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	Title of research article 	
	Digital Communication Through the Ministry of National Education Platform and Its Impact on Job Performance: Evidence from a Field Study of Directorate of Education Employees in Sétif Province, Algeria	
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Abstract This study explores how digital communication via the Ministry of National Education’s official platform influences job performance among employees of the Directorate of Education in Sétif Province, Algeria. Digital platforms are increasingly replacing traditional administrative methods, reshaping institutional communication and efficiency. Using a descriptive research design, the study employed questionnaires, observations, and semi-structured interviews with a sample of 60 employees selected from a total population of 300 across various departments. The findings revealed that the digital platform improved the speed, accuracy, and quality of administrative services, while reducing human error and enhancing overall employee efficiency. Nevertheless, challenges such as limited technical training, system updates, and infrastructure gaps remain barriers to optimal use. This study highlights the transformative role of digital communication in public administration, underlines the importance of continuous improvement of digital tools, and calls for targeted training programs to sustain digital adoption.		
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Introduction:

In the digital age, electronic communication has become an essential part of the modern workplace, with institutions across various sectors using these platforms to boost efficiency and improve job performance.

In this context, the education sector in Algeria is undergoing significant digital transformation, particularly with the adoption of digital platforms by the Ministry of National Education to facilitate administrative processes and communication among employees (Rzouq, Mouloud & Moulay, 2022, pp. 469–489). In this context, Algeria's education sector is undergoing significant digital transformation, particularly as the Ministry of National Education adopts digital platforms to streamline administrative processes and facilitate communication among employees (Rzouq, M. & Moulay, A. Z., 2022, pp. 469–489). Digital communication through these platforms is pivotal in enhancing job performance as it accelerates the flow of information, improves interaction between employees and facilitates the effective completion of tasks. However, institutions face challenges regarding employee adaptation to these digital tools and their effectiveness in improving administrative work quality (Amer & Atiq, 2025, pp. 448–461).

This study therefore focuses on understanding how digital communication through digital platforms can improve job performance among employees of the Directorate of Education in Sétif Province. This is achieved through a field study based on employees' opinions and experiences of using these digital tools. The study is divided into several main sections to achieve the specified objectives. Firstly, a theoretical framework is presented which addresses the concepts of digital communication and job performance, as well as the role of digital platforms in enhancing educational administration. Next, the research methodology is explained. This includes a field study based on observation, questionnaires and semi-structured interviews with a sample of employees from the Directorate of Education in Sétif Province. The collected data were analysed using appropriate statistical tools, and the results were presented and interpreted in light of the theoretical framework. The research concludes with a general summary and key findings.

1. Problem statement:

The digital age has seen a rapid evolution in communication technology, fundamentally transforming administrative work mechanisms within institutions. Digital platforms have become an essential tool for improving job performance and achieving administrative efficiency (Al-Abidi, 2020). Against this backdrop, Algeria adopted a digital transformation strategy, establishing the Ministry of Digitisation and Statistics in 2020 and launching several digital services aimed at enhancing administrative performance. These include the digital platform of the Ministry of National Education (Ben Zidane, 2021). Digital communication through these platforms is one of the most influential factors in improving job performance as it facilitates the exchange of information and provides an effective communication environment between employees and administrations. This enhances the speed and accuracy with which tasks are completed (Ahmed Al-Saeed, 2022). However, challenges to the application of this technology include insufficient technological training for employees, maintenance and update issues, and the need to improve digital infrastructure (Al-Aisawi, 2021).

In this context, the problem addressed by the study is highlighted by the following question:

To what extent does communicating through digital platforms improve job performance among the Directorate of Education's employees in Setif Province?

This main question gives rise to several sub-questions:

To what extent are employees familiar with the mechanisms for using the digital platform at the Directorate of Education in Sétif Province?

What are their habits and patterns when using the platform?

How does the platform affect the speed and efficiency of task completion?

- What challenges do employees face when using it?

The importance of the study lies in highlighting the role of digital technology in improving job performance and human resource management. It contributes to the development of effective strategies for enhancing administrative and educational performance, which has a positive impact on the quality of education. The study also aims to identify the relationship between using digital platforms and improving employee performance, and to explore the challenges employees face.

2. Methodology of the study:

This study adopted a descriptive-analytical approach, which allows the phenomenon under investigation to be described as it occurs in reality and the relationships between its variables to be analysed, without intervening in or influencing its context (Saad Salman Al-Mashhadani, 2019, p. 126). This approach is therefore well-suited to studying the impact of digital communication through digital platforms on job performance within the Directorate of Education in Sétif. The descriptive-analytical method was chosen because it is the most appropriate way to collect quantitative and qualitative data in order to understand usage and analyse its implications and meanings (Creswell, 2014, p. 4).

A variety of tools were employed to collect data in line with the chosen methodology. The questionnaire was used as the primary tool for collecting quantitative data due to its ability to reach a large number of individuals quickly while ensuring confidentiality and encouraging objective responses (Denscombe, 2014, pp. 147-148). The questionnaire was distributed to a random sample of 60 employees from the Directorate of Education in Sétif Province. It included 35 questions distributed across four main categories derived from the main research question and sub-questions. These categories covered employees' knowledge of the platform's usage mechanisms, their usage habits and patterns, the impact of usage on task completion, and the obstacles or challenges they face.

In addition to the questionnaire, observations were made to document the actual usage of the digital platform within the institution. This was possible because the researcher was present in the directorate and was involved in digitisation tasks, enabling her to accurately and objectively monitor daily behaviours and processes (Spradley, 1980, pp. 33-35).

The observations comprised two parts. First, the digital platform of the Ministry of National Education at the Directorate of Education in Sétif Province was observed, and access was gained to open some icons and perform operations. Second, employees across various departments were observed to monitor their interaction with the digital platforms and the extent to which they utilised them to execute tasks and administrative communication. The researcher also identified any technical or administrative obstacles that might affect the efficiency of platform use.

To complement the quantitative results with qualitative data and help uncover hidden factors that may not emerge through closed questions, semi-structured interviews were conducted with a sample of employees and officials, particularly regarding technical and organisational difficulties and employees' opinions on their interaction with the platform (Kvale & Brinkmann, 2009, pp. 123-124). The interviews focused on a purposive sample of employees and officials who interact directly with the digital platform, exploring their perceptions, evaluations and challenges in the digital work environment. This method enables the collection of flexible and in-depth data, allowing respondents to express their personal experiences and opinions with relative freedom, while maintaining a basic structure to the questions to ensure comparability between responses. It also enables the researcher to identify dimensions that were not apparent in the quantitative study, thus enhancing the reliability of the results and facilitating the formulation of more accurate and comprehensive conclusions (Creswell, 2014).

A random sample was used to select 20% of the total population, corresponding to 60 employees. The original population consisted of all 300 employees of the Directorate of Education in Sétif Province, distributed across various administrative departments. Due to the difficulty of covering the entire population within the time and resource constraints, simple random sampling was employed, as this method provides an equal opportunity for each individual in the community to be included in the sample. This reduces bias and increases the validity of the results (Creswell, 2014, p. 4). The sample size of 20%, or 60 employees, was distributed across seven departments within the Directorate to ensure comprehensive representation of the various categories. This percentage was chosen based on recommendations by researchers conducting field studies, such as Van Dalen (1979) and Ary et al. (2002), who state that a sample ranging from 10% to 30% of the population is sufficient if it is relatively homogeneous (Al-Tayti, 2009, p. 147), as is the case here. This percentage also strikes a balance between adequately representing various departments and conducting analysis within the specified time frame.

Tools that align with the nature of the descriptive-analytical methodology employed were used for data analysis. Quantitative data extracted from the questionnaire was analysed using Microsoft Excel by extracting frequencies and percentages, and was presented in tables to facilitate understanding of and comparison with the results (Abdel Wahab, 2020, p. 174). Excel is a common tool for descriptive statistical analysis, particularly in research where the use of advanced statistical software such as SPSS is not required (Berman, 2016, p. 88).

Thematic analysis was used for the qualitative data obtained from the interviews and observations. This approach aims to extract semantic units and categorise them within analytical axes that enable a deeper understanding of the phenomenon under study (Qandouz, 2021, p. 99). This approach is particularly well-suited to qualitative analysis in studies that rely on direct information gathering tools in the field and where the sample size is small and does not require advanced statistical

analysis tools. Therefore, SPSS was not used as the study does not require deep statistical complexity, relying instead on descriptive and analytical tools to achieve the research objectives with accuracy and clarity (Al-Khatib, 2019, p. 202).

3. Previous studies:

A growing body of research has examined the impact of digital transformation and communication platforms on job performance in educational and administrative institutions. The findings of these studies agree on the importance of adopting digital technology to develop work methods and enhance employee effectiveness. Mahmoud Mustafa Mohamed Mahmoud's (2022) study addressed the challenges of digital transformation in local administrative bodies, confirming that its success is linked to integration into institutional strategic plans, management method development, and utilising specialised digital expertise.

Additionally, Mahdi Omar's (2022) study indicated that digital transformation significantly improves human resource management practices within economic and service institutions, leading to positive changes in work methods through the adoption of modern media and communication technologies. In an educational context, Aisha bint Ahmed Al-Husseini's (2013) study at King Abdulaziz University examined the impact of electronic management systems on the performance of female employees in university deanships. It concluded that these systems improved the quality of administrative work and significantly facilitated employees' tasks, positively impacting their job performance.

Moreover, the study by Rafad and Labnaghzi (2023), entitled *Progress Platform and Its Role in Improving Job Performance in Algerian Universities*, showed that using the digital platform Progress at 8 May 1945 University in Qalmah helped to accelerate task completion and reduce administrative errors. This resulted in an improvement in the quality of services provided by the university. At the local administrative level, Lmehshesh and Kasih's (2024) study, titled 'The Contribution of Digital Communication in Improving Employee Performance in the Institution: A Case Study of Mila Municipality', confirmed that digital communication techniques enhance employee efficiency, reduce bureaucratic procedures and speed up decision-making processes. These findings are consistent with those of Bachiri and Namli (2023) in their study titled 'E-Government and Its Role in Improving Job Performance: A Field Study on Employees of the Directorate of Education in Ouargla', which demonstrated that e-government facilitates administrative processes and improves organisational efficiency, saving employees time and effort.

In the aviation sector, Ghazal and Marghani's (2023) study, titled 'Digital Transformation and Its Impact on Improving Job Performance: A Field Study on the Regional Directorate of Air Algérie in Ouargla', examined the role of digital transformation in enhancing the work environment, increasing employee effectiveness, and reducing operational costs. This study highlights the positive impact of digital technologies on improving institutional performance in general. In higher education, Bougaâ and Ammi's (2021) study, titled *Digitisation of Higher Education and Its Role in Improving Job Performance: A Field Study at the Faculty of Law and Political Science at Ibn Khaldoun University in Tiaret*, found that digitisation helped develop employees' skills and improve their competencies, facilitating work within university institutions.

Additionally, Kachida and Qashi's (2022) study, titled 'The Role of Digital Communication in Improving Job Performance in University Institutions: A Field Study at the Faculty of Information Science, Communication and Audiovisual at Saleh Boubenider University, Constantine', revealed that using digital communication technology facilitated information exchange and improved internal communication among employees, thereby positively impacting work efficiency within the institution. Another study, this time by Tawahi and Ghamtawi (2023), titled 'Digitisation and its Relationship to Improving Job Performance in the Directorate of Education in Tizi Ouzou', confirmed that using modern technological means, such as computers and smartphones, enhanced response speed and improved the work environment by saving employees time and effort.

Similarly, Ibrahim Khali and Ismail Jawadi's (2018) study, titled 'The Role of Electronic Communication in Improving Job Performance for Secondary Education Teachers', examined how using electronic devices and the educational environment can improve teachers' job performance. The results showed that these tools effectively contribute to developing teaching methods, although email did not have a significant impact in this regard.

However, a common observation across most of these studies is their general focus on digital transformation or e-government, rather than delving deeply into the nature of institutional digital communication through specific platforms in Algerian educational environments, particularly within education directorates. Some studies relied solely on a single questionnaire, failing to integrate qualitative methods that could have enhanced understanding of the phenomenon under investigation.

From this standpoint, the aim of this study is to address the lack of research in this area by examining the case of the Directorate of Education in Sétif and analysing the impact of communication via the Ministry of National Education's official digital platform on job performance. To achieve this, diverse research tools will be used, including questionnaires, observations and interviews, to ensure a comprehensive analysis. Therefore, rather than merely replicating previous work, the current study builds upon it to provide a new scientific contribution. It analyses the specificity of job performance in a defined Algerian digital educational environment in light of institutional digital communication. It also highlights similarities and differences with previous results, thereby enriching the body of knowledge related to digital transformation in educational institutions.

4. Theoretical elements of the study:

4.1 Digital Transformation in Algeria:

In the present day, technological advances have brought significant changes to people's lives by saving time and making tasks easier. Consequently, countries including Algeria have had to keep pace with this advancement in order to narrow the gap between themselves and the rest of the world. Algeria has begun to modernise its administrative and service systems by digitising them, with the aim of achieving a 'digital Algeria'. In 2020, it established the Ministry of Digitisation and Statistics and started developing numerous digital services, including 454 electronic services and 208 services via a government portal. It adopted the slogan 'Zero Paper' to facilitate transactions and services for citizens. This highlights the importance of streamlining administrative work and improving job performance (Imane Makidach, 2022).

As Yezid Agdal, an expert in technological communication, stated: 'Digital transformation in Algeria is no longer an option; it is a necessity dictated by current and future challenges.' He added that digital transformation is a strategic and vital path for the state, affecting all strategic sectors and future forecasting (Amar Lachmout, 2024).

Digital transformation requires the adoption of a comprehensive national strategy that considers securing institutional conditions and appropriate infrastructure, enhancing national digital sovereignty and intensifying cooperation among various stakeholders, including scientific and educational institutions. It also involves engaging citizens in the process (Ministry of National Education, 2025). This strategy requires a re-evaluation of work organisation and an acceleration of digitisation efforts.

In this context, Algeria has initiated vigorous efforts to modernise its public services at central and local levels, particularly in the education sector, which has undergone significant changes. The Ministry of National Education has set up a digital platform for managing human resources. Through this platform, a national identification number has been allocated to each employee and student. The aim is to organise professional and educational pathways electronically and to facilitate technical and administrative procedures among various educational departments (Ministry of National Education, 2015). This digital service was launched in 2015 via the electronic platform <http://amatti.education.gov.dz>, which is subject to periodic evaluation based on performance quality, user satisfaction, data accuracy and ease of use criteria, while working to overcome potential technical and organisational challenges (Auras Algeria, n.d.).

4.2 Digital platforms in the education sector:

Digital platforms are a set of advanced technologies used to facilitate effective digital interaction through specially designed digital content aimed at achieving specific communication objectives. This system is characterised by organisational and technological integration (Hasselbring, T. S., 2005, pp. 674-679). They consist of information systems, data warehouses and analysis and processing operations supported by data visualisation tools that transform information into actionable insights (Abdullah Khalaf Al-Aisawi, Najm, p. 87).

Digital platforms are among the latest technological applications that enable content to be transferred through multiple communication channels, ensuring information or content is delivered effectively and seamlessly. They also allow users to access content anytime and anywhere, without any temporal or spatial restrictions. Digital platforms are therefore official professional tools used by the Directorate of Education in Sétif Province to organise its internal operations and relationships with its internal and external audiences, thereby improving job performance.

4.3 Job Performance in the Era of Digital Platforms:

Performance is defined as the effort exerted by each individual within the organization, reflecting the level of achievement attained, whether in terms of the quantity and quality of work required or the extent of adherence to the specified time for

its execution (Wafa Harma, Saif Al-Din Tali, 2022, p. 44). Performance is also described as an activity or behavior that results in achieving a particular outcome, especially that behavior which contributes to creating change in the surrounding environment in any form (Mustafa Ashwi, 1992, p. 214). It is further defined as the individual's execution of the correct work in the correct manner while considering effectiveness, efficiency, general safety, respect, and resource and time management (Achour Ahmed Saqr, 1989, p. 40).

Moreover, performance is a measure of an employee's ability to execute assigned tasks efficiently and effectively in accordance with established workplace standards (Locke & Latham, 2002, pp. 705-717). Performance encompasses all aspects of work that contribute to achieving the institution's or organisation's goals, and reflects the employee's ability to achieve the desired outcomes as defined by management (Armstrong, 2006). Thus, performance is a process involving the comprehensive and continuous execution of tasks that expresses the institution's ability to adapt to its environment through efficiency and effectiveness.

Job performance encompasses the various activities carried out by Directorate of Education employees, as well as the effort exerted, understanding of roles, and possession of the necessary skills and competencies to achieve specified goals. In the context of the Directorate of Education in Sétif Province, job performance is reflected in the behaviours adopted by employees while performing their tasks, thereby contributing to accountability, renewal and innovation. This includes the technical and professional skills applied by employees during their work.

Digital transformation in educational institutions involves using digital tools and electronic platforms to improve administrative and educational processes. This can effectively enhance job performance, provided adequate digital training support is given to users. In our study, job performance is represented by the extent to which the desired results are achieved through use of the Ministry of Education's digital platform.

5. Presentation of study data:

The digital platform of the Ministry of National Education:

1. The digitisation site of the Ministry of National Education:

This involves using information and communication technology to manage various administrative entities within the education sector. It also involves assigning an identification number to each institution, employee and student in the education sector. This creates an electronic file for each individual containing all the information related to that institution, employee or student. The digital platform for the education sector was initially launched in 2015 during the tenure of the former Minister of Education, Nouria Benghabrit. The Ministry of National Education has created a specific link that can be accessed using a user ID and password.



Figure 1 shows the login interface of the Ministry of National Education's digital platform.

Category		Frequency	Percentage
Gender	Female	36	60%
	Male	24	40%
Age	Under 30 years	10	16.66%
	From 30 to 45 years	37	61.66%
	Over 46 years	13	21.66%
Educational Level	High School	16	26.66%
	University	40	66.66%
	Postgraduate Studies	4	6.66%
Position	Head of Department at the Directorate	6	10%
	Office Head at the Directorate	4	6.66%
	Employee at the Directorate	50	83.33%
Duration of Employment	Less than 5 years	42	70%
	From 5 to 10 years	8	13.33%
	More than 10 years	10	16.66%
Σ		60	100%

2. Sections of the digital platform of the Ministry of National Education:

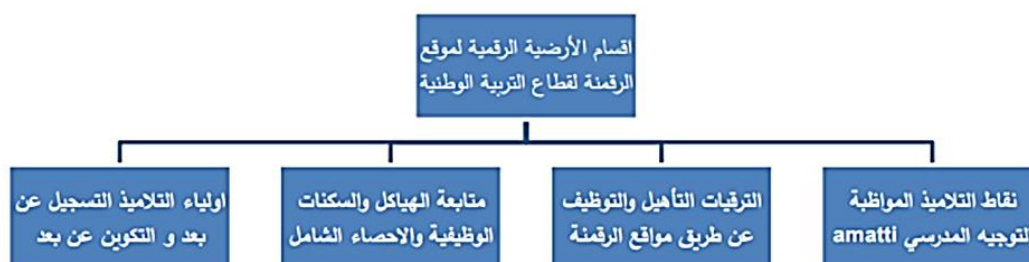
- A. Promotions: Qualification and recruitment via digital platforms.
- B. Monitoring structures, functional housing and comprehensive statistics.
- C. Parents of students: remote registration and training.
- D. Student grades, attendance and school guidance.

Figure 2: This represents the interface of the sections of the digital platform of the Ministry of National Education.



Source: Digitisation Platform of the Directorate of Education in Sétif.

Figure 3: Shows the sections of the Ministry of National Education's digital platform.



Source: The Digitisation Platform of the Directorate of Education in Sétif.

6. Presentation and analysis of data:

Table 01: Demographic data

Source: Prepared by the researchers based on field study data (2025).

Distribution of the study sample by gender:

The study results indicate a nearly balanced representation of males and females, with females accounting for 60% of the sample and males for 40%. This reflects the fact that most employees are female and that the most represented age group is 30 to 45 years old, accounting for 61.66%. This indicates a focus on practical experience. This group may be more receptive to digital transformation, highlighting the need to provide training to enhance the competency of this larger group of employees in using the platform. Conversely, the least represented group is those under 30 years old, accounting for 16.66% of the sample.

In terms of educational level, the largest percentage is made up of university graduates (66.66%), followed by those with secondary education (26.66%). The study also revealed diversity among employees within the directorate, with most employees being classified as such (83.33%). In terms of seniority, the highest percentage of employees have less than five years' experience (70%), which may be explained by the directorate's interest in involving younger groups. This is particularly notable given that over 50% of employees are under 40 years old. However, the absence of qualitative data on recruitment policies prevents definitive conclusions about systematic policies for integrating young talent. It is also possible that the directorate's focus on young talent is a result of administrative digital transformation, which particularly targets young people. Recent studies show that this group is more capable of interacting with digital systems than older generations (Al-Zaghari, 2022).

Table 2: The degree to which employees are knowledgeable about the mechanisms for using the Ministry of National Education's digital platform at the Directorate of Education in Sétif Province.

Category			frequency	percentage
IT training	Yes.	From one to three months.	00	00%
		Six months	13	21.66%
		More than six months	8	13.33%
	No		39	65%
Training on how to work on the Ministry of National Education's digital platform.	Yes.	At the beginning of the work period:	03	05%
		At regular intervals	04	6.66%
		As needed	1	1.66%
	No.		52	86.66%
The most frequently used icons on the Ministry's digital platform.	Student attendance:		17	35.41%
	User files:		25	52.08%
	Structures and facilities:		03	6.25%

	Parents' space		03	6.25%
	(Total number of icons designated for respondents)		48	100%
General activation of icons across all accounts on the Ministry's digital platform in the Directorate of Education for the State of Sétif.	Yes.		40	66.66%
	No.		20	33.33%
The extent to which all Directorate of Education employees in Sétif are granted access to the Ministry of National Education's digital platform.	Yes.		07	10%
	No	Confidentiality of information on the platform:	27	38.57%
		Restricted to specialists.	22	31.42%
		Instructions and guidelines from the Ministry of Education necessitate this.	14	20%
The extent of icon activation on the Ministry of Education's digital platform.	Continuously.		22	36.66%
	At certain times.		23	38.33%
	As and when necessary.		15	25%
The extent to which administrative tasks within the Directorate of Education for the State of Sétif are accomplished through the Ministry of National Education's digital platform.	Always.		22	36.66%
	Sometimes:		25	41.66%
	Rarely		06	10%
	Never		07	11.66%
The extent to which the digital platform provides all services related to employees and students.	Always		26	43.33%
	Sometimes		22	36.66%
	Rarely		00	00%
	Never		12	20%
The adequacy of operations on the digital platform to cover administrative work in the education sector.	Yes		33	55%
	No		27	45%
	Total		60	100%

Source: prepared by the researchers based on field study data (2025).

Weak training in computer skills and digital platforms among most employees, and variations in ease of use based on training and digital experience. The results indicate that 65% of individuals in the sample have not received any training in information technology. This may explain why the Directorate of Education does not require this training when hiring. This may lead to a decline in the efficiency of job performance, as untrained employees find it difficult to interact effectively with digital systems. Nevertheless, 21.66% underwent six months of training, while 13.33% received longer training. This indicates a disparity in digital qualification levels among employees. Furthermore, 86.66% have not received any formal training to work on the digital platform, highlighting their reliance on self-learning and daily practice.

Regarding platform usage, the 'User Files' icon was found to be the most used at 52.08%, followed by 'Student Attendance' at 35.41%. The 'Structures and Facilities' and 'Parents' Area' icons recorded the lowest usage percentages at 6.25%. The results also showed that 66.66% of respondents believe that the icons are generalised across all departments, while 33.33% disagree, indicating a disparity in the distribution of digital functions among different departments.

In terms of access to the platform, 38.57% of respondents confirmed that it is not available to all employees due to confidentiality issues, while 31.42% believe it is limited to specialists and 14% attributed this to ministry instructions. While this can be explained by the importance of data security, it may lead to delays in task completion, necessitating enhanced training and equitable distribution of permissions. Regarding icon activation, it was noted that this occurs continuously (36.66%), at specific intervals (38.33%), or as needed (25%), indicating the platform's flexibility in responding to administrative requirements.

In terms of daily usage, the results showed that 41.66% of respondents sometimes use the platform, 36.66% always use it, 10% rarely use it and 11.66% never use it, suggesting a gradual shift towards digitisation despite ongoing challenges. Finally, 43.33% believe that platform services are always available, 36.66% say they are sometimes available and 20% believe they are never available. This highlights the need to improve the technical stability of the platform.

Additionally, 55% of respondents find the platform sufficient to cover administrative processes, while 45% disagree, indicating the need for further development to ensure it meets all functional needs effectively. This aligns with Al-Atrous (2020), who indicated that information technology training is a key factor in improving job performance. Furthermore, Samir Nawal's (2020) study showed that digital training is essential for enhancing the use of digital platforms in administrative institutions as it helps employees to overcome technical challenges and enhances their ability to utilise platforms effectively.

Table (3): Habits and Patterns of Using the Digital Platform of the Ministry of National Education.

Category		frequency	percentage
How to access the Ministry of National Education's digital platform	Daily and continuously.	37	61.66%
	Only when needed to perform a task.	11	18.33%
	At specific times and periods.	12	20%
	Total	60	100%
Times for accessing the digital platform of the Ministry of National Education	Morning period	17	28.33%
	Evening period	05	08.33%

	All day	34	56.66%
	As needed	04	6.66%
	Total	60	100%
Access days for the digital platform of the Ministry of National Education	Every day:	57	95%
	Twice a week	00	00 %
	Set by the Ministry.	03	05%
	Total	60	100%
Access locations for the digital platform at the Directorate of Education for the State of Sétif. (Respondents are allowed to select more than one option.)	At the office of the Digital Cell Manager	23	31.08%
	At the offices of the heads of departments	22	29.73 %
	At employees' offices.	29	39.18%
	Total	74	100%
Is access to the Ministry of National Education's digital platform at the Directorate of Education for the State of Sétif available throughout the academic year?	Always	43	71.66%
	Sometimes	14	23.33 %
	Rarely	03	05%
	Total	60	100%
Does access to the platform rely on a search engine?	Yes	29	48.33%
	No	31	51.66 %
	Total	60	100%

Source: Prepared by researchers based on field study data (2025).

Connection of the platform to official working hours:

Statistics indicate that 61.66% of respondents access the digital platform daily, highlighting its effectiveness in completing administrative tasks efficiently. Additionally, 56.66% of respondents use the platform throughout the day, while access is limited to the morning for 28.33% and to the evening for 8.33%. These results explain why the platform is connected to official working hours, which may limit work continuity outside of regular hours. The table also shows that 95% of employees access the digital platform daily. This indicates that the vast majority of employees regularly rely on the platform to perform their tasks, suggesting its effective use. This regular access may be due to sufficient training being available, or to the necessity of carrying out certain daily administrative tasks via the platform.

In this context, Ben Aissa's (2022) study emphasises that 'reliance on digital platforms in administration reflects the level of digital maturity of institutions, which is significantly related to the frequency of use and its suitability to daily work contexts'.

In terms of access locations, 39.18% of respondents access the platform from employee offices, which suggests an organised workflow within the directorate. The results showed that 71.66% of respondents confirmed that the platform is available throughout the academic year, thereby enhancing administrative digital transformation and reducing bureaucracy. Finally, the research revealed that 48.33% of respondents prefer to use a specific search engine to access the platform. Google Chrome and Firefox were the most popular choices due to their ease of installation and speed of navigation, reflecting user efficiency and comfort when interacting with these browsers.

Referring back to the previous table, it can be concluded that there is a clear correlation between the extent to which employees use the digital platform and their daily access habits. This reflects a gradual integration into digital transformation despite limited formal training. Intensive use, as shown by the data in Table 3, indicates not only the platform's availability, but also that employees rely on experience in learning to use and interact with its tools. The intersection of the two tables highlights a potential gap between usage and digital empowerment, necessitating enhanced training to accompany digital employment and ensure the sustainability and effectiveness of this technological transformation within the directorate.

Table (4): Impacts of Using the Ministry of National Education's Digital Platforms on the Tasks and Operations of Employees in the Directorate of Education in Sétif Province.

Category			frequency	percentage
Has the Directorate of Education for the State of Sétif completely abandoned paper files?	final abandonment		00	00%
	Less so.		50	83.33%
	For support and archiving.		10	16.66%
	Total		60	100%
To what extent does the Ministry of National Education's digital platform contain spaces for employees and parents to discuss and comment?	Yes.		20	33.33%
	No		40	66.66%
	Total		60	100%
What contribution does the digital platform of the Ministry of National Education make in conveying the concerns of users of the education sector and parents?	Always		18	30%
	Sometimes		36	60%
	Rarely		00	00%
	Never		06	10%
	Total		60	100%
Does the digital platform allow for the correction of errors, regardless of their type?	Always	Permanently	22	36.66%
		Periodically	22	36.66%
	Sometimes	Only when necessary.	15	25%
	Rarely			

	Never		01	1.66%
	Total		60	100%
What added value does the digital platform bring to administrative work at the Directorate of Education for the State of Sétif?	Time and effort saving		16	30.76%
	Improving and enhancing performance and the services provided.		19	36.53%
	Ensuring transparency and reducing errors.		17	32.69%
	Others:		00	00%
	Total		52	100%
How has the transition from traditional to digital administrative work impacted the personal productivity of employees?	Providing better output		41	58.57%
	Desire for creativity and development		16	22.85%
	Feeling of loyalty to work		13	18.57%
	Others		10	14.28%
	Total		70	100%
Are IT specialists available to evaluate the work on the Ministry of National Education's digital platform?	Yes	In terms of performance:	23	38.33%
		In terms of speed of completion:	22	36.66%
		In terms of adherence to instructions	05	8.33%
	No		10	16.66%
	Total:		60	100%
What specific concerns have been raised by directors and parents?	Inquiries regarding new operations on the platform:		27	29.34%
	Various errors occurring during operations		32	34.78%
	- Difficulty accessing the platform or occasional downtime		23	25%
	Others		10	10.87%
	Total		92	100%
To what extent are these concerns addressed by the	Always		43	71.66%
	Sometimes		17	28.33%

directorate in a timely manner?	Rarely	00	00%
	Total	60	100%

Source: prepared by the researchers based on field study data (2025).

The platform contributed to improving administrative performance. The results indicate that digitisation in the Directorate of Education is happening gradually, as the use of paper files has decreased but not been eliminated entirely. However, the Ministry of Education's digital platform suffers from inadequacy and limited interaction: 66.66% of respondents confirmed the absence of spaces for discussion and comments. Nevertheless, 60% of respondents believe that it sometimes helps to convey users' concerns, reflecting relative satisfaction with its performance. The platform provides flexibility for correcting errors, with 73.32% of respondents reporting that corrections can always or sometimes be made, thus enhancing data accuracy.

It has also contributed to improving administrative performance: 36.53% of respondents affirmed that it has improved services; 32.69% stated that it has ensured transparency and reduced errors; and 30.76% noted that it has saved time and effort. Regarding the impact on employees, 58.57% said that digitisation has improved their personal output, helped them to develop their skills, and increased their efficiency. As for evaluations of work on the platform, 36.66% of respondents confirmed the presence of IT specialists, with evaluations focusing on completion speed and adherence to instructions.

The majority of concerns raised on the platform relate to operational errors (34.78%), enquiries about new processes (29.34%), and difficulties accessing the platform (25%). Of those who responded, 71.66% confirmed that these concerns are sometimes addressed, while 28.33% stated that they are always addressed. This indicates an effort to adapt to change and improve responsiveness, despite the challenges posed by the large number of users. This was also evident in interviews with employees, who confirmed that the digital platform has streamlined certain administrative processes. For example, one employee said that using the platform enabled him to complete his daily reports more quickly, freeing up time to focus on important tasks.

This table shows that the digital transformation of the Directorate of Education in Sétif Province is still in its early stages. There are signs of progress, such as reduced reliance on paper files and improved administrative performance. However, certain obstacles remain, particularly with regard to interaction and communication within the platform. The limited space for comments and discussions, alongside recurring concerns about errors and access issues, highlights the need for improved technical support and ongoing user training. The availability of opportunities for error correction, alongside the presence of IT specialists, allows for performance development and quality monitoring.

Overall, these results suggest that, despite the challenges, the use of the digital platform has improved some important administrative performance indicators. This lays a promising foundation for the creation of a more effective and responsive digital environment in the future, especially if supported by interactive policies and a comprehensive digital strategy.

Table (5): Barriers to Working on the Digital Platform of the Ministry of National Education.

Category			frequency	percentage
What problems are there with accessing and working on the Ministry of National Education's digital platform?	Yes.	Technical problem	29	%48.33
		Informational problem	16	%26.66
		Security and confidentiality of accounts.	01	%1.66
	No		14	%23.33

	Total		60	%100
How long does it take to resolve access issues to the Ministry's digital platform?	Long period		05	%08.33
	Acceptable period:		27	%45
	Short period		28	%46.66
	Total		60	%100
Do employees encounter operations on the platform that exceed their authority?	Yes.	Addressing it by communicating with the digital cell at the directorate.	46	%76.66
		- Corresponding with the IT cell at the ministry.	10	%16.66
		Returning to traditional administrative work to address it.	00	%00
	No		04	%6.66
	Total		60	%100
How adequate are the security systems on the Ministry of National Education's digital platform at protecting all files?	Always		30	%50
	Sometimes		30	%50
	Rarely		00	%00
	Never		00	%00
	Total		60	%100
How is the digital platform of the Ministry of National Education updated and maintained?	Permanently		22	%36.66
	Periodically		34	%56.66
	In case of malfunctions:		04	%6.66
	Total		60	%100
What suggestions do employees have for developing the digital platform?	Improving internet connectivity		20	%33.33
	Providing resources and capabilities.		12	%20
	Training employees		20	%33.33

	Hiring specialists.	04	%6.66
	Generalising work on platforms and activating all icons.	04	%6.66
	Total	60	%100

Source: Prepared by researchers based on field study data (2025).

Difficulties in regular access to the digital platform due to task pressure and weak infrastructure: The study results indicate that 48.33% of respondents have difficulty accessing the Ministry of National Education's digital platform. These problems are mainly attributed to technical reasons (63.33%) and informational reasons (26.66%). These difficulties may be influenced by age, as older employees are likely to be less technologically proficient than younger employees. This situation highlights a generational skills gap, which contributes to increased access difficulties for older age groups. Therefore, ongoing training that considers age differences is needed to provide appropriate and effective technical support for all groups.

Regarding experience, it was found that more experienced employees have a greater ability to handle and quickly solve technical problems. 46.66% of respondents reported that issues were resolved quickly. In contrast, new employees or those with limited experience struggle to deal with technical malfunctions. The results also indicated that delays in problem resolution are caused by a lack of specialists and weak training, according to 16.66% of respondents, which reinforces the need for ongoing technical support and training for less experienced employees.

In terms of cybersecurity, 50% of respondents indicated that the digital platform's protective systems are always sufficient, while the remaining 50% believe they are only sometimes sufficient, particularly in light of hacking risks, as evidenced by the April 2022 incident. Furthermore, 56.66% of respondents indicated that the platform is maintained and updated periodically, while 36.66% believe it is done continuously. This suggests that the directorate is interested in maintaining the platform but needs to improve its response speed to malfunctions.

In terms of suggestions for developing the digital platform, 33.33% of employees recommended improving the internet network and providing IT training for non-specialised employees, while 20% requested suitable work facilities, and 6.66% emphasised the importance of hiring IT specialists and expanding the platform's functionality. These suggestions reflect the need to enhance digital infrastructure and boost human capacity to ensure the success of the digitisation of educational administration.

Conversely, there is a link between the assessment of the platform's efficiency and experience, as experienced employees are more likely to be aware of cybersecurity risks and recognise the importance of regular system updates. In contrast, new or less experienced employees may be less aware of such risks, reflecting different perceptions of the adequacy of protection systems. The study results indicate that 33.33% of respondents suggested improving the internet network and providing training for employees, which would enhance both human and technical efficiency.

Linking these suggestions with the age and experience variables reveals that younger employees or those with more IT experience are more likely to demand specialised training, whereas older employees focus on improving digital infrastructure to meet their operational needs.

Despite the clear need to develop digital infrastructure and enhance training, the results show a close correlation between the age and experience of employees and their ability to use the digital platform effectively. The disparity in technical skills between different generations and between employees with limited experience is attributed to the challenges they face when using the platform. Therefore, targeted training strategies that consider age differences and experience levels are recommended to ensure all employees can benefit from the digital platform at the highest level of efficiency.

Analysis of the field study results shows that digital platforms have become an undeniable functional reality within the Directorate of Education in Sétif, although they are still being adopted and adapted at varying levels by employees. The data indicates that a significant proportion of employees recognise the importance of digital transformation in improving administrative workflows. However, a lack of IT training and the underuse of digital platforms poses a structural barrier to

maximising the benefits of these tools. This aligns with Al-Dulaimi's (2021) observation that weak digital competence among human resources hinders digitisation efforts in public institutions.

The results also revealed difficulties in accessing digital platforms regularly, whether due to technical reasons related to infrastructure (e.g. weak internet connection or lack of equipment) or organisational factors related to working hours and workload. These findings suggest that, despite having initiated digital transformation, the Directorate of Education in Sétif is still facing operational and cultural obstacles that require addressing. This phenomenon is one manifestation of what is referred to in the literature as 'digital change resistance', a phenomenon documented by several studies in bureaucratic contexts (Kettunen, 2020, p. 83).

Through interviews and observations, it was also found that the variation in platform usage among different age and professional groups can be attributed to the absence of an effective internal communication strategy to support employees on their digital transformation journey with motivation and continuous training. This is consistent with the findings of Saidi (2020) in her study of Algerian institutions, in which she emphasised the importance of integrating communication into digitisation strategies to achieve effective functional integration.

Based on this data, it can be preliminarily concluded that digital transformation within the Directorate of Education in Sétif is beginning to emerge as an administrative practice, though it still faces challenges primarily relating to training, weak infrastructure and the need for a more integrated organisational vision. These results provide an important basis for formulating strategies to support and develop digital job performance in line with the objectives of modern public administration.

7. Study results:

7.1 Study results in light of research questions:

1. Employees' knowledge of how to use the digital platform: The study revealed that some employees lacked training in information technology, which negatively impacted their ability to use the Ministry of National Education's digital platform effectively. However, the study confirmed that the platform is highly confidential and restricted to education sector employees only, enhancing information security. Using the platform has noticeably reduced administrative burdens, improving employee efficiency and speed of task completion. Nevertheless, there is an urgent need for continuous IT training to ensure the platform is used effectively, in line with previous studies that emphasised the importance of ongoing training to enhance employees' digital skills.

2. Habits and patterns of platform use: The results showed that the digital platform is used daily during official working hours, helping to ensure continuity of administrative work without disruption. It was also found that tasks are distributed through the platform in accordance with the organisational hierarchy, reflecting order and discipline in workflow. Daily use of the platform has improved productivity by providing an organised work environment that facilitates task tracking and enhances the effectiveness of administrative work. This trend is consistent with previous studies on the impact of digital platforms on work organisation and employee effectiveness.

3. The Impact of Platform Use on Task Completion: The study showed that using the digital platform reduced the time and effort required for task completion compared to traditional methods, leading to increased productivity and improved work quality. It has also alleviated administrative burdens and reduced errors, thereby enhancing the accuracy of administrative tasks. These results are consistent with those of numerous previous studies which confirm that using digital platforms improves administrative performance by increasing efficiency and reducing errors.

4. Barriers to working on the platform: The study found that the digital platform faces technical challenges such as weak internet connectivity, a lack of regular maintenance and the unavailability of necessary equipment. There was also a lack of employee training in information technology, which affected their ability to use the platform effectively. These barriers are consistent with previous studies addressing technical challenges in digital transformation, emphasising the importance of improving technological infrastructure and providing ongoing employee training.

7.2 Study results in light of the theoretical framework and previous studies:

This study investigated the impact of using the Ministry of National Education's digital platform on the job performance of Directorate of Education employees in Sétif. This aligns with previous studies that have addressed the role of digital platforms in enhancing administrative performance. The results of our study showed that using the digital platform

significantly improved the quality of administrative services, reduced errors and enhanced employee efficiency. These results are consistent with those of the study ‘The Role of Digital Platforms in Improving Job Performance in the Administrative Sector’, which indicated that digitisation leads to improved efficiency and reduced errors in administrative work.

Furthermore, our results suggest that the digital platform has helped to organise internal work and improve administrative communication, which is consistent with previous studies in the fields of education and administration. For example, the study ‘The Role of Digital Transformation in Government Institutions’ showed that digital platforms improve communication among employees and enhance management effectiveness in government institutions.

Additionally, our study confirmed the existence of technical challenges when using the digital platform. This is consistent with findings from previous studies, such as “The Contribution of Information Technology to Improving Administrative Performance”, which identified technical challenges as a significant obstacle to the effective use of digital platforms. These challenges, relating to technological infrastructure and ease of use, emphasise the need to provide technical support and ongoing training to employees to ensure the success of digital transformation.

Conversely, our study highlights the strategic role of digital transformation in enhancing job performance within Algerian institutions. We demonstrated that the Ministry of National Education’s digital platform has accelerated administrative procedures and reduced transaction times, thus enhancing employee efficiency. This aligns with the strategic vision set out in the theoretical framework on ‘Digital Transformation as a Strategic Path for Improving Administrative Performance’, indicating that digital transformation is a strategic necessity for improving performance across various sectors, not just an option.

Our study also emphasised the importance of developing the digital platform to ensure its continued effectiveness. This aligns with previous studies’ proposals to update and enhance digital systems to meet the needs of institutions and employees. The study ‘Challenges of Digital Transformation in the Education Sector’ emphasised that digital transformation in education must be carried out through comprehensive strategic plans that include updating digital platforms and training personnel to use them.

In terms of the relationship between our study results and the theoretical framework, it is evident that job performance within the Directorate of Education in Sétif has noticeably improved thanks to the digital platform. This reinforces the theoretical proposition that digital platforms contribute to performance enhancement by offering a more efficient and organised work environment. Furthermore, enhancing administrative communication via digital platforms is consistent with theoretical frameworks addressing the impact of digital transformation on communication and information exchange within institutions.

Based on the information presented, we can conclude that our study’s findings are consistent with previous studies and the theoretical framework adopted in this research. Digital platforms have been shown to improve job performance within institutions, while also highlighting the need to overcome technical and infrastructural challenges. The study also emphasised the importance of digital transformation as a strategy for improving administrative performance, reinforcing the significance of digitisation in the Algerian administrative sector and reflecting modern trends in this area.

A comparison of these studies reveals a consensus on the importance of digitisation in improving job performance and the necessity of developing digital platforms to ensure their long-term sustainability and effectiveness. Furthermore, these studies emphasise the importance of employees keeping pace with technology and the need to provide ongoing technical support to ensure these platforms are used optimally.

7.3 General results of the study:

The Directorate of Education in Sétif has highly competent staff, with women playing a significant role in administrative positions. Employees hold university degrees and possess IT skills, which enhances the effective use of the digital platform. However, the directorate’s experience of digitisation is still in its early stages and requires enhanced training and technical equipment to expand its use and maximise its benefits. Despite the significant advantages offered by the platform in terms of improving administrative efficiency — such as saving time and effort, and increasing transparency — there are technical challenges requiring urgent solutions, such as weak internet connectivity, a lack of maintenance, and inadequate equipment.

Therefore, digitisation in the education sector is a positive step towards improving public administration, but the actual implementation of the platform needs to be completed, the technological infrastructure improved, and ongoing training provided for employees, to ensure the achievement of the desired goals and enhance performance effectiveness.

Main conclusions and final analysis:

Despite the challenges employees face when using the digital platform, such as technical difficulties and cultural resistance to technology, it has proven effective in improving job performance, particularly in terms of task organisation and enhancing communication among employees

The results indicate that training significantly enhances employees' ability to use the platform effectively. Therefore, training programmes should be strengthened and made more comprehensive, especially with regard to technical aspects.

- While the majority of employees expressed satisfaction with technical support, there is a need to further improve this aspect to better meet their needs.

The greatest challenge in adopting digital platforms is still the resistance to change. Therefore, it is essential to address this issue through awareness-raising and educational strategies.

Despite some obstacles, the results indicate that the platform clearly improves employees' job performance. These results confirm the importance of digital transformation in public institutions for enhancing productivity and work quality.

Conclusion:

This study aims to understand the role of the Ministry of Education's digital platform in improving the job performance of Directorate of Education employees in Sétif, as well as identifying the obstacles that may limit its use. The results suggest that digitisation in the Directorate is still in its infancy, despite the clear benefits of enhancing efficiency and saving time and effort. While the platform faces technical challenges, it is an important step towards achieving genuine administrative development in the educational sector.

Maximising the benefits of this modern technology requires expanding its use and providing appropriate training for employees. We hope that this study will lay the groundwork for further research that contributes to the enhancement of digitisation in educational institutions, in line with the digital transformations taking place worldwide.

Findings

1. Improved Efficiency and Accuracy – The majority of respondents agreed that the digital platform accelerated task completion and reduced administrative errors.
2. Enhanced Communication – Employees reported smoother and more transparent communication with colleagues and administrators, leading to better coordination.
3. User Adaptation Levels – While younger employees adapted quickly to the platform, older staff members required additional support and training.
4. Persistent Challenges – Technical interruptions, insufficient IT infrastructure, and the need for frequent platform updates were the most cited barriers.
5. Positive Outlook – Despite challenges, employees expressed strong support for continued digitalization, recognizing its role in raising institutional performance standards.

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Ethical Considerations

This study was conducted in line with ethical research standards. Participation was voluntary, anonymity was preserved, and informed consent was obtained from all respondents. No sensitive personal data were collected.

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Conflict of Interest

The authors declare no conflict of interest in relation to the publication of this study.

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