e-governance in human resource management

The adoption of e-governance in managing and administering human resources aims to facilitate the performance of human resource management functions³⁴, provide instant management services, improve the strategic orientation of human resources, and enhance the reputation of the organization³⁵.



Some view e-governance in human resource management as aiming to "empower employees and managers to access HR information, enhance collaboration and interaction among all members of the organization and external parties, exchange information, and create virtual teams."³⁶

From a legal perspective, some objectives can be summarized as follows³⁷:

- Reducing labor costs and administrative expenses.
- Facilitating the performance of human resource management functions.
- Increasing the level and ensuring the quality of services provided by the organization.
- Improving working conditions within the organization, leading to employee satisfaction and facilitating the performance of human resource management functions.
- Providing greater opportunities for participation and training without affecting the efficiency of the services provided by the organization.
- Speed and flexibility in service delivery.
- Ensuring transparency of information³⁸ and the ability to enhance competitiveness among organizations.
- Reducing the duration of workforce selection and recruitment processes.

3.1.3 Tasks of e-governance in human resource management:

Human resource management is considered the effective driving force for the development of organizations (economic and commercial) as it aims to attract, employ, train, and evaluate the human element, leading to improved service performance within the organization.

The tasks of e-governance in human resource management include:

1. Electronic selection system: This system serves a dual purpose. For the management, it enables the selection of qualified individuals for vacant positions, matching their qualifications and background through electronic interviews. For job applicants, it allows them to submit their resumes and apply for positions electronically³⁹.

The electronic selection system is of great importance, especially in advanced systems, by converting job applications into suitable sectors with vacant positions or retaining the applications until other job opportunities arise that match the applicant's qualifications⁴⁰.

2. Electronic recruitment system: This system involves responding to electronically submitted job applications and approving those who meet the required conditions and qualifications. In some cases, short electronic interviews may be conducted between the management and the job applicant, leading to the selection of suitable human resources for the job⁴¹.

3. The e-learning system: It is one of the fundamental tasks of e-governance aimed at developing the skills of employees within the organization to enhance its competitiveness⁴². It involves empowering the human element in the organization to effectively utilize computer technologies, handle email communications, and more. The e-learning system takes various forms, including online education that relies on remote learning through the internet using computers and email⁴³.

E-learning brings significant benefits to the organization as it allows employees to acquire knowledge and skills without having to leave their positions. The fast-paced era has compelled management to train the human element rapidly in order to acquire quickly changing skills through short-term courses and retraining programs to keep up with changes and acquire new skills as needed⁴⁴.

One of the advantages of e-learning is its speed and cost-effectiveness, in addition to its flexibility in terms of time and location⁴⁵.

4. The electronic compensation system: It is worth noting that adopting this system helps organizations to swiftly process employee wages and avoid errors that may occur during this process⁴⁶. Moreover, implementing this system facilitates the inclusion of salary increases and financial incentives in case of promotions.

5. The electronic performance management system: It is a system that enables the internet to assess employees' performance skills.

6. The electronic career management system: It aims to promote the professional career path of the organization's employees based on their experience and excellent job performance, ensuring their progression within the organization⁴⁷.



3.2 E-Governance in Human Resource Management: Its Challenges and Obstacles:

The requirements of integration into the global economy and technological advancements have necessitated the modernization of administration to align with the developments achieved in the West. Algeria has embarked on implementing this through the "Algeria e-Government 2008-2013" project, which aims to modernize and digitize administration in line with the Millennium Declaration of the United Nations, issued during the 55th session of the UN General Assembly.

Implementing the "Algeria e-Government" project required the establishment of a legislative framework to ensure its implementation:

Firstly, Law No. 09-04, dated August 5, 2009, which includes specific provisions for the prevention and combating of crimes related to information and communication technologies. It was published in the Official Gazette on August 16, 2009, Issue No. 47, Page 05⁴⁸.

Algeria's direction towards digitizing its administrative apparatus led it to adopt protective legislation against technology-related crimes. This is evident in the aforementioned Law No. 09-04, which introduced crimes related to information and communication technology and related terminologies. It also defined the scope of the law's application and the procedural rules for inspecting information systems and cases of monitoring electronic communications.

Secondly, Law No. 11-10, dated June 22, 2011, concerning municipalities, published in the Official Gazette on July 3, 2011, Issue No. 37, Page 04.

Upon examining the provisions of this law, it becomes evident that the legislator's inclination is to encourage the utilization of technology in administrative activities. It stipulates the necessity to inform and consult citizens regarding options for economic, social, and cultural development and preparedness through the use of available media channels⁴⁹.

Thirdly, Law No. 12-07, dated February 21, 2012, pertaining to governance at the local level, as published in the Official Gazette on February 29, 2012, Issue No. 12, Page 05.

Multiple provisions affirming electronic administrative management were identified, including the requirement for written summons of members of the People's Provincial Council for council sessions via email⁵⁰. The agenda for each session is published through various electronic publishing means⁵¹, and a summary of the deliberations of the People's Provincial Council is disseminated through all media outlets⁵². In addition, permanent committees are established to address communication and information technology matters⁵³, and the council engages in discussions relating to the field of media and communication⁵⁴. Moreover, the establishment of a statewide information bank is pursued⁵⁵, aiming to enhance collaboration and communication among economic operators, training and research institutions, and local administrations⁵⁶.

One of the notable features of the Algerian e-Government initiative is the dedication to implementing the e-Municipality (Smart Municipality) project. Algeria, in coordination with the Ministry of Interior and Local Governments, is investing in this project by adopting a set of measures, including the digitization of birth certificates and civil status documents. Through this initiative, citizens can obtain these documents from any municipality without the need to travel to another province⁵⁷.

According to the decision issued on May 25, 2011, regarding the application for the national ID card and passport, citizens can now download the application form for these documents from the website of the Ministry of Interior and Local Governments⁵⁸. Additionally, they have the ability to track the progress of their driving license application through the website of the Ministry of Interior and Local Governments and Urban Planning. On December 28, 2011, the Ministry of Interior announced the issuance of biometric passports. The joint decision issued on April 23, 2015, specifies the required documents for the application of electronic biometric passports for Algerian citizens residing abroad. The plan adopted by Algeria has enabled municipal services to electronically process citizens' transactions, such as electronic registration for the Hajj pilgrimage, and the country aspires to conduct the lottery for the Hajj electronically. Furthermore, it provides electronic inquiries and clarifications for citizens⁵⁹.

As a result, Algeria has successfully digitized all civil status records at the national level, established the National Automated Civil Status Register, and connected all municipalities, their administrative attachments, as well as diplomatic missions and consular offices⁶⁰.



Fourthly, Law No. 15-03, dated February 1, 2015, pertaining to the modernization of justice, published in the Official Gazette dated February 10, 2015, issue 06, page 04.

Fifthly, Law No. 15-04, dated February 1, 2015, which establishes the general rules related to electronic signature and authentication, published in the Official Gazette dated February 10, 2015, issue 06, page 06.

Sixthly, Law No. 18-04, dated May 10, 2018, which determines the general rules regarding postal services and electronic communications, published in the Official Gazette dated May 13, 2018, issue 27, page 03.

Seventhly, Law No. 18-05, dated May 10, 2018, concerning e-commerce, published in the Official Gazette dated May 16, 2018, issue 28, page 04.

Eighthly, Law No. 18-07, which pertains to the protection of natural persons in the field of personal data, published in the Official Gazette dated June 10, 2018, issue 34, page 11.

Through the aforementioned legal texts, Algeria has been working on digitizing the justice sector, postal and communication sector, labor and employment sector, social security, and the education and higher education sector. Efforts have also been made to encompass the banking sector⁶¹, which has extensive ties to trade and investments, contributing to the advancement of the national economy, a priority for the President of the Republic.

Algeria has made considerable efforts towards the success of the "Algeria électronique" project. However, the adoption of the concept of e-governance in human resource management remains at a very slow pace, despite the following benefits it offers⁶²:

1. Increased need for human resources due to the introduction of new positions.
2. The use of electronic systems by companies enhances their competitive position, resulting in increased productivity.
3. Integration of different databases within the human resource management system, such as payroll and performance systems, making them accessible to both employees and management.
4. Relying on available reports on the company's electronic portal enables objective decision-making by executives.

To achieve the advantages and goals of e-governance in human resource management, the following requirements should be met⁶³:

- Utilizing technology and modernizing the administrative apparatus.
- Providing training to the organization's human resources to equip them with necessary skills.
- Working on enhancing the quality of services provided to customers.
- Improving relationships between different functional sectors within the organization.
- Embracing flexibility in administrative work and better responsiveness to market variables, such as opening administrative positions that align with the qualifications of university graduates, thereby contributing to the state's policy of addressing unemployment.
- Reducing administrative expenses.
- Making concerted efforts to enhance the organization's reputation.

The integration of the concepts of electronic management and human resources enhances the human resources department within the organization through the provision of essential services to employees. This includes managing personal information, handling recruitment processes, recording absences and bonuses, facilitating collaboration, training, and development through interaction, participation, training, and knowledge transfer, as well as communicating with and motivating employees, which falls under the purview of benefits and rewards management and improving the services provided to them⁶⁴.

The dedication to the concept of electronic management is influenced by several factors, which can be summarized as follows⁶⁵:

- Control over technology is considered the primary driving force behind electronic human resource management.
- The human element within the organization possesses special skills and an ability to control information technology.
- Allocating a significant budget to the establishment of electronic human resource management.



- The expansion of the organization facilitates the implementation of electronic human resource management systems.
- Decision-makers need to be prepared to adopt a structured approach to human resources and integrate it with information technologies to establish the concept of electronic human resource management.

CONCLUSION:

The study on the challenges of implementing electronic management in human resource management has yielded the following results:

- Electronic management is based on modernizing and relying on advanced technology for communication and transactions within the administrative framework.
- There is a distinction between the concepts of electronic management and e-government, necessitating a clear differentiation between the two terms. Electronic management is limited to the managerial and administrative aspects, while e-government encompasses various dimensions: administrative, political, social, and economic.
- Electronic management achieves speed and efficiency in completing transactions and their quality, reduces costs, simplifies procedures, ensures transparency, eliminates bureaucracy, eliminates paper documents, replaces direct relationships with electronic communication, facilitates transaction processing, and keeps pace with the progress and information revolution in modernizing the administrative system.
- Electronic management in human resource management is a strategic approach to managing human resources in an organization through the internet.
- Electronic management in human resource management reduces transaction costs, facilitates job performance, ensures speed, improves the organization's service levels, enhances working conditions, guarantees transparency, and enhances competitiveness among institutions.

However, the implementation of electronic management in human resource management faces numerous challenges, including:

- Limited internet coverage across the country.
- The investment in information technology requires significant financial resources and a substantial budget.
- The absence of a technology literacy culture among the population.
- Algeria has been slow in establishing the necessary legislative framework to facilitate the digitization of administration and the transition from traditional to electronic management.
- The implementation of centralized digital management hinders administrative processes at the local level.

Based on the aforementioned, the following suggestions can be proposed:

- Strengthen internet networks and make substantial efforts to achieve nationwide coverage.
- Encourage partnerships in investing in information technologies.
- Promote a culture of technology literacy and electronic communication among citizens.
- Establish a solid legislative foundation that encourages electronic management of human resources, including adopting an electronic selection system, electronic recruitment, online training, electronic compensation, electronic performance management system, and implementing an electronic career development system.
- Digitize administration centrally and establish electronic connectivity with local administration to expedite administrative processes.

LIST OF SOURCES AND REFERENCES:

First: Legal Texts

- Law No. 09-04 dated August 5, 2009, containing special provisions for the prevention and combating of crimes related to information and communication technologies, Official Gazette dated August 16, 2009, Issue No. 47, page 05.



- Law No. 11-10 dated June 22, 2011, relating to municipalities, Official Gazette dated July 3, 2011, Issue No. 37, page 04.
- Law No. 12-07 dated February 21, 2012, relating to wilayas (provinces), Official Gazette dated February 29, 2012, Issue No. 12, page 05.
- Law No. 15-03 dated February 1, 2015, relating to modernizing justice, Official Gazette dated February 10, 2015, Issue No. 06, page 04.
- Law No. 15-04 dated February 1, 2015, which establishes the general rules concerning electronic signature and certification, Official Gazette dated February 10, 2015, Issue No. 06, page 06.
- Law No. 18-04 dated May 10, 2018, which establishes the general rules concerning postal services and electronic communications, Official Gazette dated May 13, 2018, Issue No. 27, page 03.
- Law No. 18-05 dated May 10, 2018, relating to electronic commerce, Official Gazette dated May 16, 2018, Issue No. 28, page 04.
- Law No. 18-07, relating to the protection of natural persons with regard to the processing of personal data, Official Gazette dated June 10, 2018, Issue No. 34, page 11.

Second: Books

1. Abu Fara, Youssef Ahmed. *Electronic Marketing*. Waseel Publishing House. Amman, Jordan. 2nd edition, 2007.
2. Bouhoush, Ammar. *Modern Management Theories in the Twenty-First Century*. Dar Al-Gharb Al-Islami. Beirut, 2006.
3. Jubr, Mohammed Saddam. *The Coming Electronic Wave: E-Government*. Unpublished, Amman, 2002.
4. Hegazy, Abdel Fattah Bayoumi. *The Legal System for Protecting E-Government*. Dar Al-Fikr Al-Jamei. Alexandria, First Edition, 2003.
5. Saad, Ghaleb Yasmine, and Bashir Abbas Al-Alaq. *Electronic Commerce*. Manahij Publishing and Distribution House. Jordan, First Edition, 2004.
6. Amer, Tarek. *Electronic Administration*. Sahab Publishing House. Egypt, 2007.
7. El-Nagar, Fareed Ragab. *E-Government: Between Theory and Application*. Dar Al-Jameia for Publishing. Alexandria, Egypt, 2008.
8. Ahmed, Sameer Ahmad Samir. *Electronic Administration*. Al-Maseera Publishing House. Jordan, First Edition, year of publication not mentioned.
9. Najm, Aboud Najm. *Electronic Management and Knowledge*. Dar Al-Yazouri Scientific Publishing and Distribution. 2004.
10. Najm, Aboud Najm. *Electronic Management and Knowledge (Strategy, Functions, Fields)*. Dar Al-Yazouri Scientific Publishing and Distribution. Amman, Jordan, 2009.
11. Hopkins, Markham. *Electronic Human Resource Management*. Dar Al-Farouk for Publishing and Distribution. Cairo, Egypt, First Edition, 2007.

Third: Articles

1. Bakir, Ali Hassan. *The Comprehensive Concept of E-Administration*. Araa Magazine, Gulf Research Center, Issue 23, 2006.
2. Bakri, Saad Ali. *Informatics in the Saudi Development Plan*. Al-Fasil Magazine, Volume 46, Issue 22, 2001.
3. Ben Ali, Ehsan and Tawal, Heba. *E-Administration and Its Capabilities in Achieving Customer Satisfaction*. Journal of Economic Studies, Volume 13, Issue 03, 2019.
4. Ben Aishawi, Ahmed. *The Impact of E-Government Implementation on Business Institutions*. Al-Bahith Magazine, University of Kasdi Merbah, Ouargla, Algeria, Issue 7, 2010.
5. Ben Gueda, Sara and Harkat, Said. *E-Human Resource Management and Its Impact on Job Performance: A Case Study of Baticim Structural Construction Company - Umm al-Bouaghi Unit*. Journal of Economic and Financial Research, Volume 5, Issue 1, June 2012.
6. Boukhari, Talja and Lekraï, Rafika. *The Reality of E-Administration Application in Human Resources: A Case Study of Condor Electronique Company*. Journal of Economic Studies, Mohamed Boudiaf University, M'sila, Algeria, Issue 37, 2017.



7. Touati, Amira. The Reality of E-Administration Application in the Insurance Sector: A Case Study of CAAR Insurance and Reinsurance Company. *Journal of Economics and Applied Statistics*, Volume 17, Issue 03, December 2020.
8. Jaleel, Wahiba and Nouri, Munir. The E-Administration System and Its Role in Improving Human Resource Management Functions in the National Education Sector: A Field Study at the Directorate of Education in the Ghilizan Province. *Al-Yazaa Journal of Research and Studies*, Volume 06, Issue 01, 2021.
9. Hajazi, Mohammed Osman. Information Technology: Opportunities and Challenges in the Arab World. *Educational Research Journal*, Volume 01, Issue 03, 2003.
10. Rabie, Nassira. The Role of E-Administration in Activating the Principle of Transparency. *Journal of Law and Political Science*, Abbas Laghrour University, Khenchela, Issue 08, 2017.
11. Zarkan, Aboud and Jabari, Chouki. E-Training: A New Concept for Human Resource Development. *Al-Wahat Journal of Research and Studies*, Issue 07, 2009.
12. Sharif Hamza, the use of e-administration elements and their contribution to enhancing the effectiveness of human resource management in sports facilities. *Journal of Sports Creativity*, Volume 10, Issue 01, June 2019.
13. Aisha Azouz and Zwaim Zahia, the importance of applying e-administration for human resources in rationalizing government management: The UAE Data System as a model. *Journal of Modern Economics and Sustainable Development*, Volume 04, Issue 01, June 2021.
14. Safia Mustafa and Ahmed Almawi, the smart municipality as a necessity for providing excellent public service in the digital age. *Journal of Economic Notebooks*, Volume 11, Issue 02, 2020.
15. Mohammed Dhaif and Mohammed Ben Moussa, e-government: Historical context, evaluation of the endeavor, and the challenge of implementation. *Journal of Strategy and Development*, Volume 03, Issue 05.
16. Faisal Fakhra, e-human resource management (E-HRM) in the organization: A theoretical approach. *Journal of Economics and Environment*, Volume 03, Special Issue 02, 2020.
17. Mohammed Qurishi, Adel Boumjan, and Mohammed Rashidi Sultani, e-administration and its role in development. *Journal of Humanities Sciences*, Mohammed Khider University, Biskra, Issue 47, June 2017.
18. Um Alkhair Gouara, general concepts of e-administration. *Journal of Society and Sports*, Faculty of Social and Human Sciences, Issue 01, October 2018.
19. Mohammed Wazaa, e-administration and its role in enhancing the role and status of human resources in Algerian institutions: A case study of Mobilis Telecommunications Company. *Journal of Media and Social Research Studies*, Volume 03, Issue 03, 2017.

Fourth: Ph.D. Dissertations

1. Iman Ait Mahdi, Human Resource Management in the Context of E-Administration. Ph.D. dissertation in the Department of Social Sciences, specialization: Organization and Work, Mohammed Debaghine University, Setif 2, Algeria, 2018.
2. Yumna Musa Ahmed Atoum, Degree of Transparency Practice in Administrative Decisions and its Obstacles from the Perspective of Academic Leaders and Faculty Members in Jordanian Public and Private Universities. Ph.D. dissertation in Philosophy, field of specialization: Management and Foundations of Education, Yarmouk University, Irbid, Jordan, 2008-2009.

Fifth: Master's Theses

1. Ali Hussein, E-Human Resource Management as an Approach to Knowledge Management: A Case Study of Djezzy Telecommunications Company. Master's thesis in Human Resource Management, Department of Management Sciences, Faculty of Economic and Commercial Sciences and Management, Algeria 3, 2014.
2. Saleh bin Mohammed Al-Qahtani, Application of E-Government and its Role in Administrative Development at the General Directorate of Civil Defense. Master's thesis in Administrative Sciences, Naif Arab University for Security Sciences, Saudi Arabia, Riyadh, 2010.
3. Abdelkrim Ashour, The Role of E-Administration in Rationalizing Public Service in the United States of America and Algeria. Master's thesis in Political Science and International Relations, specialization:



Democracy and Governance, Faculty of Law and Political Science, Department of International Relations, Mentouri University, Constantine, 2009-2010.

4. Mohammed bin Sa'id Mohammed Al-Arishi, Feasibility of Applying E-Administration in the General Administration of Education in the Holy Capital (Boys). Master's thesis in Educational Administration and Planning, College of Education, Department of Administration, Education, and Planning, Umm Al-Qura University, Saudi Arabia, 2008.

Sixth: Scientific Contributions

1. Bouqalqoul, Hadi. "Human Resource Management and Information and Communication Technologies: Challenges and Developments for Contemporary Institutions." National Symposium on the Contribution of Skill Management to Organizational Competitiveness, Mohammed Khider University, Biskra, Algeria, February 21-22, 2012.

Seventh: Websites

1. "Characteristics of E-Management" on the website: <https://www.arab-cio.org/e-management>. Access date: June 15, 2022.

2. Lectures on E-Management in Algeria, Department of Legal and Administrative Sciences, specializing in E-Management for third-year students, second semester, academic year 2019-2020. Available on the website: <https://cte.univ-setif2.dz/moodle/mod/resource/view.php?id=27910>

¹ Sherif Hamza, "The Use of E-Management Elements and Their Contribution to Increasing the Effectiveness of Human Resource Management in Sports Institutions," *Journal of Sports Creativity*, Volume 10, Issue 01, June 2019, page 404.

² Za'a, Mohamed, "E-Management and Its Role in Enhancing the Role and Position of Human Resources in Algerian Institutions - A Case Study of Mobilis Telecommunications Company," *Journal of Media and Social Studies Research*, Volume 03, Issue 03, 2017, page 04.

³ Amer Tarek, "E-Management," Dar Al-Sahab, Egypt, 2007, page 25.

⁴ Touati, Amira, "The Reality of Implementing E-Management in the Insurance Sector - A Case Study of CAAR Insurance and Reinsurance Company," *Journal of Economics and Applied Statistics*, Volume 17, Issue 03, December 2020, page 308.

⁵ Mohamed Ahmed Samir Ahmed, "E-Management," Dar Al-Maseera, Jordan, First Edition, page 25.

⁶ Najm Aboud Najm, "E-Management and Electronic Knowledge," Dar Al-Yazouri Scientific Publishing and Distribution, 2004, page 126.

⁷ The e-government is defined as the ability of government sectors to provide traditional government services to citizens and accomplish transactions through the Internet quickly and accurately, with lower costs and efforts through a single website. See Jaber Mohammed Saddam, "The Coming Electronic Wave: E-Government," No Publisher, Amman, 2002, page 175. It is also defined as "developing interaction to organize the relationship between state institutions with each other or with the private sector and official and unofficial bodies, or between them and citizens, thereby achieving a significant reduction in transaction times and costs... It also includes enabling various organizations to accomplish their tasks electronically without returning to central command centers." See Qawarrah Um Al-Khair, "General Concepts of E-Management," *Journal of Society and Sports*, College of Social and Human Sciences, Issue 01, October 2018, pages 119 and 120. Therefore, e-government works to provide services and information to beneficiaries electronically with transparency, equality, and speed, relying on modern technologies that ensure the confidentiality and security of information. Refer to Saleh bin Mohammed Al-Qahtani, "The Application of E-Government and Its Role in Administrative Development in the General Directorate of Civil Defense," Master's Thesis in Administrative Sciences, Naif Arab University for Security Sciences, Saudi Arabia, Riyadh, 2010, page 26. E-government is the other face of traditional government within the digital framework. See Ben Aïchaoui Ahmed, "The Impact of E-Government Implementation on Business Institutions," *Al-Bahith Journal*, Kasdi Merbah University, Ouargla, Algeria, Issue 7, 2010, page 288.

⁸ Electronic business is the comprehensive framework that describes the way of conducting business using electronic links with other parties (such as employees, managers, suppliers, and customers) efficiently and effectively in order to achieve its goals. Refer to "Qawarij Umm Al-Khair," the previous reference, page 119.

⁹ Muhammad bin Musa Muhammad Al-Hakami, Electronic Government: Historical Context: The Calendar of Efforts and the Activation Challenge, *Journal of Strategy and Development*, Volume 03, Issue 05, page 148.



- ¹⁰ Saad Ghalib Yasen and Bashir Abbas Al-Alaq, *E-commerce*, Dar Al-Manahij for Publishing and Distribution, Jordan, first edition, 2004, page 18.
- ¹¹ Refer to the characteristics of e-management mentioned on the website: <https://www.arab-cio.org/e-management> Access date: 15-06-2022, 16:50, and some characteristics were classified as part of the speed group in information processing by researchers.
- ¹² Ashour Abdul Karim, *The Role of Electronic Management in Rationalizing Public Service in the United States of America and Algeria*, Master's Thesis in Political Science and International Relations, specialization: Democracy and Governance, Faculty of Law and Political Science, Department of International Relations, Mentouri University, Constantine, 2009-2010, pages 17-20.
- ¹³ Yamna Musa Ahmad Atoum, *The Degree of Transparency Practice in Administrative Decisions and its Obstacles from the Perspective of Academic Leaders and Faculty Members in Jordanian Public and Private Universities*, Ph.D. Dissertation in Philosophy, the field of specialization: Management and Educational Foundations, Yarmouk University, Irbid, Jordan, 2008-2009, pages 28-29.
- ¹⁴ Rabie Nasira, *The Role of Electronic Management in Activating the Principle of Transparency*, Journal of Law and Political Science, Abbas Laghrour University, Khenchela, Issue 08, 2017, page 967.
- ¹⁵ Ben Ali Ihsan and Tawal Hiba, *Electronic Management and its Capabilities in Achieving Customer Satisfaction*, Journal of Economic Studies, Volume 13, Issue 03, 2019, pages 17 and 18.
- ¹⁶ Wazaa Muhammad, the previous reference, page 07.
- ¹⁷ Bouhoush Ammar, *Modern Management Theories in the Twenty-First Century*, Beirut, Dar Al-Gharb Al-Islami, 2006, pages 189-191.
- ¹⁸ Mohammed bin Saeed Mohammed Al-Arishi, *The Possibility of Implementing Electronic Management in the General Administration of Education in the Holy Capital (Boys)*, Master's Thesis in Educational Management and Planning, College of Education, Department of Administration, Education, and Planning, Umm Al-Qura University, Saudi Arabia, 2008, page 45."
- ¹⁹ Hijazi Abdel Fattah Bayoumi, "The Legal System for the Protection of Electronic Government," Dar Al-Fikr Al-Jami'i, Alexandria, first edition, 2003, pages 99-101.
- ²⁰ Abu Farah, Youssef Ahmed, "Electronic Marketing," Dar Wasa'il for Publishing, Amman, Jordan, second edition, 2007, page 34.
- ²¹ Bakri, Saad Ali, "Comprehensive Concept of Electronic Administration," *Opinions Magazine about the Gulf*, Gulf Research Center, issue 23, 2006, page 14.
- ²² Mohammed bin Saeed Mohammed Al-Areeshee, previous reference, pages 46 and 47.
- ²³ Bakri, Saad Ali, "Informatics in the Saudi Development Plan," *Al-Fasil Magazine*, volume 46, issue 22, 2001, pages 14-16. And Hijazi, Mohammed Othman, "Information Technology: Opportunities and Challenges in the Arab World," *Educational Research Magazine*, volume 01, issue 03, 2003, pages 99-103. And Tuwati, Amira, previous reference, pages 310-311.
- ²⁴ They consist of: reducing administrative complexities, achieving efficiency and effectiveness in the provided services, utilizing information technology, continuous education, and knowledge building.
- ²⁵ They consist of improving the level of services, reducing costs, increasing speed and shortening procedures, and reducing the use of paper.
- ²⁶ They consist of reducing errors, providing information to beneficiaries quickly, providing information to decision-makers instantly, and reducing obstacles to decision-making..
- ²⁷ Korichi, Mohammed, Boumjan, Adel, and Sultan, Mohammed Rashidi, "Electronic Administration and Its Role in Development," *Journal of Humanities Sciences*, Mohammed Khider University, Biskra, issue 47, June 2017, pages 150 and 151.
- ²⁸ Jalil Wahiba and Nouri Munir, "The Electronic Management System and its Role in Improving Human Resource Management Functions in the National Education Sector: A Field Study at the Directorate of Education in the Wilaya of Relizane," *Al-Yaza Journal for Research and Studies*, Volume 06, Issue 01, 2021, page 566.
- ²⁹ Korichi, Mohammed; Boumjan, Adel; and Sultani, Mohammed Rashidi. (Previous reference), page 154.
- ³⁰ Ait Mehdi, Iman. "Human Resource Management under Electronic Administration." PhD thesis in the Department of Social Sciences, specialization: Organization and Work, Mohammed Debaghine University, Setif 2, Algeria, 2018, page 15.
- ³¹ Aicha Azouz and Zahia Touam. "The Importance of Implementing Electronic Management of Human Resources in Streamlining Government Administration: The UAE Data System as a Model." *Journal of Modern Economics and Sustainable Development*, Volume 04, Issue 01, June 2021, page 111.



- ³² Korichi, Mohammed; Boumjan, Adel; and Sultani, Mohammed Rashidi. (Previous reference), page 155.
- ³³ Ben Ghaida, Sarah, and Harkat, Saida. "Electronic Management of Human Resources and Its Impact on Job Performance: A Case Study of Baticim Manufactured Metal Structures Company - Unit of Oum El Bouaghi." *Journal of Economic and Financial Research*, Volume 5, Issue 1, June 2012, page 257.
- ³⁴ Korichi, Mohammed; Boumjan, Adel; and Sultani, Mohammed Rashidi. (Previous reference), page 155.
- ³⁵ Jalil, Wahiba, and Nouri, Munir. (Previous reference), page 567.
- ³⁶ Boukhari, Talja and Leqrari, Rafika. "The Reality of Implementing Electronic Management of Human Resources: The Case of Condor Electronix Company." *Journal of Economic Studies*, Mohammed Boudiaf University, M'sila, Algeria, Issue 37, 2017, page 65.
- ³⁷ Ben Ghaida, Sarah, and Harkat, Saida. (Previous reference), page 257. And Bouqalqoul, Hadi. "Human Resource Management and Information and Communication Technologies: Challenges and Developments for Contemporary Institutions." National Symposium on the Contribution of Skills Management to the Competitiveness of Institutions, Mohammed Khider University, Biskra, Algeria, February 21-22, 2012. Qurayshi, Mohammed; Boumjan, Adel; and Sultani, Mohammed Rashidi. (Previous reference), page 156.
- ³⁸ Activating the concept of electronic administration enhances the principle of transparency. For more details, refer to Rabii, Nassira. (Previous reference), page 964 and beyond.
- ³⁹ Korichi, Mohammed; Boumjan, Adel; and Sultani, Mohammed Rashidi. (Previous reference), page 156
- ⁴⁰ Ben Ghida Sarah and Harakat Saida, previously cited reference, page 259.
- ⁴¹ Boukelkoul El Hadi, previously cited reference, and Quraishi Mohamed, Boumjan Adel, and Soltani Mohamed Rachdi, previously cited reference, page 156.
- ⁴² Korichi Mohamed, Boumjan Adel, and Soltani Mohamed Rachdi, previously cited reference, page 156.
- ⁴³ Ben Ghida Sarah and Harakat Saida, previously cited reference, page 261.
- ⁴⁴ Najm Aboud Najm, "Electronic Management and Knowledge (Strategy, Functions, Fields)," Dar Al-Yazouri Scientific Publishing and Distribution, Amman, Jordan, 2009, pages 533-535, and Ben Ghida Sarah and Harakat Saida, previously cited reference, page 261.
- ⁴⁵ Zergni Aboud and Jabbari Shawki, "E-Training: A New Concept for Human Resource Development," Oasis Journal of Research and Studies, Issue 07, 2009, page 296.
- ⁴⁶ Korichi Mohamed, Boumjan Adel, and Soltani Mohamed Rachdi, previously cited reference, page 157.
- ⁴⁷ Jalil Wahiba and Nouri Munir, previously cited reference, page 568.
- ⁴⁸ Refer to Law No. 09-04 mentioned above, which also addressed the obligations of service providers, the National Body for the Prevention and Combat of Crimes Related to Information and Communication Technologies, and international judicial cooperation and assistance in these crimes.
- ⁴⁹ Paragraphs 1 and 2 of Article 11 of Law No. 11-10 mentioned above.
- ⁵⁰ Paragraph 1 of Article 17 of Law No. 12-07 mentioned above.
- ⁵¹ Article 18 of Law No. 12-07 mentioned above.
- ⁵² Article 31 of Law No. 12-07 mentioned above.
- ⁵³ Article 33 (fourth) of Law No. 12-07 mentioned above.
- ⁵⁴ Article 77, thirdly, of Law No. 12-07 mentioned above.
- ⁵⁵ Article 81 of Law No. 12-07 mentioned above.
- ⁵⁶ Article 83 of Law No. 12-07 mentioned above.
- ⁵⁷ Safia Mustafa and Ahmed Al-Mawlawi, Smart Municipality: The Necessity of Providing Excellent Public Service in the Digital Age, *Journal of Economic Registers*, Volume 11, Issue 02, 2020, pages 141-142.
- ⁵⁸ The decision issued by the Ministry of Interior and Local Communities on May 25, 2011, regarding the application for the national identification card and passport.
- ⁵⁹ Lectures on Electronic Management in Algeria, Department of Legal and Administrative Sciences, specializing in Electronic Management for third-year students, second semester, academic year 2019-2020, page 19 is available on the website:
<https://cte.univ-setif2.dz/moodle/mod/resource/view.php?id=27910>. Access date to the website: 17-06-2022 at 14:03.
- ⁶⁰ Safia Mustafa and Ahmed Al-Mawlawi, the previous reference, page 142.
- ⁶¹ Lectures on Electronic Management in Algeria, Department of Legal and Administrative Sciences, specializing in Electronic Management for third-year students, second semester, academic year 2019-2020, pages 20-23 are available on the website:



<https://cte.univ-setif2.dz/moodle/mod/resource/view.php?id=27910>. Access date to the website: 17-06-2022 at 14:16. Lectures on Electronic Management in Algeria, Department of Legal and Administrative Sciences, specializing in Electronic Management for third-year students, second semester, academic year 2019-2020, page 19 is available on the website:

<https://cte.univ-setif2.dz/moodle/mod/resource/view.php?id=27910>. Access date to the website: 17-06-2022 at 14:03.

⁶² Farid Ragab Al-Najjar, *E-Government: Theory and Practice*, University Publishing House, Alexandria, Egypt, 2008, page 248. Fakir Faisal, *E-HRM: Electronic Management of Human Resources in the Organization - A Theoretical Approach*, *Journal of Economy and Environment*, Volume 03, Special Issue, 2020, page 134.

⁶³ Hopkins Markham, *Electronic Management of Human Resources*, Dar Al-Farouk Publishing and Distribution, Cairo, Egypt, first edition, 2007, page 24.

⁶⁴ Fakir Faisal, previous reference, page 135, and Hussain Ali, *E-HRM as an Entry Point for Knowledge Management: A Case Study of Djezzy Telecommunications Company*, Master's thesis in Human Resource Management, specializing in Management Sciences, Faculty of Economic and Commercial Sciences and Management Sciences, Algeria 3, 2014, page 104.

⁶⁵ Fakir Faisal, previous reference, pages 136 and 137.