

Training Human Resources in the Use of Digital Technologies and role in Developing Public Administrative Services A field study in the Municipality of Blida

تكوين المورد البشري على استخدام تكنولوجيا الرقمنة ودوره في
تطوير الخدمة الإدارية العمومية (دراسة ميدانية ببلدية البليدة)

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ملخص:

هدفت الدراسة إلى محاولة إبراز أهمية ودور تكوين المورد البشري على استخدام التكنولوجيا الحديثة في رقمنة الإدارة المحلية وتطوير الخدمة الإدارية العمومية ببلدية البليدة، من خلال البحث في دور الدورات التكوينية والتدريبية والتقنيات التكنولوجية والمنصات الرقمية في تحسين جودة الخدمة الإدارية العمومية، وقد تم استخدامنا للمنهج الوصفي لجمع وعرض المعلومات وتطبيق تقنية الاستبيان على 80 موظف تم خضوعهم للتكوين على استخدام تكنولوجيا الرقمنة.

تم التوصل إلى النتائج التالية: أدى تكوين المورد البشري على استخدام تكنولوجيا الرقمنة في الإدارة المحلية (بلدية البليدة) إلى تحسين أداء الموظفين وزيادة في كفاءة انجاز المهام حيث اجمع أغلبية المبحوثين على ارتفاع مستوى أداء الخدمة الإدارية العمومية بفضل تقنيات وبرامج الرقمنة التي ساهمت في تطوير الأداء وزادت من دقة وكفاءة المعاملات الإدارية والخدمات الإدارية المقدمة .

الكلمات المفتاحية: التكوين ،الرقمنة ،المورد البشري ، تكنولوجيا الرقمنة، الخدمة الإدارية العمومية

Abstract:

This study aims to highlight the importance and role of training human resources in the use of modern technologies for the digitization of local administration and the development of public administrative services in the Municipality of Blida. It investigates the impact of training programs, technological tools, and digital platforms on improving the quality of public administrative services.

The descriptive-analytical method was employed to collect and present information, and a questionnaire was administered to 80 employees who had received training in digital technologies.

The study yielded the following results: Training human resources in the use of digital technologies in local administration (Municipality of Blida) led to improved employee performance and greater efficiency in task execution. Most respondents agreed that the level of public administrative service had increased thanks to digitization technologies and software, which enhanced performance and efficiency of administrative processes and services.

Key words: training, digitization, human resources, digital technology, public service.

Introduction:

Technological development has pervaded various political, economic, social, and cultural spheres, bringing with it the concept of digitization as a means to advance and develop institutions- particularly administrative ones- in response to changing circumstances. Training human resources to use this technology represents the main and decisive factor in achieving institutional objectives.

This study seeks to highlight the role of training human resources in using digital technology and its contribution to developing public services within local communities, specifically in the municipality of Blida. The importance of training human resources in the use of digital technology is evident, since digitization is a modern approach within organization that helps achieve their objectives, improve public service, and create opportunities for success, satisfaction, and citizen acceptance.

The study also emphasizes the importance of training human resources as a means of improving and developing public service. In addition, it contributes to the development of training programs, methods, and digitization software, while identifying the challenges facing local administration digitization policies and the issues of incompatibility between human resource training and the use of digital technology.

First: The Methodology Followed in the Study

1. The Problem of the Study:

The contemporary world is witnessing profound changes and rapid developments across various economic, political, social, religious, and other domains. These transformations stem from the emergence of what is known as digital technology, which has effectively turned the world into a global village. This phenomenon results from accelerated adoption and widespread dissemination of modern technologies. However, these advancements have also introduced significant complexities that have impeded the progress of many development processes, primarily due to insufficient human resource

development in the field of emerging technologies that have spread globally.

Algeria is among the countries that have demonstrated a proactive approach in adopting digital technology to address the ongoing transformations and to keep pace with global trends, aiming achieve sustainable developments development at the political, economic, and social levels. It country established digitization units and has undertaken efforts to train specialists and cadres in this field in order to overcome the challenges and obstacles that hinder the realization of its developmental goals.

Nevertheless, Algerian public institutions continue to face numerous organizational problems and obstacles in both public and economic sectors, including municipalities and hospitals. This situation has necessitated the adoption of organizational and administrative alternatives designed to meet the evolving needs of society and to foster development and prosperity. Consequently, it has become essential to enhance human resources capabilities and develop their competencies in utilizing digital technology to improve the quality and efficiency of public services.

Accordingly, this study seeks to examine the significance we will and role of training human resources in the use digital technology, as well as its contribution to the development of public administrative services within the municipality of Blida. Based on this objective, the study addresses the following research questions:

- How can digital technology contribute to the development of public administrative services?

Through this, the following questions were posed:

- To what extent do digital programs and technologies play a role in improving public administrative services?
- Is the training and development of human resources to use of digital technology associated with the enhancement of public administrative services?

In light of these questions, the following hypotheses were formulated:

- The use of digital technology by human resources is related to the development of public administrative services.
- Training human resources to use digital programs and technologies has a role in facilitating public administrative services.

2. Defining Concepts:

- **Digitization:** The concept of digitization has various orientations that are similar to those of digital transformation and artificial intelligence, as well as to various concepts that rely on converting information from its traditional form into an electronic one. We will attempt to summarize the most common definition. Charlotte Bures

refers to digitization as "an approach that allows for the conversion of data and information from an analog to a digital system." (Mackenzie, 2001) Digitization is also defined as the ability of a state and its people to use digital technology and techniques for generating, processing, and exchanging information. It is also linked to the concept that describes the social, economic, and political changes associated with the comprehensive adoption of information and communications technology. (Lagunes Sotoc Ruiz, 2013)

Furthermore, digitization is defined as the process of transferring or converting data into a digital form for computer processing. In information systems, it usually refers to the conversion of printed text or images (such as photographs, maps, etc.) into binary using a scanning method, allowing the results to be displayed on a screen." (Yassin, 2012) From the above, digitization can be considered the process of converting information and data from their available paper sources into electronic data that can be stored, exchanged, and summarized in numbers and codes, which can be accessed through computer technology.

- **Training:** The concept of training can be explained through the definition of Vatieh Raymond, who describes it is "the sum of processes that enable individuals and groups to efficiently complete current or future tasks for the smooth functioning of the organization". (Raymond, 1990)

David C. also defines training as "planned activities aimed at acquiring new knowledge, skills, and abilities that enable for employees to efficiently perform the tasks assigned to them." (Sherrington, n.d.)

Training represents both a behavioral and cognitive change in individuals, achieved through the acquisition of new skills and experiences that enable them to perform and develop their work.

- **Human Resources:** The term "human resource" refers to all permanent and temporary workers employed by an organization. The term "labor" also includes organizational leaders and heads of units at all hierarchical levels. The human being represents both the starting and ending point of the organization; he is its fundamental component and the ultimate goal of any organization. Therefore, it is logical that the human element should be regarded as one of the key factors in distinguishing job performance. (Zayed, 2003)

The human resource embodies the human element that contributes to formulating the organization's administrative and organizational policies, objectives, and management methods. Its also plays a vital role in controlling programs, rules, and regulations, and in defining the organization's objectives through the participation of workers. This is achieved by utilizing their capabilities, experiences, and skills within their respective fields and areas of specialization –from management positions to the lowest levels of the organizational hierarchy Therefore, human resources represent the primary driving force behind any administrative process.

- **Public Service:** Definitions of public service vary according to the opinions of researchers. Among these definitions: Abdul Jabbar Manadil defined it in his book as "work or effort exerted to meet and satisfy the needs or demands of others. "These are intangible activities whose use may be linked to the use of tangible material goods." (Manadil, 1999)

Awad Badr Haddad defined it as "the actions, activities, or performance provided to another party. "These activities are considered intangible and do not result in the transfer of ownership of anything. Furthermore, the provision of services may or may not be linked to a tangible material product." (Al-Haddad, n.d.)

From the above, public service can be defined as a set of activities provided by the state or official body in a country for the benefit of the general public and citizens without discrimination. It is based on achieving the public benefit for all citizens, and the state bears responsibility for any shortcomings in its provision. Public service represents relationship that connects government public administration and citizens by meeting their needs and satisfying their various demands through administrative bodies and public organizations.

- **Digital Technology:** The concept of digital technology refers to the various means, devices, tools, and electronic resources used by organizations and companies in creating, managing, and storing data. It helps improve employee efficiency and enhance their performance within the organization, thereby increasing their productivity, in addition, it contributes to managing operations and developing administrative transactions and administrative services of various types.

3. **Study Methodology:**

The descriptive approach was adopted, aiming to describe phenomena and events, and collect facts, information, and observations related to them. This was achieved by defining the concept of human resource development, as well as the methods and techniques used in modern technology (digitization). Furthermore, The concepts of digitization and public service were presented, highlighting the importance and role of each. finally, tables were presented and analyzed, and the results were drawn accordingly.

4. **Research Tools**

In this study, a series of exploratory interviews were conducted with department heads to obtain in-depth and comprehensive insights into the research topic ,as well as to identify employees who had received training in modern digital technologies, representing the study's research sample. Multiple rounds of interviews were performed to evaluate the implementation of assigned tasks, followed by the distribution of questionnaires to employees. The questionnaire served as the principal research instrument employed to collect and analyze data pertinent to the study objectives.

5. Previous Studies

We have examined a group of studies related to the topic of our study, which we summarize below:

- The study by **Sayed El-Nas Soufiane Jelloul et al. (2024)** entitled "Digital Transformations in Human Resources Management at Algerian Universities. (Suad et al., 2024)" The study aimed to analyze available digital technologies and tools and contribute to the transformation of human resources management in Algerian universities. It also aimed to identify the challenges facing digital transformation processes within university context, including technical, organizational, cultural, and training challenges.

The study adopted descriptive methodology and data were collected using a questionnaire as the main research tool. The research sample consisted of administrative employees working in the University Services Directorate and its branches in Mostaganem, with an estimated of 36 employees.

The study reached the following conclusions: digital transformations in human resources management in Algerian universities reflect a complex interaction between technology and society, where social, cultural, and economic factors influence the implementation and utilization of digital transformations.

Additionally, There are potential benefits of digitalization, such as improving recruitment and training processes and enhancing employee performance. The study's methodology was descriptive, while the technique used was a questionnaire as a tool for collecting information. The research community targeted administrative employees. The University Services Directorate and its branches in Mostaganem, with an estimated number of 36 employees, reached the following conclusions: Digital transformations in human resources management in Algerian universities reflect a complex interaction between technology and society, and social, cultural, and economic factors affect the implementation and utilization of digital transformations. There are also potential benefits to digitization, such as improving recruitment and training processes and enhancing employee performance.

- A study by Abdelkader Boucherour et al. (2024) entitled "The Impact of Digital Transformation on Human Resources Management in Organizations"(Al-Hajj et al., 2024). aimed to identify the concept of digital transformation, its main characteristics and stages, while emphasizing the status and efficiency of human resources management at the National Social Insurance Fund in Chlef, and the extent to which it keeps pace with ongoing changes and

developments. The study also sought to examine the actual implementation of digital transformation in human resources management.

A deductive approach was employed, adopting the descriptive and analytical method to clarify the relevant concepts. The study sample consisted of 50 employees who were randomly selected.

The study reached the following results: There is a statistically significant impact of digital transformation on human resources management at with a significance level of (1)(20.05). the degree of impact was estimated at 30.0%, which indicates a weak effect. The correlation between digital transformation and human resources management was 0.550, reflecting a moderate correlation. Moreover, There was a statistically significance level of (2005), and a degree of impact was estimated at 15.4, which also represents a weak effect .

- Omar Mahdi's (2022) study, entitled "The Role of Digital Transformation in Improving Human Resources Management Practices (Mahdi, 2022)". Aimed to explore the role of digital transformation in enhancing human resources management practices. The study employed descriptive- analytical approach and utilized a questionnaire to collect data. The research was conducted among all employees of the National Retirement Fund Agency, Saida State Branch, comprising 53 employees from different administrative levels.

The findings reached that the Human Resources Department of the National and intensively on Retirement Fund Agency in Saida State relies heavily on modern information and communication technologies. This was confirmed by the results of the first axis in the questionnaire.

Furthermore, the study showed that the agency's officials are not sufficiently aware of their information requirements for establishing an effective human resources information system. The results also showed that the digital transformation initiatives implemented by the agency have significantly contributed to improving several human resources management practices.

- Faghoul Janat (2019) conducted a study entitled" Human Resources Management in the Light of Digitization: A Case Study of Algeria Telecom Company, (PhD Thesis) (Fagoul, 2019). The study aimed to examine the extent of employees' acceptance of digital technology within the organization and its role in improving performance as well as the challenges encountered in the process of recruitment, evaluation and training under the framework of digitalization at Algeria Telecom Company.

A total of 100 questionnaires were distributed as the primary tool data collection tool. The findings confirmed that digital educational platforms significantly contribute to the development and enhancement of human resources skills through the variety of training courses they offer. Furthermore, the study revealed that human resources are adapting to align with organizational goals in the context of digitalization, due to the increasing importance of digital applications in human resources management, The study also emphasized that cooperation and interaction during training courses conducted via educational platforms enable trainees to acquire diverse skills and experiences.

Table (1)
Relationship of the current study to previous studie

Study Title	Similarities	Differences
A study by Sayed El-Nas Soufiane Jaloul et al. (2024) entitled "Digital Transformations in Human Resources Management at Algerian Universities."	Both studies focused on the importance of digital technology in enhancing the role of human resources within organizations. Both adopted a descriptive-analytical approach and used a questionnaire as the main research tool.	. The previous study focused on digital transformation in human resources management within university, whereas the current study addresses the role of human resource training in digital technologies and programs aimed at developing public administrative services within the municipality.
A study by Abdelkader Boushour et al. (2024) entitled "The Impact of Digital Transformation on Human Resources Management in Organizations.	Both studies focused on digitization and human resources as key research concepts. Both used questionnaires to collect data .	The previous study focused on identifying the reality of digital transformation implementation and evaluating its impact on human resources practices. In contrast ,the current study investigates the importance and role of human resource development in using digital technologies and programs to improve the performance of public administrative services within the municipality.
Omar Mahdi's (2022) "The Role of Digital Transformation in	Both studies address the topic of digitization and its applications in human resources, as well as the	The previous study focused on the fundamentals and applications of digital transformation in improving

Improving Human Resource Management Practices"	importance of training human resources to improve employee performance.Both studies employed a descriptive-analytical approach and used a questionnaire as data collection tool.	human resource practices through training, whereas the current study emphasizes the role of human resource development in utilizing digital applications to enhance public administrative services within the municipality.
Faghoul Janat (2019):"Human Resources Management in the Age of Digitization"	Both studies focused on the importance of digital technology within organizations and its role in human resource management performance, and development. Both adopted a descriptive-analytical approach and a questionnaire as a data collection tool.	The previous study examined how to manage human resources in the context of digital applications and their impact on the overall performance of organization. In contrast, the current study focuses on the importance of human resource development in digital applications and its role in improving public administrative services.

Source: Prepared by the researcher, based on the findings of previous studies and the current research.

Second: The theoretical Aspect of the Study:

The theoretical aspect represents one of the most important elements components of the study , as it highlight the significance of its core concepts and their interrelationship-particularly in relation to human resource development, the use of digital technology, and the enhancement of public administrative services.

1. Requirements for Adopting Digitalization in Public Institutions:

The implementation of digitalization within public administration requires meeting several essential conditions to ensure that it is applied effectively and in a manner that serves organizational objectives and support the achieving of institutional goals. These requirements can be summarized as follows(Bouhouche, 2006):

The digital infrastructure must include a modern and advanced communications and information network, along with a robust wired and wireless communications system capable of ensuring smooth communication and information exchange between administrative institutions on the one hand, and between institutions and citizens, on the other. This infrastructure involves.

- **Availability of appropriate basic digital means:** The existence of any organization necessitates the availability of adequate and suitable digital means to benefit from the services provided by the administration. There means facilitate communication through personal computers, laptops, network phones, and other devices that connect to global networks, thereby enabling citizens with to access them efficiently.
- **Providing service providers with an Internet network:** This ensures that the largest possible number of citizens can interact promptly with the administration, with minimal effort and at the lowest possible cost.
- **Training and capacity building:** This includes training all employees to effectively use modern communication tools and information technology within the framework of digitization processes.
- **Providing material resources:** This entails acquiring digital equipment, training cadres and employees, maintaining a high level of service provision, and keeping pace with technological developments occurring globally.
- **Providing political management:** This includes establishing an official body or committee responsible for implementing the project, ensuring the provision of necessary and appropriate resources,, closely supervising the implementation process, evaluating performance levels, and developing a comprehensive marketing and communication plan to promote the use of digitization.
- **The existence of legislation and legal texts:** This facilitates the work of public institutions by granting them legitimacy and credibility, ensuring compliance with all legal requirements , and safeguarding both electronic security and electronic confidentiality.

2. Digitization Strategies in Public Administration:

Public institutions aim to reorganize public services by adopting various methods aligned with scientific and technological developments, this approach takes into account the changing circumstances, the rise of experiments, and the adoption of modern technologies, which enable individuals to access services easily . The transition from traditional to digital administration responds to public interests and necessitates the continuous development of public services. This process also requires the support employees through digitization, training, and adaptation to ongoing developments, innovations, and changes.

- **The strategy of providing electronic participation:** One of the most significant strategies adopted by local authorities is to provide effective electronic participation for citizens. This approach seeks to replace the traditional administration model with one that integrates information technology into public administration through digital applications. These applications allow citizens, the private sector, and civil society organizations to express their observations and comments on the quality and efficiency of services provided.

A system has also been established to monitor citizens' complaints regarding public services, accompanied by surveys conducted via online portals to collect citizens' opinions, support decision-making, and improve service delivery. Moreover, this strategy involves the use of digital platforms and email communication channels to facilitate direct interaction between citizens and public administration contact centers.

- **Digitization strategy for reducing administrative procedures:** this strategy focuses on minimizing bureaucratic procedures and bringing public administration closer to citizens. It represents one of the main pillars of Algerian's modernization efforts, implemented through practical measures that the state has undertaken in a tangible manner, such as decisions and official directives.. To improve services and reduce administrative procedures, public authorities have adopted a set of measures designed to facilitate citizens interactions and remove bureaucratic obstacles in order to bring the administration closer to the public..

Several mechanisms have therefore been adopted to develop the administration and adapt it to technological progress, these include digitizing civil status records, strengthening relationship between local communities and citizens, and reducing the crisis of trust between them by harmonizing procedures and improving of appeals and complaints. (Algeria, 2015)

- **Digital technology adoption strategy:** Government programs aim to adopt a national plan to enhance public service delivery and bring administration closer to citizens' needs in an efficient and effective manner, ensuring quality and transparency. This is achieved through an ambitious e-government program and the implementation of digital public service. By relying on modern technology, these programs aim to provide all services electronically, ensure high-quality services provision, and create an enabling environment for developing and offering new services.
- Local communities work to enhance the efficiency and effectiveness of public service distribution by improving the quality of their services and communication methods.. Beneficiaries and public bodies alike benefit from interactive relationships fostered through digitalization, which helps to upgrade and develop professional skills .Additionally, an advanced system is being created to simplify work procedures , raise the level of human competencies, and promote continuous training, qualification, and preparation.

3. The Importance of Training Human Resources to Use Digital Technology:

Training human resources to use digital technology plays a significant role in enhancing employee performance within public administration. This importance can be summarized as follows:

- Raising and improving performance levels, both quantitatively and qualitatively, by strengthening interpersonal relationships, developing positive attitudes, fostering cooperation, and encouraging participation in task completion, particularly between local and central public administrations.

- **Achieving technical and knowledge-benefits and returns** for human resources, improving labor relations, and enhancing employee job satisfaction, while promoting the strategic direction of human resources management and strengthening the organization's image through the adaptation of modern technologies that contribute to more efficient public service delivery.
 - **Digital management is also considered** an essential process for training the most effective and efficient human resources to perform operational, technical, and strategic tasks related to planning, implementation, and performance monitoring, especially through the use of modern technologies and digital tools .
 - **Digitization reduces costs, saves time** and effort, and contributes to improving the quality of service provided by human resources. It also increases decision-making efficiency through accurate analysis of human resources information, thereby reducing data entry and retrieval costs and facilitating employee and managerial self-services as well as access to information anytime and anywhere.
4. **The Role of Human Resources Training in Developing Public Administrative Services:**

Training plays an essential role in enhancing and increasing organizational efficiency. It has become one of the most important human resources activities, particularly in light of rapid changes and technological developments. Developing and strengthening the practical and behavioral competencies of employees and workers has thus become a priority for many organizations.

Developing human resources to effectively utilize digital technology within public administration is of paramount importance, as it plays a vital and influential role in improving public services delivery and achieving citizen satisfaction. This can be realized through the following:

- Training contributes to improving quality of public services, and therefore it should be a continuous process to ensure the attainment of desired objectives.
- Training helps employees develop capabilities to keep pace with technological developments and to enhance the overall quality of services provided.
- Training and education in modern software and digital transformation constitute a key element in the process of developing administrative services and ensuring their effectiveness and efficiency.

Third: The field of study

1. Introduction of the field of study:

The municipality represents the fundamental territorial unit of the state. It possesses legal personality and financial autonomy ,and its establishment is governed by law. Serving as a decentralized territorial entity , The municipality provides a framework for the exercises of citizenship and local governance. Moreover ,it exercises its powers within the domains of competence assigned to it by legal provisions.

- **Definition of the Blida Municipality:** The Municipality of blida was officially granted municipal status on April 13, 1848.at its inception , It comprused four administrative divisions: Joinville (Zabana), Dalmassi (Ouled Yaich), Monbussy (Ben Boulaid). Over time , it experienced several territorial reorganizations, particularly following the enactment of the Regional Organization Law of 1974. Subsequently , Blida became the administrative center of the province. A further regional reorganization in 1984 resulted in the creation of multiple which municipalities within the province .currently, The Municipality of Blida covers an area of approximately 7,208 km²and has a population of about 163,000 inhabitants, based on the 2008 census data.
2. **The most important digital programs and applications used in the municipality:**
- During the study period, number of digital applications and electronic portals utilized by municipal employees were examined. These employees had workers received specialized training to ensure the effective and efficient use of these digital tools.
- **The Comprehensive Information System for Human Resources Management:** This digital platform was developed by the Ministry of Interior and Local Authorities with the purpose of enabling local administrations to electronically manage the professional affairs of their personnel the system is operated by the staff of the Users office, who play a pivotal role in ensuring its proper management and organization. The platform is recognized as one of the pioneering initiatives undertaken by the Ministry to advance the digitization of public administration.
 - **The "Nashki" digital platform:** The "Nashki" platform functions as an interactive gateway facilitating communication between citizens and public administration. It allows citizens express their concerns, submit requests, and provide feedback to administration authorities. Furthermore, it enables the administration to respond promptly and effectively to public inquiries and interventions thereby reinforcing citizen engagement and promoting administrative transparency. This platform was developed and launched by the Ministry of Interior and Local Authorities in 2022.
 - **The "Tawasul" digital platform:** The "Tawasul" platform is dedicated support remote training and professional development for public employees through audio-visual materials and written lessons. The Ministry has implemented this platform as part of its broader strategy to enhance competencies of civil status personnel and to ensure continuous knowledge updating in alignment with the rapid transformation the taking place in digital governance public administration.
3. **Temporal and spatial scope of the study:**
- **Temporal scope:** the field study was carried out from December 15, 2024 to February 26, 2025.During this period , interviews were conducted with department heads to collect relevant information. In addition , questionnaires were distributed to and collected from employees.

- **Spatial scope:** the field study was conducted within the Blida municipality, focusing on departments that had received training in the use of digital technologies.

4. Study Sample

A purposive sample was adopted for this study , targeting respondents who had undergone training in the use of digital technologies. From the overall research population of 120 trained respondents, a sample of 80 participants was selected. The questionnaires were distributed during the study period, and the collected data were subsequently tabulated, and analyzed.

5. Presentation and Statistical Analysis of the study data:

Table No. (2)
Distribution of Sample Members According to Gender

Gender	Frequency	Percentage (%)
Male	18	22.50
Female	62	77.50
Total	80	100

Source: Prepared by the researcher, based on Excel outputs

The data presented in the table indicate that the of females constitute 77.50% of the total, while males represent 22.50%. This distribution suggests that a considerable proportion of administrative personnel who have received training in digital technology are woman. This outcome may be attributed to the nature of the municipal service activities, which are predominantly administrative and organizational in character.

Furthermore, the results show that the majority of employees trained in digital technology within the Blida Municipality are female. This finding reflects the significant representation of women in the service and administrative sectors, which are characterized by tasks requiring communication ,coordination ,and management rather than intensive physical a gender composition in which females form the majority particularly in administrative and technical functions related to digitalization.

Table (3)
Distribution of Sample Members According to Training duration

Traning Duration	Frequency	Percentage (%)
1 Month	10	12.50
3 Months	14	17.50
4 Months or more	11	13.75
Online Training	45	56.25
total	80	100

Source: Prepared by the researcher, based on Excel output

From the data presented in the table illustrating t the distribution of sample members according to training duration, it is observed that 56.25% of respondents, representing the majority, underwent distance (online) training. This was followed by 17.50% of respondents who participated in three-month training programs, while 13.75% received training lasting four months or more.

The most prevalent type of training within the municipality is distance learning, which is conducted through digital platforms, modern programs, and various applications. This reflects the extensive use of digital tools , software, and contemporary technological methods. In contrast ,in-person (direct) training typically ranges from one to four months, depending on the employee's level of technological proficiency.

In-person training is considered one of the most effective approaches, as it allows employees to directly apply instructions and actively engage in practical exercises thereby enhancing their understanding and professional competence. It also provides opportunities for interaction, discussion ,and experiential learning.

However, distance training holds significant importance due to its flexibility and accessibility ,as it eliminates travel constraints and enables employees to receive training at any time and from any location .it often includes recorded materials and instructional videos, allowing trainees to review content and compensate for missed sessions.

Therefore, distance training delivered through digital platforms is regarded as one of the key mechanisms for overcoming challenges that employees may encounter during the training process, while also supporting the municipality's digital transformation efforts..

Table (4)

the Contribution of Digital technology to enhancing human resources within the municipality according to the gender

GENDER	MALE		FEMALE		COMBINED	
	Frequency	%	Frequency	%	Frequency	%
YES	83,33	15	57	91,94	72	90
NO	16,67	3	5	8,06	8	10
Total	100	18	62	100	80	100

Source: Prepared by the researcher, based on Excel outputs

The data in the table demonstrate the importance of digital technology in enhancing the role of human resources within the municipality. This is evident in 90% of respondents who agreed, with a particularly high rate among women (91.94%). Conversely, 10% of respondents believe that digital technology has not prioritized human resources, a view supported by at 16.67% men.

From these findings, it can be concluded that digital technology has significantly contributed to enhancing the role of human resources within the municipality. This improvement is mainly due to the increased focus on developing skills and professional competence through training and education in the use of digital platforms and software.

Human resources are considered one of the essential elements in any organization. They are the primary driver for carrying out various functions through professional practice. In order for the organization to achieve its goals, attention must be paid to the human element through continuous training and development- especially in light of the organizational changes and technological advancements that affect all sectors and institutions..

Table (5)

Benefits of Using Digital Programs and Technologies within the Municipality, According to Gender

GENDER BENEFITS OF DIGITIZATION	Male		Female		Combined	
	Frequency	%	Frequency	%	Frequency	%
Simplification of tasks	5	8,06	20	9,30	25	9,03
Speed of execution	16	25,81	51	23,72	67	24,19

Avoidance of errors	15	24,19	45	20,93	60	21,66
Performance improvement	14	22,58	52	24,19	66	23,83
Service quality	12	19,35	47	21,86	59	21,30
total	62	100	215	100	277**	100

Source: Prepared by the researcher, based on Excel outputs

The data presented in the table illustrate the significant role and benefits of using digital programs and technologies within the municipality. Digital platforms, programs, and modern technologies play a crucial role in simplifying tasks and accelerating administrative processes. This has been achieved by enhancing employees' skills in using digital tools, which has contributed to minimizing errors, improving performance, and ultimately developing the quality of public administrative services.

Furthermore, The table demonstrates the diversity of respondents' opinions, with relatively close ratios between males and females regarding the various administrative operations in which digital technology plays a role. These results reflect the multiple contributions of digital technology in developing administrative processes- from managing and simplifying tasks to avoiding errors and improving performance- all of which enhance the efficiency of public administrative and the quality of its services.

In conclusion, modern technologies and digital transformation programs play a vital role in the development of public administrative services within the municipality of Blida. They contribute to simplifying work procedures, accelerating task completion, and enhancing employee performance, which collectively lead to improved public service delivery. Digital technology is also considered one of the most important modern administrative tools adopted by organizations to keep pace with ongoing technological and developmental changes, highlighting its essential role in achieving progress and development across administrative, educational, health, and other institutional sectors.

Table (6)

The Contribution of Digital Tools and Applications used at Work to Employees' Performance Effectiveness According to Gender

GENDER Performance	Male		Female		Combined	
	Frequency	%	Frequency	%	Frequency	%

effectiveness						
Yes	10	55.56	49	79.03	59	73.75
No	8	44.44	13	20.97	21	26.25
total	18	100	62	100	80	100

Source: Prepared by the researcher, based on Excel outputs

From the table's data, it can be observed that 73.75% of respondents affirmed t the digital tools and applications used in the workplace contributed to enhancing worker performance, view supported by 79.03% of women. Meanwhile, 26.25% of respondents indicated that digital tools and applications did not contribute to the effectiveness of worker performance within the municipality, a perception shared by 44.44% of men.

The from data suggest that digital tools and applications used in the Blida Municipality significantly enhanced worker performance. This finding highlights the effectiveness of digital technologies and software, which offer convenience, speed, and reduced time and effort compared to traditional processes that are often lengthy and lead to lower productivity.

Nevertheless, a group employees still believe that digital tools and applications do not contribute the improving performance, possibly due to resistance to change, within commonly arises within organizations. The adoption of digital technology is new considered one of the fundamentals factors for achieving organization goals, particularly in light of current technological advancements.

Electronic management has become a key element in improving work efficiency, primarily through training human resources to use modern technologies and implementing programs that simplify tasks and enhance organizational effectiveness .furthermore, Local communities represent a major Algerian government, which has encouraged the creation of digital platforms aimed at keeping pace with global technological developments a promoting economic and social progress.

However, many organizations continue to face resistance to change, especially when employees lack sufficient knowledge of digital tools, perceiving technological transformation as a threat to their job security. Consequently, such resistance often leads to reduced performance effectiveness, reflecting employees' concerns about the potential challenges associated with the use of digital technologies.

Tableau (7)

The relationship between the use of digital technology and the development of public administrative services

Use of technology	<i>Always</i>		<i>Sometimes</i>		<i>Rarely</i>		<i>Combined</i>	
Service development	f	%	f	%	f	%	f	%
Yes	62	91,18	5	62,50	2	50	69	86,25
No	6	8,82	3	37,50	2	50	11	13,75
Total	68	100	8	100	4	100	80	100
Chi- square value (χ^2)			Degrees of freedom (df)		Significance level (p-value)		Decision	
17.736			2		0.000		Statistically Significant at the 0.01 level	

Source: Prepared by the researcher, SPSS output

From the data present in the table, it is observed that 86.25% of respondents believe that the use of digital technology in the municipality is positively related to the development of public administrative services, this view is supported by those who regularly use digital technology (91.18%). Meanwhile, 13.75% of respondents believe that the use of digital technology is not related to the development of public services, a perception held primarily by those who rarely use digital tools (50%).

The use of digital technology by employees in the Blida Municipality has significantly enhanced the development of public administrative services. Technology serves as an effective and modern instrument that contributes to accelerating administrative transactions, thereby fostering the growth and efficiency of public service delivery. This shift illustrates the transformation from traditional administrative structure to a modern digital organization characterized by efficiency, speed, and transparency. Moreover, It reflects a change in professional values and behaviors, as employees increasingly rely technology to accomplish their daily tasks.

Furthermore the chi-square value ($\chi^2= 17.736$) indicates a statistically significant difference between the response categories concerning the level of use of digital technology and the degree of development of public administrative services. Since the calculated chi-square value is statistically significant at the 0.01 level ($p=0.000$),

the null hypothesis (H0)- which assumes no relationship between the two variables –is rejected .consequently, the alternative hypothesis (H1)is accepted, confirming that there is a significant correlation between the level of digital technology use and the development of public administrative services. This finding emphasizes that digitization is not merely a technical process but a social phenomenon that shapes work patterns and interpersonal interactions within public administration.

Hence, it can be concluded the use of digital technologies plays a crucial role in the advancing public services development. Digitization contributed to the modernization of organizational structures and professional values, paving way for a management approach that aligns with contemporary societal and technological transformations thereby sustainable development and social well-being.

Tableau (8)

Types of Training Courses and Their role in Improving Administrative Efficiency

Type of training	Distance Training		In- Person training		Combined	
	Frequenc y	%	Frequenc y	%	Frequenc y	%
YES	32	71,11	31	88,57	63	78,75
NO	13	28,89	4	11,43	17	21,25
Total	45	100	35	100	80	100

Source: Prepared by the researcher, based on Excel outputs

Based on the data presented in the 78.75% of respondents confirmed that training courses play an effective role in improving administrative efficiency. This result is supported by those who participated in face-to-face training (88.57%). Meanwhile, 21.25% of respondents believed that training courses did not contribute to improving administrative efficiency, a view mainly held by those who underwent distance learning (28.89%). These findings suggest that training, particularly in the use of digital technologies, plays a crucial enhancing administrative efficiency within the municipality.

This outcome reflects the significant importance of digital technologies and training programs in strengthening organizational development. Digital platforms such as the “Tawasul” digital platform ,along with various modern technological tools and globally recognized software, are increasingly used to achieve development, progress, and social welfare. The results also indicate that employees perceive in-person training as more effective than remote training, as it allows them

to receive instruction, demonstrate their skills and competencies and further and develop their professional capabilities. the relative ineffectiveness of training may be attributed to employees limited experience with online communication platforms, with negatively affects the quality of their learning experience..

Training is considered one of the basic principles and rules for the organization to maintain its survival. Training is a means to renew the professional skills and experiences of the human resource and thus discover the efficiency within the organization, which in turn enables the organization to achieve its goals, development and prosperity. Therefore, it became necessary to train its human resources to use this modern technology, in its various types, in-person training and distance training, and to research its importance and role in achieving administrative efficiency, especially within local groups (municipalities), and thus develop the public administrative service.

Table (9)

Control of the Digitization Process After Training by Gender Variable

Gender	femal		male		Combined	
	Frequenc y	%	Frequenc y	%	Frequenc y	%
Excellent	18	29,03	16	88,89	34	42,50
good	33	53,23	2	11,11	35	43,75
Far/Average	11	17,74	/	//	11	13,75
total	62	100	18	100	80	100

From the data presented in the table that 43.75% of respondents demonstrated good control over the use of digital technology after training, with women representing 53.23%, of this group .additionally, 42.50% of respondents exhibited excellent control of digital technology following training, most notably among men (88.89%),meanwhile , 13.75% of respondents showed only fair control of digital tools.

The findings indicate employees of Blida Municipality benefited significantly from training programs, as they acquired the necessary skills and competencies to effectively use digital technology, through this process ,they developed their ability to manage modern technological tools , which consequently enhanced the quality and efficiency of administrative operation.

The development of human resources represents one of the most fundamental processes within any organization, particularly in the context of organizational change and the emergence of new technological and managerial requirements. These dynamics compel institution to adapt continuously to evolving digital and organizational transformations.

Furthermore, the Algerian government has made substantial efforts to establish digital units and implement reforms across multiple sectors to promote social and economic developments as well as social welfare. public service, being a sector connected to citizens, plays a crucial role in meeting societal needs and acting as a link between the government has sought to strengthen this sector by integrating modern technologies-especially in the field of human resource development , which constitutes a vital component in enhancing organizational performance .by doing so, it aims to achieve institutional objective, meet citizens 'expectations, and advance the overall level of public administrative service, thereby contributing to prosperity and social welfare.

Table (10)

**The Impact of Training Human Resources to Using digital Technology and
Its relationship to the improvement of
Public Administrative Service Performance**

Training Performance development	Good		Fair		Far/Average		TOTAL	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Yes	35	97,22	23	92	16	84.21	74	92,50
No	1	2,78	2	8	3	15,79	6	7.50
Total	36	100	25	100	19	100	80	100
Chi- square value (χ^2)		Degrees of freedom (df)		Significance level (p-value)		Decision		
13.048		2		0.001		Statistically Significant at the 0.01 level		

Source: Prepared by the researcher, SPSS outputs

From the data presented in the table, it is evident that 92.50% of respondents affirmed that training human resources in the use of digital technology is associated with improving the performance of public administrative services, particularly among those who received good training. Meanwhile, 7.50% of respondents believed that training human resources is not related to enhancing public administrative services performance

The data indicate table that training human resources in the use of digital technology within Blida Municipality contributed significantly to the improvement of public administrative services. The better and more comprehensive the training, the more it meets job requirements and aligns with employee aspirations, thereby leading to higher levels of efficiency and improved public administrative service performance.

furthermost, the table shows that the chi-square value ($\chi^2=13.048$) reveals a statistically significant difference between the response categories concerning to the level of human resource training in the use of digital technology and the level of improvement in public administrative service performance.

Since the calculated chi-square value is statistically significant at the $\alpha=0.001$ significance level ($\alpha=0.01$), significance level ,we reject the null hypothesis (H_0) which denies the existence of a relationship, and accept the alternative hypothesis (H_1) which confirms states that there is a correlation between the level of human resource training in digital technology and the level of development of public administrative service performance.

6. Presentation and Discussion of results

- **Discussion of the results of the first Hypothesis:** After presenting and analyzing the data related the first hypothesis-"The use of digital technology by human resources is related to the development of public administrative services," –the findings provide robust empirical support for the proposed assumptions.

Digital technology has contributed to strengthening the role of human resources within the organization through the use of various digital tools, methods, and programs, as well as modern technology techniques. These contribute to improving the efficiency of task completion, particularly in local community administration, with the ultimate goal of developing public administrative services. This aligns with the findings of the study by Sayed El-Nas Soufiane Jelloul et al. (2024), which emphasized the importance of digitalization in enhancing recruitment, training processes, and employee performance.

Within the municipality of Blida, the significance and role of human resources in leveraging digital technology have been clearly demonstrated. The use of digital technology plays a pivotal role in simplifying tasks, reducing their complexity, accelerating their completion and implementation, and minimizing errors of various kinds. These

improvements collectively contribute to enhancing the performance of public administrative services.

Moreover, the transformation manual processes into automated and intelligent ones through digital technology has facilitated the completion of tasks more efficiently for institutions, saving both time and effort while reducing paperwork. This observation is consistent with the findings and difficulties of Omar Mahdi's study (2022), which confirmed that the use of digital technology positively impact human resource management practices.

- Therefore, there is a clear correlation between the use of digital technology and the development of public administrative services. This relationship reflects the contribution of digital tools and applications to the enhancing performance efficiency within the municipality by reducing the reliance need of paper-based procedures and minimizing administrative costs.
- Furthermore, digitalization promotes better communication among employees and improve information management and storage, thereby strengthening cooperation and coordination within public institutions.
- **Discussion of the results of the second hypothesis:** After presenting and analyzing the tables of the second hypothesis, "Training human resources to use digital programs and technologies plays a role in facilitating public administrative service,"- the proposed assumptions were confirmed through the following finding:
- Employees in the Municipality of Blida participated in various types of both in-person and remote training, which significantly contributed to enhancing administrative efficiency. Respondents also indicated that the training programs were consistent with their professional aspirations and work requirements, thereby further improving the performance of public administrative service.
- Training human resources in the use of digital technology within public administration is of paramount importance, as it plays a crucial and effective role in development and modernization of administrative service. Training and education in modern software and digital transformation represent essential components in the process of developing public administrative services.
- The findings demonstrate a clear correlation between the level of training of human resources training in the use of digital technology and the overall level of development of public administrative service performance. Training enables employees to acquire new skills and experiences regarding methods and tools for using digital programs and platforms –particularly those adopted by government institutions to streamline administrative transactions
- In the municipality of Blida, platform such as "Tawasul", which is dedicated allocated to employees training, and "Nashki" designed for citizens to submit complaints and requests ,exemplify the government's commitment to digital transformation in administrative processes.

- These initiatives highlight the critical role and significance of training human resources in adapting to technological and organizational developments appears so that they can deal with various developments and organizational within public institutions. This aligns with the findings of Faghoul Janat (2019), who emphasized that cooperation and interaction during digital training programs –particularly through online educational platforms-enhance the acquisition diverse skills and experiences among trainees.

- **General Results:**

Through the presentation of this study, several general results were obtained concerning the training of human resources to the use of digital technology and its role in enhancing public administrative services in the Blida Municipality.

Task efficiency increased notably after implementing of digital methods and techniques, as these contributed to strengthening the organizational structure. The adoption of digital approaches also brought about significant improvements in employee communication through the use of digital tools.

- The application of digital programs and technologies enhanced the accuracy and timeliness of task completion, thereby contributing to the development and modernization of public administrative services and improving overall performance effectiveness.
- Employee performance within the Blida Municipality showed clear improvement as a result of adopting digital methods and techniques, which elevated the quality and efficiency of public administrative services.
- the Training human resources in digital technology within local administration led to marked improvements in both employee performance and task efficiency. The majority of employees affirmed that the overall level of administrative service performance had increased due to the integration of digital technologies and programs, which played a crucial role in enhancing accuracy, and the quality of administrative transactions and services delivered.
- The study also emphasizes that digital transformation is not merely a technological process but a human-centered developmental strategy that depends on the readiness, motivation , and competence of public employees. Therefore, investing in human resource development through digital training programs represents a fundamental pathway toward achieving sustainable administrative modernization , improving service quality, and strengthening citizen satisfaction.

7. Conclusion:

Human resource development plays a crucial and effective role in enhancing organizational efficiency. It has become a fundamental pillar of human resource management, as training enables employees to acquire new skills and expertise, while also equipping them with modern methods for managing their work and expanding their professional knowledge-particularly in technical and technological domains.

Digital technology has emerged as one of the most significant tools in administrative processes, contributing to the elimination of administrative inefficiencies and malpractice (such as bribery, favoritism, embezzlement, and negligence), especially within the field of public administrative service.

The findings of this study confirm that the use of digital technology within the municipality plays a vital role in the development and improvement of public administrative services.

Moreover, training human resources in the use of digital technology efficiency and performance of public administrative institutions .

Based on these results, a set of recommendations has been proposed:

- Organize training and development programs focused on the use of digital technologies, and ensure their dissemination among employees.
- Provide modern tools, programs, and technological resources to improve and streamline various administrative transactions within the municipality.
- Establish educational and training platforms that ensure equal access for all employees, while offering adequate support and protection in the field of e-learning within the municipality.
- Develop well-designed future plans and strategies for digital transformation that facilitate the integration and utilization diverse modern technologies.
- address and overcome the challenges and obstacles facing digital management by creating the appropriate conditions that enable employees to deliver high- quality public services.

List of references:

Al-Haddad, A. B. (n.d.). *Marketing banking services*. Bayan Printing and Publishing.

Al-Hajj, M. A., Fadhila, M. Q., & Boushrour, A. (2024). The impact of digital transformation on human resources management in organizations: A case study of the National Social Insurance Fund for salaried workers in Chlef. *Journal of Economics and Finance (JEF)*, 10(1), 44–61. <https://asjp.cerist.dz/en/article/238512>

Bouhouche, A. (2006). *Modern management theories in the twenty-first century*. Dar Al-Gharb Al-Islami.

Fagoul, J. (2019). *Human resource management in the age of digitization: A case study of Algeria Telecom* (Doctoral dissertation). University of Algiers 3.

Lagunes Sotoc Ruiz, A. (2013). *National digital strategy*. National Digital Strategy Coordinator, Mexicanos.

Mackenzie, J. (2001). *The scientific article in the digital age* (H. Qasim, Trans.). Issue 1782.

Mahdi, O. (2022). The role of digital transformation in improving human resource management practices. *Journal of Organization and Work*, 11(1), 154–166. <https://asjp.cerist.dz/en/article/187504>

Manadil, A. J. (1999). *Foundations of modern marketing*. International Scientific House & Culture House for Publishing and Distribution.

Raymond, V. (1990). *Business development and promotion of men*. Modern Business.

Sherrington, D. J. (n.d.). *The management of human resources* (4th ed.). Englewood Cliffs.

Yassin, N. A. (2012). *Digitization and its technologies in Arab libraries* (1st ed.). Al-Arabi Publishing and Distribution.

Zayed, A. (2003). *Distinguished organizational performance: Theory to the future organization*. Arab Administrative Development Organization.

Suad, Q., Al-Nas, S., & Jelloul, S. (2024). Digital transformations in human resources management in Algerian universities: Challenges and technologies. *Journal of Human Sciences*, 24(1), 431–456. <https://asjp.cerist.dz/en/article/253490>

Algeria. (2015). *Executive Decree No. 15-204 exempting citizens from submitting civil status documents available in the national automated civil status registry.* Official Journal, No. 41

Appendices:

Tests du khi-carré

	Valeur	ddl	Signification asymptotique (bilatérale)
khi-carré de Pearson	17,736 ^a	2	,000
Rapport de vraisemblance	13,728	2	,001
Association linéaire par linéaire	15,251	1	,000
N d'observations valides	80		

a. 3 cellules (50,0%) ont un effectif théorique inférieur à 5. L'effectif théorique minimum est de ,89.

Tests du khi-carré

	Valeur	ddl	Signification asymptotique (bilatérale)
khi-carré de Pearson	13,048 ^a	2	,001
Rapport de vraisemblance	12,970	2	,000
Association linéaire par linéaire	2,971	1	,085
N d'observations valides	80		

a. 3 cellules (50,0%) ont un effectif théorique inférieur à 5. L'effectif théorique minimum est de 1,43.