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<p><b>Issue web link</b></p>	<h2 style="text-align: center;">Digital Transformation and Electronic Human Resource Management (E-HRM): Enhancing Organizational Performance Effectiveness While Addressing Technological, Structural, and Human Challenges in Contemporary Institutions</h2>	
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<p><b>Abstract</b></p>	<p>Digital transformation; Electronic human resource management (E-HRM); Organizational performance; Human resource information systems (HRIS); Digital infrastructure; Employee performance; Organizational change; Data management; Information technology; Workforce development.</p>	
<p><b>Citation</b></p>	<p>The rapid advancement of information and communication technologies has fundamentally transformed organizational structures, administrative processes, and human resource management practices. In this context, electronic human resource management (E-HRM) has emerged as a strategic approach that enables organizations to improve operational efficiency, enhance decision-making processes, and support performance effectiveness through the integration of digital technologies. This study aims to examine the role of digital transformation in modern human resource management, with a particular focus on its contribution to improving employee performance, organizational productivity, and administrative effectiveness, while also identifying the major challenges associated with its implementation. The research adopts a descriptive and analytical approach based on an extensive review of contemporary literature on digital management, electronic performance systems, and technological integration in human resource functions. The study analyzes the key dimensions of E-HRM, including digital recruitment, electronic training and development, performance management systems, human resource information systems (HRIS), and data-driven decision-making mechanisms. The findings indicate that the successful implementation of electronic human resource management contributes significantly to improving organizational efficiency, reducing administrative costs, increasing transparency, and enhancing employee engagement and productivity. However, the transition toward digital HR practices is associated with several challenges, including insufficient technological infrastructure, limited financial resources, resistance to organizational change, data security concerns, and gaps in employees' digital competencies. The study concludes that achieving effective digital transformation in human resource management requires strategic planning, investment in technological infrastructure, continuous training and capacity building, and the development of organizational cultures that support innovation and digital readiness. The research provides practical insights for policymakers and organizational leaders seeking to balance performance effectiveness with the risks and challenges associated with digital transformation.</p>	
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## Introduction

The research problem statement lies in the extent to which the requirements for electronic management are available in human resource management. Many institutions face challenges in accessing and retrieving information with the speed and accuracy now demanded, despite the growing significance of such data in improving performance, efficiency, and service quality. These improvements can only be achieved if the appropriate technological infrastructure is in place and effectively integrated into HR systems.

From this perspective, the following problem statement is raised:

What are the appropriate methods for preparing human resources to implement electronic management? How can the challenges associated with adopting this modern form of management in HR development be overcome?

To address this problem, this study is structured around two main sections:

The first explores the concept of electronic human resource management, while the second focuses on human resource strategy within the framework of electronic management.

### First Section: The Concept of Electronic Human Resource Management

Electronic management is the outcome of the information, communication, and contemporary technology revolutions. It has evolved into a new trend in modern management. In today's society, there is a strong push to invest in all current technologies to improve organizational operations and turn them into electronic organizations. Planning, organizing, directing, and controlling are just a few of the administrative duties and transactions that these organizations carry out with speed and accuracy using the internet and advanced computer applications. They also conduct marketing, finance, investing, and administrative tasks. Therefore, there is a global trend toward the adoption of electronic management in both public and private organizations, seeking to fulfill leadership in the use of electronic technologies (Al-Majali & Abdul Moneim, 2013, p. 96).

In the same vein, this section will be limited to introducing electronic human resource management (first), then addressing the significance of electronic human resource management (second), followed by a discussion of the functions of electronic human resource management (third).

### First: Definition of Electronic Human Resource Management

Management is defined as: "The activity aimed at fulfilling fruitful cooperation and effective coordination between different human efforts to achieve a specific goal with a high degree of efficiency (Al-Nimr & al, 1997, p. 5)."

Similarly, the definition of electronic management has been influenced by the use of information technology and the characteristics it provides, such as speed, accuracy, and minimizing paper usage to the lowest possible level. Notably, electronic management, in general, refers to the use of information and communication technology to manage, enhance, and develop various administrative processes within organizations (Abdel Fattah, 2003, p. 23).

Moreover, electronic management can be defined from a comprehensive perspective, which divides the term into two main parts:

**Management:** This refers to a set of coordinated and integrated processes, mainly including planning, organizing, leadership, and controlling organizational resources.

**Electronic:** This term describes the medium for performing the activity in the first part, where this activity is conducted through the use of multiple electronic tools and media (Boughlita, 2017, p. 113).

Furthermore, electronic management is the execution of all government transactions and services offered to citizens and business sectors through information networks and databases utilizing modern communication tools: the internet and phones. This supports the efficiency and effectiveness of performance within an interactive framework between the service seeker and the service provider (Ben Albar & Sharif, 2021, p. 227).

Electronic management is also referred as: "The administrative process grounded in the distinctive capabilities of the internet and business networks in planning, directing, and controlling the resources and core capabilities of the organization and others without limitations, in order to fulfill objectives." According to this definition, electronic management is an administrative process based on traditional functions, with its primary distinction being the reliance on the internet and other networks to execute these functions (Ben Aichaoui, 2010, p. 291).

The Arab Union of Certified Public Accountants defined electronic management as: "The electronic link to the largest number of work sites, dispersed in a wired or wireless network."

From another perspective, human resources are defined as: "The total of qualified individuals with skills and abilities suitable for specific types of work, and willing to perform those jobs with enthusiasm and conviction."

Human resources development is described as: "A set of programs, functions, and activities designed to maximize both the individual's and the organization's goals and human resources."

Terminologically, it is regarded as a modern concept, as the content of human resource management differs from the traditional notion of personnel management, due to substantial changes in the underlying administrative philosophy (Oumahi & Bouadi, 2019, p. 198).

Specifically, electronic human resource management refers to the activities, processes, technologies, and people sought at implementing human resource policies, practices, and strategies, along with related functions and activities, utilizing information technology in recruitment companies (Boughlita, 2017, p. 113).

Notably, the concept of human resource management has recently appeared in management literature after a series of developments in management thinking, beginning with the scientific management movement led by Frederick Taylor, which focused on productivity with little regard for employee satisfaction (Al-Jumaily, 2004, p. 19).

From the above, the comprehensive concept of human resource management is:

"One of the management activities aimed at the effective use of human resources within the organization, concerned with formulating policies, setting programs, defining procedures, and carrying out the necessary activities to provide and coordinate human competencies. This includes attracting, selecting, appointing, training, motivating individuals, and other administrative processes. Furthermore, it includes optimal attention to the organization's employees to ensure their best usage, which positively reflects on the efficiency and effectiveness of the organization itself, in fulfilling its goals and objectives, and completing all its activities while ensuring equality among employees, enabling them to achieve self-fulfillment and enhance their career life (Rashid, 2001, p. 13)."

In the light of the foregoing, electronic human resource management represents a new administrative methodology; it encompasses the conscious use of information technology in performing human resource functions (Al-Sulami, 2007, p. 336).

Accordingly, some view electronic human resource management as a comprehensive term that involves all possible integration mechanisms and content between human resource management and information technology, seeking to create value within and across organizations for employees and the targeted management (Abu Jumaa, 2021, p. 593). Therefore, human resource management is regarded as part of the whole, and its responsibility within the organization is shared with other departments. Everyone is responsible for fulfilling the vision, mission, goals, and objectives of the company or institution through a clear policy for integrating human resources into the organization. This includes working to provide the management's human resource needs in a timely manner, with the required qualities and specifications, as well as designing training and development programs for human resources in several departments (Oumahi & Bouadi, 2019, p. 199).

In the context of the following, electronic management includes essential elements, which are:

- Hardware
- Software
- Communication Network
- Databases
- Knowledge Workers ("Human Element") (Ghaleb Yassin, 2010, p. 30)

#### Second: The Significance of Electronic Human Resource Management

The use of technology in electronic human resource management will reinforce the enhancement of objectives for human resource processes, and distribute success to employees and managers. This naturally leads to a variety of benefits for electronic human resource management, based on the applications utilized for human resource information systems. The electronic human resource management system is of great significance to any organization due to its ability to facilitate access to information, as well as the connection between different systems, providing the organization with a competitive advantage over others. As this system evolves and connects numerous separate databases, the benefits and gains that the organization will gain will far outweigh the costs of implementation (Nadia & Abdulrahman, 2015, pp. 7-8).

This importance is further highlighted by the fact that it contributes to enhancing the quality and speed of information provision, with integration in accessing databases and expanding the scope of information (Al-Najjar, 2007, p. 357).

Despite its importance, some organizations, particularly those in the public sector, still fail to leverage these advantages or adopt them as a form of change aligned with the evolving business environment. A study conducted in the UK on the barriers to the transition of public sector organizations to electronic human resource management (e-HRM) attributed this reluctance to two main factors: a lack of trust and weak relationships between managers and e-HRM systems, and a lack of confidence in the technology's ability to deliver the desired outcomes across different functional levels (Nadia & Abdulrahman, 2015, p. 8).

Notably, human resource management (HRM) seeks to improve employees' quality of life to boost their performance effectiveness and job satisfaction. This is grounded in the understanding that modern HRM is a key driver of productivity improvement. The success of many contemporary organizations stems from their ability to manage human resources effectively, as well as their capacity to attract and select skilled and competent personnel. These organizations rely on well-formulated policies and successful HRM practices (Al-Shibli & Al-Nasour, 2009, p. 151).

In addition to numerous advantages, the following can be highlighted:

- Increased flexibility of procedures and practices, which improves the efficiency of human resource management, as well as the accuracy and objectivity in carrying out multiple operations.
- Rapid provision of data and information associated with employees, and the establishment of effective communication channels with all relevant parties.

- Avoidance of the risks related to paper-based processes by relying on electronic management for storing information and maintaining records. Moreover, the noticeable reduction in paper utilization positively affects the organization's operations, enabling it to store and document information appropriately.
- Aggregating data from its original sources in a unified manner, offering data and information to beneficiaries instantly, and fostering transparency while distancing from favoritism.
- Fighting bureaucracy and eliminating daily work complexities, improving the monitoring process, and enhancing organizational performance by ameliorating electronic service delivery procedures and increasing the effectiveness of employee interaction (Abu Fara & Tahani , 2021, pp. 56-57).

### **Third: Functions of Electronic Human Resource Management**

The functions of electronic human resource management (e-HRM) have not fundamentally changed from those of traditional human resource management. What has changed are the methods and techniques utilized to carry out these functions. Among them are:

#### **1. E-Recruitment or E-Sourcing:**

Job postings and offers are published across multiple institutional websites worldwide, clearly outlining the qualifications and conditions required for candidate eligibility. These postings also highlight the benefits and incentives intended to attract a large pool of qualified and diverse candidates. Furthermore, e-recruitment enables rapid access to information, helping individuals find job opportunities that align with their skills and career aspirations (Terad Khodja, 2020, p. 354).

Most employers now recruit or attract talent through online job search engines. The selection process increasingly includes online evaluations designed to assess candidates' knowledge, behavior, and attitudes. These assessments are carried out entirely online employing advanced information technologies, which contribute to cost reduction. Online testing plays a crucial role in filtering and shortlisting applicants. Importantly, candidates who do not match a specific role are not automatically rejected; advanced systems can redirect their applications to other suitable vacancies, while also storing applicant data in databases for future reference when new opportunities arise (Nadia & Abdulrahman, 2015, p. 9).

E-recruitment mainly enables applicants to submit their job applications through a website. Therefore, organizations establish online platforms where job seekers can apply for positions, whether currently available or anticipated in the future. The primary challenge remains how to attract users to these platforms and encourage them to submit their data. Modern e-recruitment begins when an organization creates a job database that involves the detailed requirements for each position, encompassing educational qualifications, additional skills, and professional experience ( Abu Jumaa, 2021, p. 593).

Monitoring and alert systems also help determine emerging changes in the organization's environment and evaluate their effect on leadership decisions. These systems are supported by information software that identifies the organization's human resource needs grounded in factors such as age, gender, seniority, specialization, and professional experience. This is reflected in the development of a competency map, an information system application that defines the guiding framework of the organization's human resource policy (Terad Khodja, 2020, p. 355).

#### **2. Electronic Planning and Organizing**

To start with, electronic planning (e-planning) is defined as:

A dynamic process sought at broad, flexible, automated, and short-term goals, subject to continuous renewal and development. This contrasts with traditional planning, which sets fixed goals for implementation in the upcoming year and often suffers from reduced efficiency when those goals change.

It is evident that the traditional administrative model, which separates planning (conducted by management) from implementation (carried out by workers), has been completely surpassed in the context of electronic management. Currently, all employees work at the front lines from their desks, and everyone can contribute to electronic planning. Any idea that emerges, at any time and from any location, has the potential to be transformed into a business opportunity ( Muftah, 2012, pp. 142-143).

Within this framework, e-planning is distinguished by its flexibility and responsiveness to rapid environmental changes, as well as by the transition of planning and goal-setting functions into a competitive, web-based environment (Terad Khodja, 2020, p. 146).

From another perspective, planning is most closely associated with time, as it includes developing strategies to fulfill organizational goals and determining the necessary means over a future period. Conversely, electronic organizing (e-organizing) is more closely related to space, focusing on the organizational structure and the chain of command across various levels. E-organizing offers a flexible framework for the broad distribution of authority and responsibilities,

highlighting horizontal, network-based relationships that facilitate automated coordination. Each unit contributes to fulfilling the organization's shared objectives ( Al-Okabi & Al-Rubaei, 2018, p. 69).

With the advent of the internet, organizations are increasingly shifting away from structure- and hierarchy-focused models toward being goal-driven and united around common objectives.

### 3. Electronic Training and Learning

Continuous training and learning are among the most valuable assets of modern organizations. According to some estimates, online training will soon account for 80% of all training and education carried out within organizations. Modern software tools allow organizations to measure the gap between employees' qualifications and their strategic objectives. Based on this evaluation, employees can be recommended for relevant online training programs. E-learning also offers practical solutions to training challenges in remote or underserved areas ( Abu Jumaa., 2021, p. 593).

Learning is fundamentally a process of acquiring or modifying knowledge. Therefore, when individuals learn, they gain new knowledge and insights, about how to navigate their environment, the outcomes of their actions, and the elements of the systems they interact with (Ben Albar & Sharif , 2021, p. 230).

The origins of e-learning can be traced back to the early 1990s, pioneered by Stanford Patrick. E-learning refers to education delivered through computers and multiple software applications. It is a technological solution designed to satisfy the diverse learning needs of modern learners. E-learning facilitates educational processes, improves the quality and efficiency of learning, simplifies procedures, and contributes to greater employee motivation and retention (Zouaoui, 2017, p. 117).

Similarly, electronic training can be defined, based on the foregoing, as follows:

“A systematic process conducted in an interactive and mobile environment enriched with digital technological applications. It depends on the use of the internet, multimedia computers, and mobile devices to present electronic software, training packages, and courses. These are designed, implemented, and assessed through synchronous and asynchronous training programs, using self-paced, interactive, and blended learning models. The goal is to fulfill training objectives and ensure skill mastery, based on trainees' learning speed, intellectual levels, working conditions, lifestyles, and geographic locations (Al-Tarshani, 2014, p. 250).”

There is a need to offer training because an organization's efficiency largely relies on the training and development of its employees. The training programs designed by the organization have specific objectives that benefit both the employees and the organization, as outlined below:

- Training seeks to eliminate weaknesses and negative aspects in employees' job performance, which can only be fulfilled through hands-on, practical training.
- It enables individuals to obtain new experiences that qualify them for advancement, take on greater responsibilities, and assume leadership roles.
- Training supports the organization in fulfilling its goals by adding value to its most significant resource, its employees. In this context, training is an investment that allows individuals to perform at their best, promotes innovation and creativity, enhances traditional practices, and keeps pace with developments in the workplace.
- It boosts employees' self-confidence by equipping them with new knowledge, skills, and competencies, which in turn raises their morale.
- It fosters employees' professional, academic, and cultural qualifications, which may include transferring between organizations or even countries to receive the necessary training ( Al-Okabi & Al-Rubaei, 2018, p. 77).

### **Second Section: Human Resource Strategy in the Light of Electronic Management**

One of the main reasons for the transition to electronic management lies in the inevitability imposed by global changes. The concept of integration, participation, and the usage of information has become one of the key determinants of success for any institution. Furthermore, scientific and technological advancement, along with the continuous demand to improve output quality and ensure operational integrity, has driven administrative evolution toward electronic management.

Therefore, collaboration among stakeholders, as required by this form of management, becomes a condition for adapting to the new environment. This adaptation can only be fulfilled by involving the employee in the organization's project, namely electronic management, and by aligning objectives. This necessary requirement for progress may be achieved by local administrations in two ways: either through coercion or through associated means such as manipulation, influence, and ideology.

To elaborate, this axis is divided into two parts:

The first part discusses the requirements for implementing electronic management, while the second part addresses the challenges of applying electronic human resource management.

#### **First: Requirements for Implementing Electronic Management**

Electronic management provides a comprehensive shift of the ideas, theories, techniques, procedures, structures, and laws that underpin conventional administration. It is neither a ready-made formula or a collection of imported techniques that can be simply transferred and implemented. Rather, it is a multifaceted process and integrated system that includes technological, informational, financial, legal, environmental, and human components. As a result, a

number of connected and complementary needs must be addressed in order to properly execute and put the idea of electronic management into practice ( Muftah, 2012, p. 123).

#### 1. Human Requirements:

Notably, the aim of human requirements is not to turn every individual into an expert in electronic technologies, but rather to promote widespread public awareness and digital literacy. However, this is not without challenges, among them are the novelty of technology, digital illiteracy, a lack of skills in its use, delays in educational absorption, and the lag in integrating digital tools within educational institutions (Boughlita, 2017, p. 116).

Similarly, the human element is regarded as the most vital resource that can be invested in to ensure the success of any project or organization. It plays a significant role in the implementation of electronic management, as it is the human factor that discovers, develops, and uses this system to fulfill desired objectives. Thus, electronic management is both driven by and intended for the human element.

Based on this, the human infrastructure for electronic business includes a range of scientific, technical, and practical competencies qualified to deliver services associated with electronic operations. These services may involve hard infrastructure such as installations, wiring, networking, maintenance, and subsequent upgrades, or soft infrastructure including service delivery, consultancy, the development of new business models, and the implementation of application software.

Additionally, electronic government programs are relatively new to employees and require skills and expertise that are often lacking within government agencies. The shift to electronic systems has transformed the structure of work in these institutions. The role of IT professionals has become more prominent, while that of traditional employees has diminished. Furthermore, new roles may appear that were previously unknown in certain agencies. Thus, human development and the competence of human resources are critical to the program's success. This emphasizes that implementing electronic management necessitates fundamental changes in the type of human capital involved. It also requires a re-evaluation of educational and training systems to satisfy the demands of this transformation, including the revision of plans, programs, methods, and resources at all levels ( Muftah, 2012, pp. 127-128). Among the human resource requirements are:

- Identifying the current and future needs for qualified individuals in information systems, software, and internet work, and attracting the best candidates in this domain.
- Creating effective systems to retain, develop, and motivate individuals.
- Administrative empowerment for individuals to enable them to respond quickly to changes in the technological environment ( Al-Allaq, 2005, p. 217).

#### 2. Financial Requirements:

The implementation of electronic management is closely related to the financial capacity of institutions, especially the availability of cash liquidity. Adequate financing facilitates implementation and ensures continuity, preventing delays or project suspension due to a lack of financial support. The major costs associated with the transition to electronic management involve the procurement of hardware and equipment, as well as the training of employees in the use of computers and networks (Naamoumi & Badaoui, 2017, p. 19). Accordingly, decision-makers must engage in strategic financial planning and allocate sufficient budgets for electronic management initiatives. This necessitates re-evaluating institutional priorities and ensuring the availability of necessary funds to carry out the transformation and maintain ongoing support (Boughlita, 2017, p. 115).

Large and complex electronic management projects demand considerable investment and the endorsement of senior leadership to ensure successful implementation and sustainability. Fulfilling the intended goals, such as enhancing infrastructure and improving service delivery, relies on the provision of advanced equipment, essential tools, and the active training and participation of employees. These financial requirements can be summarized as follows:

- Providing modern electronic devices and equipment.
- Organizing specialized training programs.
- Ensuring the availability of up-to-date software and continuous updates ( Al-Okabi & Al-Rubaei, 2018, pp. 73-74).

#### 3. Security and Technical Requirements:

Information security is one of the most significant challenges in electronic operations. Information and documents stored and processed electronically must be safeguarded to ensure they meet operational requirements. High levels of electronic security and confidentiality are required to protect national and personal information and preserve the electronic archive from any tampering. This includes focusing on state and individual security, either by incorporating security protocols in network software or utilizing electronic signatures or passwords (Guermi & Dif, 2019, p. 33).

Due to the absence of a complete and secure information system free from breaches, a set of procedures should be in place to protect information, such as:

- **Firewall Installation:** A firewall is similar to a traffic officer in terms of managing user access to internet services, either granting or denying access based on the company's security policy.
- **Encryption:** It is one of the essential systems that ensures the security of all electronic management transactions and operations ( Al-Okabi & Al-Rubaei, 2018, p. 74).

To ensure information security and alleviate the negative impacts of utilizing the internet network, electronic management necessitates implementing certain procedures, such as establishing security policies for information technology, including internet services. This also involves adopting a national information security strategy to ensure cooperation between the public and private sectors, and establishing laws and regulations that prevent cybercrimes and breaches of privacy in electronic management ( Al-Okabi & Al-Rubaei, 2018, p. 74). To protect information from the risks it may face, a set of elements must be in place to ensure adequate protection of the information. These elements include:

- **Confidentiality (Authentication):** This means ensuring that information is not disclosed or accessed by unauthorized individuals.
- **Integrity and Content Accuracy:** Integrity refers to ensuring that messages sent between parties over networks, such as the internet or wireless networks, are received without being intercepted or changed. This is typically fulfilled through simple techniques to verify whether the content of the message has been altered.
- **Continuity of Information Availability:** This involves ensuring the continuous operation of the information system, maintaining access to and interaction with the information, and providing service to information sites, while guaranteeing that users are not impeded from using the information.
- **Non-repudiation:** This implies ensuring that the sender of a message cannot deny having sent it to a person or organization. There must be a method to verify the sender's identity and confirm that the message carries their signature, which cannot be forged. The sender should not be able to repudiate the message, as it contains their verified electronic signature (Naamouni & Badaoui, 2017, pp. 19-20).

In the same context, the technical requirements for electronic management involve establishing the infrastructure necessary for e-government. This includes developing and improving the communication network to ensure it is integrated, fully operational, and capable of handling a high volume of simultaneous communications. Fulfilling the goal of using the internet also necessitates the provision of appropriate digital technologies such as equipment, computers, devices, systems, databases, software, and digital mail services. All of these resources should be widely available for both individual and institutional use (Guermi & Dif , 2019, p. 33).

Digital technology is rapidly evolving and diversifying, offering ongoing and open options for e-government, such as linking certain business activities to interactive office services, interactive television, mobile phone services integrated with the internet and its technologies, such as SMS services, internet communication protocols (WAP), other informational media, and the use of tools and systems for information technology, internet, intranet, and extranet networks ( Al-Okabi & Al-Rubaei, 2018, p. 72).

## Second: Challenges in Implementing E-Government for Human Resources

The problem facing any institution, regardless of its type of activity, lies in organizing the relationship between humans and the institution, or between humans and technology. Therefore, building work relationships initially emerges to be, at its core, a problem of cooperation. Local government, involving municipalities, depends on a minimum level of integration for individual or group behavior. To use the words of "Michel Crozier," who prefers the term "actors" over individuals and groups, this is due to the fact that each individual seeks different, and sometimes even contradictory (Labgaa & Aichaoui, 2018, p. 225), objectives. Particularly, human resource management encounters numerous challenges that may affect the organization's competitive advantage, market position, as well as its relationship with employees and the public. Some of the key challenges include:

**1. Administrative and Human Challenges:** E-government for human resources represents a new management approach grounded in the conscious use of information technology to perform human resource functions, relying on computer systems and communication networks to implement HR strategies and policies. Therefore, the administrative challenges facing e-government for human resources involve the following:

- **Conceptual ambiguity:** Many administrative leaders, workers, and even employees are unaware of the concept of e-government.
- **Lack of alignment in e-government goals:** This leads to differences in visions, resulting in confusion and power struggles.

- Potential resistance to change: Due to the redistribution of tasks and powers, an increase in responsibilities and workload, and fear of being unable to keep up with new technologies.
- Digital illiteracy among some workers: Due to the lack of information and computer literacy awareness.
- Introducing information technology independently in each department (Naamouni & Badaoui, 2017, p. 26).

As for the challenges associated with human resources, they are mainly distinguished by traditional practices that do not align with the scale of electronic transformation. The recruitment and selection processes receive insufficient attention, often relying solely on newspaper advertisements or employment offices. Selection is typically carried out through personal interviews, which are not designed with precision. Moreover, there is a lack of clear strategies for human resource management, with decision-making frequently grounded in personal judgment. Performance measurement systems and efficiency evaluations are overly formal and lack objectivity, alongside other personal and structural obstacles (Terad Khodja, 2020, pp. 363-364).

2. Security and Technological Challenges: The main security and technological challenges can be summarized as follows:

- Fear of successful hacking attempts: Users fear that a breach of the system they are dealing with could impact their personal data, either through deletion, destruction, or exploitation in illegal activities, leading to a lack of trust in the confidentiality and security of transactions. This results in a loss of trust in numerous electronic transactions, such as electronic transfers and financial transactions via credit cards.
- Lack of control software to monitor intentional breaches (Naamouni & Badaoui, 2017, p. 27).
- Risks to the website from data destruction, modification, or replacement.
- Data theft during service requests.
- Absence of paper documents for some services offered electronically, leading to problems in proving transactions, documenting rights, and validating signatures (Terad Khodja, 2020, p. 363).

3. Social Challenges: Undoubtedly, the social challenge of human resource management arises from the growing sense of social responsibility among modern organizations. It is certainly one of the great social challenges to accommodate workers in an era witnessing a strong trend toward reducing the size of organizations. Furthermore, changes in the structure and composition of the labor force in the markets present new challenges for human resource management. Numerous management concepts have highlighted the significance of quality as a key competitive advantage, leading to the appearance of several models for measuring organizational quality, such as the total quality management model, quality circles, and comparative performance. It is evident that the concept of quality presents a unique challenge for human resource management, as human resources are one of the most significant quality criteria.

In addition to the obstacles that may accompany e-government, the following challenges can also be identified:

- A vague vision of e-government and failure to comprehend its objectives.
- Lack of security systems and regulations, or leniency in their application.
- Limited financial resources and difficulty in securing liquidity.
- Adherence to centralization and dissatisfaction with administrative change.
- A negative view of e-government as it reduces human resources.
- The digital divide between technology specialists and others who lack basic digital knowledge (Alouti, 2008, p. 148).
- Limited financial allocations for modern applications.
- Lack of trust in safeguarding the confidentiality and security of personal transactions.
- Management's lack of conviction concerning the necessity of transformation and its requirements.
- Human nature, closed-door culture, fear of technology, and its applications.
- A shortage of skilled personnel to use technology (Alouti, 2008, p. 148).

Conclusion:

Today, institutions of all kinds are moving towards the implementation of e-management applications due to the advantages they provide. Moreover, attention to human resources and their development is closely related to how well they interact with information technology tools and the resources they offer. The electronic management of human resources has expanded its core areas to include more effective management of information and individuals through processes like recruitment, training, performance evaluation, attendance management, and bonus administration. Advanced digital technology has become an essential necessity in the era of global openness we are witnessing. It is considered a fundamental component in fulfilling development, especially in the area of human resource development. This is accomplished through the efficient and effective training and development of human capital, which, in turn, contributes to the advancement of the country across all sectors.

The improper and inaccurate implementation of the concept and strategy of e-management, and the abrupt transition from traditional management styles to e-management without following a gradual and structured shift, can lead to the paralysis of management functions and disrupt human resource strategies. This would occur by abandoning the traditional management style without meeting the requirements of comprehensive e-management, which could result in the suspension of services offered by management or a complete halt until the electronic management system is fully applied or the system is reverted to the traditional one. This is strategically undesirable.

This study has led to a set of results and recommendations, outlined as follows:

**First: Results**

- It is noticed that the use of e-management helps decrease costs and organize work procedures by overcoming the problems that lower performance levels and reducing administrative errors.
- Depending on modern technologies as a process and integrated system of components, including human, informational, and legislative factors, necessitates a set of integrated prerequisites for its successful implementation in practice.
- The use of e-management accelerates work completion with high accuracy, saving time and effort, and increasing the efficiency of employees, leading to enhanced work productivity.
- The introduction of modern technology into human resource management is both necessary and urgent for conducting multiple administrative processes and overcoming organizational difficulties that may arise.

**Second: Recommendations**

- It is essential to organize workshops, seminars, and conferences, and issue informational bulletins to educate employees about e-management.
- Focus on fostering the culture of e-management for human resources, holding seminars, workshops, and conferences that reinforce this culture.
- Continue focusing on developing human resource management activities and consistently updating them to keep pace with the latest developments in human resource management science.
- Plans and strategies should be devised for the rehabilitation and training of human resources, offering the necessary financial allocations and material resources for effective implementation.
- Contingency plans for e-management should be developed for immediate use in case of any technical or administrative obstacles that may disrupt the use of this method.
- It is necessary to design and implement electronic models for assessing the performance of employees and workers, such as performance assessment systems and bonus systems.

Review and revise regulations and policies, restructuring them to be more inclusive and flexible to facilitate the implementation of e-management.

### **Ethical Considerations**

The study was conducted in accordance with the principles of academic integrity, transparency, and research ethics. All data used in this research were collected and analyzed solely for scientific purposes. The study did not involve experiments on humans or animals. Any information obtained from organizational documents or secondary sources was used responsibly and anonymously to ensure confidentiality and data protection. The author confirms that the work is original, has not been published previously, and is not under consideration for publication elsewhere. All sources have been properly cited to avoid plagiarism.

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