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The Contribution of Digital Management in Improving the Performance of Human Resources in Algeria Post

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ABSTRACT

This study aimed to highlight the contribution of digital management in improving the performance of human resources in Algeria Post by examining the variables of efficiency and transparency as fundamental bases for evaluating and enhancing human resource performance. It also explored the added value of digital transformation in improving the quality of human resource management and service development by saving effort, time, and cost. To achieve the study's objectives, a descriptive approach was adopted, utilizing a questionnaire as a data collection tool. The study concluded that digital management significantly contributes to enhancing human resource efficiency and reinforcing the principle of transparency by: adopting and utilizing digital programs to save time and effort in task execution, monitoring daily activities to detect and correct errors and deviations, and using digital devices to reduce the administrative effort required for human resource supervision.

Keywords: Digital management, efficiency, transparency, human resources.

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1.Introduction:

Administrative systems have undergone significant changes in both nature and form due to scientific and technological advancements brought about by globalization, particularly with the widespread use of the Internet. The technological and informational dimensions of these advancements have led to a decline in traditional administrative practices, shifting from paper-based organizational methods to network-based electronic management. This transformation eliminates spatial and temporal barriers and facilitates better service delivery to users through what is known as "digital management."

Digital management is one of the key achievements of modern technology, representing a new methodology and the latest school of management. It is based on the comprehensive understanding, conscious use, and positive investment in information and communication technology (ICT) to perform core administrative functions at various levels in contemporary institutions. Additionally, it enables the transformation of all processes and services—traditionally dependent on lengthy paperwork—into electronic services that are executed with high speed and accuracy, a concept now referred to as "paperless management."

In recent years, there has been a fundamental shift in human resource management (HRM) due to technological advancements and digital transformation. Digital management has become a crucial tool for improving human resource efficiency and reinforcing the principle of transparency. It offers innovative solutions for automating processes, enhancing the employee experience, and fostering better communication and collaboration.

In this context, the Algerian authorities have implemented several reforms to modernize and upgrade administrative services in alignment with societal and global developments. These reforms aim to restore credibility through various development projects, primarily by investing in ICT, modernizing processes, and implementing digital management across institutions. The goal is to create an efficient, high-performing administration that delivers superior services, eliminates bureaucratic inefficiencies, and keeps pace with rapid technological advancements worldwide.

This raises a critical question:

- Does digital management contribute to improving human resource performance within the organization?

This leads to the adoption of the following main hypothesis:

- Digital management contributes to improving human resource performance within the organization.

From this primary hypothesis, two sub-hypotheses emerge:

- Digital management contributes to enhancing the efficiency of human resources within the organization.
- Digital management contributes to strengthening the principle of transparency among human resources within the organization.

The main objectives of this study are as follows:

- To highlight the key variables of the study (digital management, human resource efficiency improvement, and the enhancement of transparency).
- To demonstrate the role of digital management in improving human resource performance.
- To identify the essential components required to enhance efficiency and transparency among human resources from the perspective of an integrated digital management approach.

2.The Concept of Digital Management

The concept of digital management has been defined in various ways, with some of the most notable definitions being:

- It is the process of utilizing digital technology and information systems to execute various administrative functions, transforming traditional administrative operations into electronic processes to enhance efficiency, organizational effectiveness, and service quality (Bashir, 2021, p. 24).
- Digital management involves the use of digital tools and technologies in planning, organizing, directing, and controlling, as well as leveraging information and communication technology to perform administrative tasks with greater speed and accuracy (Ghaleb, 2020, p. 37).
- It is also considered an integrated approach to contemporary technological management that aims to respond quickly to the changing environmental requirements (Mohammed, 2019, p. 19).
- Another definition describes digital management as "a comprehensive administrative system that relies on information and communication technology to transition traditional manual management into computerized and electronic-based management, with the goal of

improving performance levels, increasing efficiency, and enhancing effectiveness" (Talal, 2018, p. 126).

- Additionally, digital management is viewed as "an integrated methodology that combines modern administrative thought with advanced digital technology to achieve synergy between an institution's human and technological resources, ultimately enabling it to achieve its objectives with maximum efficiency and effectiveness, in line with the demands of the digital business environment" (Salem, 2022, p. 37).

From these definitions, it can be concluded that digital management is a modern administrative strategy aimed at delivering high-quality outcomes for human resources within institutions, as well as for citizens and customers. This is achieved through the optimal utilization of modern digital tools to streamline administrative services, ultimately saving time, money, and effort while projecting a positive image of the institution to its external environment.

3 . The Concept of Human Resources

The definition of human resources (HR) varies across different perspectives. Bellow are some of the key definitions:

- Human resources are a strategic partner within an organization, working to achieve a competitive advantage by developing policies that enhance employees' capabilities and align their goals with those of the organization (Ulrich & Brockbank, 2016, p. 104).

- Human resources refer to the management of all employee-related activities, including recruitment, training, performance management, compensation, and termination of employment (Armstrong & Taylor, 2020, p. 79).

- Human resources involve the use of digital technologies and big data to improve recruitment processes, manage performance, develop skills, and create an exceptional employee experience (CIPD, 2023, p. 35).

- Human resources focus on the selection, training, performance evaluation, development, retention, and termination of employees, ensuring a balance between organizational goals and employee needs (Noe et al., 2023, p. 47).

- Human resources management is responsible for developing human capital within an organization by providing the right environment to achieve both institutional and individual goals (Al-Otaibi, 2021, p. 55).

Key Takeaways from These Definitions: From these definitions, we can conclude that human resources:

- Are responsible for executing tasks and processes that contribute to organizational success.
- Possess various skills and capabilities that drive institutional objectives.

- Have the ability to think creatively and solve problems.
- Interact and collaborate to achieve shared goals.
- Are adaptable, capable of learning, and proficient in digital tools, which contributes to the organization's growth and competitive advantage.

4. Objectives of Digital Management

Digital management aims to achieve numerous objectives, including: (Al-Alwama, 2003, p. 265):

- Integrating and unifying organizational components into a cohesive system through information technology.
- Enhancing administrative processes and improving their effectiveness in serving institutional goals.
- Providing efficient mechanisms to support and facilitate decision-making.
- Ensuring accurate, sufficient, and timely information flow with continuous availability.
- Reducing operational costs while consistently improving productivity levels.
- Creating a conducive organizational environment for continuous and comprehensive administrative research and development.(Mahmoud Al-Qudwa, 2010, pp. 124-125):
- Delivering services efficiently to beneficiaries 24/7, including weekends.
- Minimizing physical storage space required for electronic data.
- Ensuring fast work processes with optimized financial costs.
- Developing a society capable of adapting to technological advancements.
- Maintaining information security and reducing the risk of data loss.(Ahmed Mohammed, 2009, p. 73):
- Clarifying organizational systems and authorities to promote transparency.
- Protecting employees' rights in terms of creativity and innovation.
- Facilitating employee tasks through remote work options, allowing employees to work in environments best suited to their needs.

5. Characteristics of Digital Management : (Marler, J. H., & Parry, E. 2016, pp. 2233-2244):

✓ **Reliance on Technology:**

Digital management heavily depends on modern technology, such as Human Resource Management Systems (HRMS), which reduces human errors and

enhances efficiency For instance, platforms like SAP and Oracle help manage payroll, performance evaluation, and workforce planning.

✓ **Enhancing Employee Experience:**

Digital tools simplify daily operations for employees, improving overall job satisfaction, Employees can access personal information, request leave, and enroll in training programs through digital platforms, minimizing wasted time on administrative tasks.

✓ **Data Analysis and Decision-Making:**

Digital management enables the use of Big Data analytics to support decision-making, Organizations can evaluate employee performance, identify areas for improvement, and predict future workforce needs based on data-driven insights.

✓ **Cost Reduction and Increased Efficiency:**

Automating repetitive processes helps lower operational costs, For example, robotic process automation (RPA) in payroll processing and document management minimizes manual effort, saving both time and money.

✓ **Flexibility and Accessibility:**

Digital tools allow employees and managers to access information and manage operations from anywhere, at any time, This is especially beneficial for remote work, as employees can complete tasks without being physically present in the office.

✓ **System Integration:**

Digital management enables seamless integration of various organizational systems (HR, finance, marketing) into a single unified platform Enterprise Resource Planning (ERP) systems facilitate smooth information flow between departments and reduce redundancy.

✓ **Security and Data Protection:**

Advanced security systems protect sensitive data and prevent unauthorized access, For example, encryption technologies ensure employee data remains confidential, boosting trust and reducing cybersecurity risks.

✓ **Continuous Updates:**

Digital tools are frequently updated to keep pace with technological advancements, HR management systems receive regular upgrades, introducing new features and improving overall functionality.

✓ **Focus on Innovation:**

Digital management fosters innovation by providing tools that encourage creativity and strategic planning, the use of artificial intelligence (AI) and machine learning helps generate innovative ideas and analyze market trends, keeping organizations ahead of the competition.

Digital management serves as a powerful tool for improving organizational performance and adapting to technological advancements. By utilizing modern technologies, decision-makers can make more precise, flexible, and effective choices. The ability to quickly respond to market changes gives businesses a competitive edge. Additionally, digital management promotes transparency by providing real-time, easily accessible data, facilitating informed decision-making. Through effective communication and collaboration via integrated digital platforms, organizations enhance teamwork and boost the skills and capabilities of their human resources.

6. Elements of Digital Management

Digital management is composed of several fundamental elements that enable its successful implementation.

6.1. Digital management requires specific hardware components, which can be categorized as follows (*Iman, 2004, p. 28*):

- **Input Devices:** Hardware used to enter data, such as keyboards, scanners, and touchscreens.
- **Output Devices:** Hardware used to retrieve processed data, such as printers and display screens.
- **Central Processing Unit (CPU):** The core component of a computer responsible for processing and storing data. Other hardware components function as supporting elements.
- **Storage Devices:** Physical media used to store and retrieve data, including internal memory (RAM), external storage devices, magnetic disks, and cloud storage solutions.

6.2. Communication Networks (*Adel Harroush Al-Muqriji, 2005, pp. 24-25*)

- Communication networks serve as a crucial tool in digital management by enabling fast data exchange between various devices and administrative units within an organization.
- Networks such as Local Area Networks (LANs), Wide Area Networks (WANs), and cloud-based infrastructures facilitate seamless information flow.

6.3. Software

Software is an essential component that enables hardware to function efficiently. It includes:

- **System Software:** Operating systems (e.g., Windows, Linux, macOS) and network management systems.
- **Application Software:** Productivity tools such as email applications, e-commerce platforms, database management systems, and project management software.
- **Online Platforms:** The internet, extranets, and intranets that enable communication and digital transactions.

6.4. Artificial Intelligence (AI) (Russell & Norvig, 2022, p. 78)

- AI is a key pillar of digital management, allowing automation of complex tasks and optimization of business operations.
- AI applications include:
 - Chatbots and virtual assistants that handle customer inquiries.
 - Process automation for repetitive administrative tasks.
 - Predictive analytics to analyze data and provide insights based on behavioral patterns.
- AI significantly enhances efficiency, reduces operational costs, and improves decision-making processes.

6.5. Human Element (Magdy Mohamed Younis, 2016)

- Skilled professionals are the most critical component of digital transformation.
- The human element includes digital leaders, managers, and analysts who:
 - Develop and implement digital strategies.
 - Overcome technological challenges.
 - Manage electronic records and cybersecurity.
 - Utilize digital tools for enhanced productivity and decision-making.

- Employees must adapt to new digital environments by acquiring competencies in data entry, retrieval, security, and electronic auditing.

Digital management relies on a harmonized integration of hardware, communication systems, software, AI, and human expertise. By leveraging these elements, organizations can streamline processes, enhance efficiency, and remain competitive in the digital age.

7. Challenges of Digital Management

Despite its numerous advantages, digital management faces several obstacles that hinder its full implementation. These challenges can be categorized into the following key areas:

7.1. Weak Technological Infrastructure (*Abdulaziz, 2020, p. 45*)

Digital management heavily relies on a robust technological infrastructure, including high-speed internet, modern computing devices, and advanced communication systems. However, in some countries—particularly developing ones—technological infrastructure remains weak due to:

- Insufficient investment in technology and digital transformation.
- Limited internet coverage in remote or rural areas, preventing seamless digital operations.

7.2. Administrative Barriers (*Tawfiq, 2019, p. 344*)

Several administrative challenges obstruct the effective implementation of digital management, including:

- Poor planning and coordination at the executive level for digital management programs.
- Failure to restructure organizations to accommodate digital transformation, including the integration or reorganization of departments, adjustment of authority levels, and workflow optimization.
- Lack of a clear strategic vision regarding the use of information and communication technology (ICT) to support the shift toward future digital organizations.
- Resistance to change from employees and stakeholders, who fear job displacement due to automation and digital tools.

7.3. Security Concerns (*Al-Malik, 2007, p. 43*)

One of the primary concerns in digital management is cybersecurity. Many organizations and individuals hesitate to adopt digital transactions due to:

- Fear of security breaches in government e-services and private sector transactions.
- Concerns about privacy violations, particularly in financial transactions such as e-banking, online credit card payments, and electronic fund transfers.
- Risk of data loss or cyberattacks, which could lead to unauthorized access, modification, or deletion of critical information.

7.4. Human-Related Challenges (*Magdy Mohamed Younis, previous reference*)

The human factor plays a crucial role in the success of digital management, but several issues hinder its adoption:

- Limited number of employees with basic IT skills required for operating digital systems.
- Lack of training programs focused on advanced technological tools and digital transformation.
- Weak English language proficiency among employees, creating barriers to using digital platforms and international software.
- Low financial and motivational incentives for employees working in digital management, discouraging continuous learning and skill development.
- Outdated technical skills among employees and resistance to adopting modern technologies.

For digital management to succeed, organizations must invest in technology, improve strategic planning, enhance cybersecurity measures, and provide continuous training for employees. Addressing these challenges will ensure a seamless transition to digital operations and maximize the benefits of digital transformation.

8. Digital Transformation and Its Role in Enhancing Efficiency and Transparency in Human Resources:

Digital transformation is crucial for enhancing efficiency and transparency within human resources. The process involves several key phases, each contributing to a seamless transition from traditional management to digital management.

8.1. Foundation Phase

This phase focuses on establishing clear priorities and strategies for digital transformation. A transparent evaluation of the current capabilities, available resources, and future challenges is essential to developing a comprehensive and effective action plan.

8.2. Implementation of Digital Technologies

Organizations integrate digital learning applications, artificial intelligence (AI), robotics, and smart applications to ensure seamless and effective operations. The goal is to achieve full integration of these technologies, allowing smooth and optimized workflow management.

8.3. Performance Enhancement

The use of digital analytics plays a vital role in evaluating human resources performance. By analyzing key factors that impact institutional outcomes, organizations can improve procedures and enhance productivity to meet their objectives.

8.4. Promoting a Digital Culture

To successfully implement digital transformation, organizations must:

- Enhance digital skills among employees through training and development programs.
- Provide continuous support and guidance to ensure full utilization of digital technologies.

9. Study Methodology

9.1. Research Methodology

To achieve the objectives of this study, researchers adopted **the** descriptive research method, which is appropriate for gaining an in-depth understanding of the phenomenon under investigation.

9.2. Research Population and Sample

The study focuses on Algeria Post employees in Souk Ahras, where the total workforce is 296 employees. A purposeful sample of 33 employees was selected, targeting those working in digital positions to ensure relevant insights into digital transformation.

9.3. Data Collection Tool

A questionnaire was the primary tool used for data collection. The questionnaire items were designed based on the Likert five-point scale to assess participants' perceptions of digital management's impact on HR performance.

9.4. Statistical Analysis Methods

To analyze the collected data, researchers used the Statistical Package for Social Sciences (SPSS), employing the following statistical techniques:

• **Likert Scale Analysis:** The five-point Likert scale was used to measure responses. The range ($5-1 = 4$) was divided by the number of scale categories, resulting in **0.80 intervals per category**. The minimum value was then added to define category thresholds, ensuring precise interpretation of results.

This structured approach ensures accurate data analysis and provides clear insights into the impact of digital transformation on efficiency and transparency in human resource management.

Table No. (01): Arithmetic Mean Values

Arithmetic Mean	Value
From (01 to 1.80)	Very Low
From (1.81 to 2.60)	Low
From (2.61 to 3.40)	Moderate
From (3.41 to 4.20)	High
From (4.21 to 5)	Very High

Source: (Ezz Abdel Fattah, 2088, p. 541)

9.5. Descriptive Statistical Methods

To accurately identify the study population and analyze the responses related to the participants' opinions, several descriptive statistical methods were used, including:

- **Arithmetic Mean:** Used to determine the central tendency, either positively or negatively.
- **Standard Deviation:** A measure of dispersion that confirms the validity of the arithmetic mean concentration for the questionnaire items.
- **T-test for One Sample:** Used to determine whether the study participants agree with the study's themes.

10. Data Analysis

10. 1. Analysis of Participants' Opinions on Digital Administration and Improving Human Resource Efficiency

The following tables illustrate the responses and opinions of the sample members regarding the digital administration and its impact on enhancing human resource efficiency.

Statement 01: Digital programs contribute to saving time and effort for human resources.

Table No. (02): Participants' opinions on the statement: "Digital programs contribute to saving time and effort for employees."

Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	0	0	1	24	8
Percentages	0%	0%	3%	72.7%	24.2%
Total	33				

Source: Based on questionnaire analysis results and SPSS software outputs.

From the responses to statement No. 01, we observe that the largest proportion of the sample chose the "Agree" option at 72.7%, while 24.2% selected "Strongly Agree." Meanwhile, 3% chose the "Neutral" option. Thus, we conclude that digital programs contribute to saving time and effort for human resources.

Statement 02: The use of computers and their accessories in the institution has reduced various administrative burdens on human resources.

Table No. (03): Participants' opinions on the statement: "The use of computers and their accessories in the institution has reduced various administrative burdens on human resources."

Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	0	0	0	22	11
Percentages	0%	0%	0%	66.7%	33.3%
Total	33				

Source: Based on questionnaire analysis results and SPSS software outputs.

From the responses to statement No. 02, we observe that the largest proportion of the sample chose "Agree" at 66.7%, while 33.3% selected "Strongly Agree." Therefore, we can conclude that the use of computers in the institution has indeed helped in reducing various administrative burdens on human resources.

Statement 03: Communication networks have helped in monitoring work, detecting errors and deviations as they occur, and quickly correcting them.

Table No. (04): Participants' opinions on the statement: "Communication networks have helped in monitoring work, detecting errors and deviations as they occur, and quickly correcting them."

Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	0	1	6	10	16
Percentages	0%	3%	18.2%	30.3%	48.5%
Total	33				

Source: Based on questionnaire analysis results and SPSS software outputs.

From the responses to statement No. 03, we observe that the highest percentage of the sample chose "Strongly Agree" at 48.5%, while 30.3% selected "Agree." This confirms that most participants agree that communication networks have helped in detecting errors as they occur and in quickly correcting them.

Statement 04: The institution coordinates with relevant authorities to provide training on using advanced technology.

Table No. (05): Participants' opinions on the statement: "The institution coordinates with relevant authorities to provide training on using advanced technology."

Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	0	1	3	18	11
Percentages	0%	3%	9.1%	54.5%	33.3%
Total	33				

Source: Based on questionnaire analysis results and SPSS software outputs.

From the responses to statement No. 04, we observe that the largest proportion of the sample chose "Agree" at 54.5%, while 33.3% selected "Strongly Agree." Therefore, we can conclude that the institution actively coordinates with relevant authorities to provide training for its human resources on using advanced technology, which significantly contributes to the promotion of digital administration.

Statement 05: A well-qualified workforce contributes to quickly correcting errors and deviations.

Table No. (06): Participants' opinions on the statement: "A well-qualified workforce contributes to quickly correcting errors and deviations."

Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	0	1	3	15	14
Percentages	0%	3%	9.1%	45.5%	42.4%
Total	33				

Source: Based on questionnaire analysis results and SPSS software outputs.

From the responses to statement No. 05, we observe that the largest proportion of the sample chose "Agree" at 45.5%, while 42.4% selected "Strongly Agree." Hence, we conclude that human resources with strong digital management skills play a crucial role in efficiently correcting errors and deviations encountered in their work.

Statement 06: The institution coordinates between administrative levels using the internet.

Table No. (07): Opinions of sample individuals regarding the statement: "The institution coordinates between administrative levels using the internet."

Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	0	0	2	15	16
Percentages	0	0	6.1	45.5	48.5
Total	33				

Source: Based on the results of the questionnaire analysis and SPSS outputs.

From the responses to statement 06, we notice that the largest percentage of the sample chose "Strongly Agree" at 48.5%, while 45.5% chose "Agree." This indicates that the institution heavily relies on the internet—an essential element of digital management—to coordinate across all administrative levels, which enhances the efficiency of human resources through effective control of this technology.

. Statement 07: The institution attracts highly skilled and competent human resources.

Table No. (08): Opinions of sample individuals regarding the statement: "The institution attracts highly skilled and competent human resources."

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Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	2	2	7	14	8
Percentages	6.1	6.1	21.2	42.4	24.2
Total	33				

Source: Based on the results of the questionnaire analysis and SPSS outputs.

From the responses to statement 07, we observe that the largest percentage of the sample chose "Agree" at 42.4%, while 24.2% selected "Strongly Agree." Based on these percentages, we can conclude that the institution successfully attracts skilled and competent human resources who have strong technological capabilities. These capabilities help the institution reinforce digital management in its operations and services, while also enabling these human resources to improve their efficiency.

Statement 08: The institution aims to simplify routine administrative procedures by adopting digital management in its administrative processes.

Table No. (09): Opinions of sample individuals regarding the statement: "The institution aims to simplify routine administrative procedures by adopting digital management in its administrative processes."

Scores	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequencies	0	1	3	20	9
Percentages (%)	0	3	9.1	60.6	27.3
Total	33				

Source: Based on the results of the questionnaire analysis and SPSS outputs.

From the responses to statement 08, we notice that the largest percentage of the sample chose "Agree" at 60.6%, while 27.3%* selected "Strongly Agree." This confirms that the institution is making significant efforts to simplify routine administrative procedures through digital management. This, in turn, improves the efficiency of its human resources and enhances their ability to control the overall process.

Statement 09: The use of the internet has contributed to the faster completion of services.

Table No. (10): Opinions of the sample regarding the statement: The use of the internet has contributed to the faster completion of services.

Grades	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequency	00	00	06	14	13
Percentage (%)	00	00	18.2	42.4	39.4
Total	33				

Source: Based on the results of the questionnaire analysis and SPSS outputs.

By analyzing the responses to statement No. 09, we observe that the largest percentage of the sample chose "Agree" at **42.4%**, while **39.4%** selected "Strongly Agree." From this, we can conclude that the use of internet networks has significantly contributed to the faster completion of services, which reflects the fact that the efficiency of human resources has certainly improved with the application of digital management principles.

Analysis of the Study Sample's Opinions on Digital Management and Improving Human Resource Efficiency

Each questionnaire item includes the following response options: (Strongly Disagree / Disagree / Neutral / Agree / Strongly Agree). Each option was assigned a numerical score for statistical processing, as shown in the following table:

Table No. (11): Arithmetic Means and Standard Deviations Regarding Digital Management and Improving Human Resource Efficiency

Statement	Arithmetic Mean	Standard Deviation	Rank	Sample Trend
Digital programs contribute to saving time and effort for human resources.	4.21	0.48	5	Very High
The use of computers and their accessories in the institution has reduced various administrative burdens on human resources.	4.33	0.47	2	Very High
Communication networks have helped monitor work, detect errors and deviations at the time of occurrence, and quickly correct them.	4.24	0.86	4	Very High
Coordination with relevant	4.18	0.72	7	Very

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authorities for training on using advanced technology.				High
A qualified workforce contributes to quickly correcting errors and deviations.	4.31	0.73	3	Very High
The institution coordinates administrative levels using the internet.	4.42	0.61	1	Very High
The institution attracts skilled and competent human resources.	3.72	1.09	9	High
The institution seeks to simplify routine administrative procedures by adopting digital management in its administrative processes.	4.12	0.69	8	Very High
The use of the internet has contributed to the faster completion of services.	4.21	0.73	6	Very High
Overall	4.19	0.70		Very High

Source: Based on the results of the questionnaire analysis and SPSS outputs.

Table No. (11) shows that the overall arithmetic mean for all statements under the axis of digital management and improving human resource efficiency was **4.19**, with a standard deviation of **0.23**. According to the study scale, this variable is considered **very high**. The arithmetic means for the study sample's responses within this axis ranged from **3.72** (for the statement "The institution attracts skilled and competent human resources") to **4.42** (for the statement "The institution coordinates administrative levels using the internet").

✓ **Testing the First Sub-Hypothesis:**

Digital management contributes to improving human resource efficiency in the institution.

To test this hypothesis, we applied the **T-test for a single sample**, comparing it with the standard mean (3), as it represents the hypothetical mean for a five-point scale.

Table No. (12): T-Test for a Single Sample for the Axis of Digital Management and Improving Human Resource Efficiency

Variable	Arithmetic	Standard	Computed	Tabulated	Sig
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	Mean	Deviation	T	T	
Digital Management and Improving Human Resource Efficiency	4.19	0.70	28.754	2.042	0.00

Source: Based on the results of the questionnaire analysis and SPSS outputs.

From the table, we see that the arithmetic mean for the **Digital Management and Improving Human Resource Efficiency** axis is **4.19**, which is higher than 3. The **computed T-value (28.754)** is greater than the **tabulated T-value (2.042)**, and the significance level (sig) **0.00** is less than **0.05**. Therefore, we accept the hypothesis stating that **digital management significantly contributes to improving human resource efficiency in the institution** at a significance level of ≤ 0.05 .

10.2: Analysis of the Study Sample's Opinions on Digital Management and Promoting Transparency Among Human Resources

The following tables illustrate the responses and opinions of the sample regarding

Statement 10: Communication networks in the institution have helped involve employees in setting annual and quarterly plans.

Table No. (13): Opinions of the Sample Regarding the Statement: Communication networks in the institution have helped involve employees in setting annual and quarterly plans.

Grades	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequency	0	04	03	17	09
Percentage (%)	0	12.1	9.1	51.5	27.3
Total	33				

By analyzing the responses to statement No. 10, we observe that the largest percentage of the sample chose **"Agree" (51.5%)**, while **27.3%** selected **"Strongly Agree."** This indicates that the institution is highly committed to involving its human resources in setting its annual and quarterly plans. This reinforces their participation in decision-making, ultimately leading to improved performance and a stronger sense of belonging to the institution.

Statement 14: The institution provides some administrative documents that can be downloaded from the website.

Table No. (17): Opinions of the sample regarding the statement: The institution provides some administrative documents that can be downloaded from the website.

Grades	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequency	1	1	6	9	16
Percentage (%)	3	3	18.2	27.3	48.5
Total	33				

By analyzing the responses to statement No. 14, we observe that the largest percentage of the sample chose "**Strongly Agree**" (48.5%), while 27.3% selected "**Agree**." Based on this, we can conclude that the institution provides some administrative documents that can be downloaded from its website.

Statement 15: The institution archives data electronically.

Table No. (18): Opinions of the sample regarding the statement: The institution archives data electronically.

Grades	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Frequency	0	5	0	18	10
Percentage (%)	0	12.1	0	54.5	30.3
Total	33				

By analyzing the responses to statement No. 15, we observe that the largest percentage of the sample chose "**Agree**" (54.5%), while 30.3% selected "**Strongly Agree**." Based on this, we can conclude that the institution indeed archives data electronically.

Statement 16: The institution seeks to engage more with employees by creating electronic communication links.

Table No. (19): Opinions of the sample regarding the statement: The institution seeks to engage more with employees by creating electronic communication links.

Grades	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
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Frequency	1	1	2	14	15
Percentage (%)	3	3	6.1	42.4	45.5
Total	33				

By analyzing the responses to statement No. 16, we observe that the largest percentage of the sample chose "**Strongly Agree**" (45.5%), while 42.4% selected "**Agree.**" Based on this, we can conclude that the institution actively seeks to engage more with employees by creating electronic communication links.

Analysis of the Study Sample's Opinions on Digital Management and Promoting Transparency

The following table presents the responses and opinions of the sample regarding **Digital Management and Promoting Transparency**:

Table No. (20): Arithmetic Means and Standard Deviations for Digital Management and Promoting Transparency

Statement	Arithmetic Mean	Standard Deviation	Rank	Sample Trend
Communication networks in the institution have helped involve employees in setting annual and quarterly plans.	3.93	0.93	7	High
Delegating some authority to qualified human resources has enabled them to execute tasks efficiently.	4.36	0.65	1	Very High
The use of computers has reduced the administrative effort required for monitoring.	4.06	0.90	5	Very High
The institution has a dedicated website.	4.18	0.99	3	Very High
The institution provides some administrative documents that can be downloaded from the website.	4.15	1.03	4	Very High
The institution archives data electronically.	4.06	0.91	6	Very High
The institution seeks to engage more with employees by creating electronic communication links.	4.24	0.93	2	Very High

Overall	4.17	0.91		Very High
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Source: Based on the results of the questionnaire analysis and SPSS outputs.

Table No. (20) shows that the overall arithmetic mean for all statements under the axis of **Digital Management and Promoting Transparency** was **4.17**, with a standard deviation of **0.91**. According to the study scale, this variable is considered **very high**. The arithmetic means for the study sample's responses within this axis ranged from **3.93** (for the statement "**Communication networks in the institution have helped involve employees in setting annual and quarterly plans.**") to **4.36** (for the statement "**Delegating some authority to qualified human resources has enabled them to execute tasks efficiently.**")

✓ **Testing the Second Sub-Hypothesis:**

Digital management contributes to improving transparency among human resources in the institution.

To test this hypothesis, we applied the **T-test for a single sample**, comparing it with the standard mean (3), as it represents the hypothetical mean for a five-point scale.

Table No. (21): T-Test for a Single Sample for Digital Management and Promoting Transparency

Variable	Arithmetic Mean	Standard Deviation	Computed T	Tabulated T	Sig
Digital Management and Promoting Transparency	4.17	0.91	13.868	2.042	0.00

Source: Based on the results of the questionnaire analysis and SPSS outputs.

The table shows that the arithmetic mean for **Digital Management and Promoting Transparency** was **4.17**, which is higher than 3. The **computed T-value (13.868)** is greater than the **tabulated T-value (2.042)**, and the significance level (sig) **0.00** is less than **0.05**. Therefore, we accept the hypothesis stating that **digital management significantly contributes to improving transparency among human resources in the institution** at a significance level of ≤ 0.05 .

11. General Results

Based on the field study we conducted, we will present the most important findings as follows:

1.11. Results of the First Sub-Hypothesis:

Digital management contributes to improving the efficiency of human resources in the institution.

The key findings of this hypothesis are as follows:

- The adoption and use of digital programs help save time and effort for human resources in performing their tasks.
- The continuous use of computers and related accessories by human resources has significantly reduced various administrative burdens.
- The communication networks used in tracking daily tasks have helped detect errors and deviations as they occur, allowing human resources in the institution to correct them promptly.
- The institution's coordination with relevant entities for training on advanced technology has significantly enhanced the ability of human resources to manage digitalization.
- Qualified human resources contribute to the quick correction of errors and deviations encountered while performing their duties.
- The institution heavily relies on the internet— a key digital tool— for coordination between administrative levels, enabling human resources to manage large amounts of information and deliver services quickly and efficiently.
- The institution selects its human resources based on competence and skill.
- The institution consistently seeks to simplify administrative procedures by adopting digital management in its operations.

11. 2. Results of the Second Sub-Hypothesis:

- The institution's communication networks have helped involve human resources in setting annual and quarterly plans, confirming its commitment to improving **transparency** in information dissemination among employees.

- The institution heavily relies on delegating some authorities to qualified human resources, leading to **faster task execution**.

- The institution's reliance on computers has reduced the administrative effort required for monitoring human resources.

- The institution actively seeks to strengthen its relationship with human resources by creating electronic communication links. This approach is reinforced by the **dedication of a website** for communication and information sharing.

12. Conclusion

This study explored the contribution of **digital management** in enhancing the performance of human resources in the institution due to the importance of the topic and the significant impact digital management has had on improving **efficiency and transparency**—both for employees and clients. Despite the challenges that hinder the full implementation of digital management, its adoption has helped **modernize many institutions** and significantly improve their services.

Digital management has also reduced many negative behaviors that previously **hindered administrative operations**, thereby saving time and effort. The study revealed that the implementation of digital management in institutions, including **Algeria Post**, was a **necessary adaptation** to globalization and rapid technological advancements. As societies evolve into information and knowledge-based economies, institutions must **keep pace** with this transformation to overcome longstanding issues that have affected their **reputation**, diminished customer trust, and created **hesitation and reluctance** in administrative dealings.

From our field study, it became evident that **digital management plays a crucial role in Algeria Post**, offering numerous benefits—foremost among them being the **modernization of the institution** to provide **faster and better** services.

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