
Assessing the Level of E-Management Functions Implementation in Algerian Organizations: An Analytical Field Study during 2025

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Abstract:

This study assesses the implementation of e-administration functions at the Tax Office of Saïda – Algeria, within the context of public sector digital transformation. A descriptive-analytical approach was used, based on a field study conducted in 2025, including questionnaires for employees and semi-structured interviews with officials.

Results showed varying levels of implementation: electronic organization scored high, while planning, leadership, and control were at a medium-high level. These findings indicate growing awareness of the benefits of digital transformation, alongside gaps in digital skills and tool effectiveness.

The study concludes that e-administration positively supports administrative functions and highlights the need for enhanced training and updated digital systems to improve efficiency and institutional effectiveness.

Keywords: E-administration; Electronic planning; Electronic Organization; Electronic Leadership; Electronic Control.

Jel Classification Codes: D80, L86, M10.

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1. Introduction :

In recent decades, public administration worldwide has experienced a profound transformation through the adoption of information and communication technologies, commonly referred to as e-administration or e-management. This approach aims to modernize public institutions, streamline administrative procedures, accelerate service delivery, and enhance transparency and accountability, ultimately improving the quality of public services (Renaf, 2021).

This trend is not limited to developed countries; developing nations, including Algeria, have also initiated digital transformation projects in public administration to reduce bureaucracy and facilitate citizens' interactions with public services. However, empirical evidence indicates that the implementation of e-administration in Algeria remains in a developmental phase. Factors such as digital infrastructure, technical capabilities, staff training, and organizational awareness influence the extent of adoption (Mezouri, 2024); (Samia, 2025).

For instance, recent studies emphasize that adopting e-administration can significantly enhance institutional performance and service efficiency, despite persistent challenges related to technical readiness and infrastructural limitations (Abderrahim, 2024). These findings suggest that, while e-administration offers substantial benefits, its effective implementation requires strategic planning, investment in technology, and continuous capacity building.

Problem Statement:

In light of the rapid digital transformation taking place in public administrations, and the contemporary demands for improving administrative performance and the quality of services provided, e-administration emerges as one of the most important modern approaches for enhancing traditional administrative functions. Despite the efforts made by the Algerian government to digitize the tax administration, the level of implementation of e-administration functions within public institutions remains uncertain, particularly regarding their integration into daily administrative practices.

Accordingly, the central problem of this study, which examined the situation during the year 2025, can be formulated as follows:

What is the current state of the implementation of e-administration functions at the Tax Center of Saïda Province, Algeria, during 2025?

From this main question, the following sub-questions are derived:

- What is the level of implementation of electronic planning at the Tax Center of Saïda Province?
- What is the level of implementation of electronic organization at the Tax Center of Saïda Province?
- What is the level of implementation of electronic leadership at the Tax Center of Saïda Province?
- What is the level of implementation of electronic control at the Tax Center of Saïda Province?

Research Hypotheses:

To address the main research question, the following primary hypothesis is proposed:

- E-administration functions are applied to manage administrative operations at the Tax Center of Saïda Province.

This main hypothesis is further divided into the following sub-hypotheses:

- E-administration enhances planning processes at the Tax Center of Saïda Province.
- The use of e-administration facilitates and improves administrative organization at the Tax Center of Saïda Province.
- E-administration contributes to strengthening communication between leaders and employees at the Tax Center of Saïda Province.
- E-administration assists in accurately monitoring work processes and detecting errors promptly at the Tax Center of Saïda Province.

Study Objectives:

The objectives of this study are as follows:

- To clarify the concept of e-administration as a modern approach to institutional and organizational management.
- To identify the functions and roles of e-administration within the modern workplace.

2. Theoretical Framework and Previous Studies:

2.1. Definition of E-Administration:

The concept of e-administration emerged in the 1970s, coinciding with the rapid expansion of Internet usage, which enabled the management of certain activities and the execution of administrative practices online (Turban, 2018). Early successful experiences in e-administration were primarily observed in the United States and later in European countries (Heeks R. , 2006).

E-administration is defined as the replacement of paper-based transactions with an electronic office that relies on information technology, transforming public services into systematically processed administrative procedures executed according to predefined steps. From this definition, it is evident that e-administration eliminates paper usage, replacing it with digital workflows (Laudon, 2020).

It is also described as a continuous and dynamic process aimed at improving task performance through communication networks, primarily the Internet. The dynamic and evolving nature of e-administration stems from the continuously advancing field of information technology (Heeks R. , 2006).

Moreover, e-administration can be understood as the mechanization of all administrative tasks and activities, based on essential information needed to achieve the objectives of modern administration, such as reducing paper

usage, simplifying procedures, eliminating bureaucracy, and ensuring fast and accurate task completion. This approach prepares administrative units for eventual integration with e-government initiatives (Turban, 2018).

The expansion of the e-administration concept opens promising prospects, particularly in moving beyond the traditional perception that it merely involves routine operations or electronic data exchange. Instead, e-administration represents an integrative approach to optimizing time, effort, and resources, enhancing service quality, and achieving satisfaction among all stakeholders (Laudon, 2020); (Heeks R., 2006).

2.2. Core Functions of Electronic Management (E-Management):

Electronic management encompasses four fundamental administrative functions: e-planning, e-organization, e-leadership, and e-control. These functions collectively enable organizations to achieve their objectives more efficiently, accurately, and flexibly in the digital era.

2.2.1. E-planning is a core function of electronic management, forming the foundation for other administrative functions such as e-organization, e-leadership, and e-control. It involves setting objectives and determining actions to achieve them within defined timeframes and conditions. Unlike traditional planning, e-planning relies on ICT tools, including decision support systems, expert systems, and artificial neural networks, to enhance real-time decision-making, strategic alignment, and operational efficiency. By simplifying complex traditional procedures through electronic communication networks, organizations can achieve faster, more accurate, and flexible planning outcomes.

Research shows that e-management significantly improves planning efficiency in both public and private sectors (Rahmani, 2016); (Dahmani, 2023). It integrates strategic planning with operational execution and facilitates coordination and information sharing, which enhances overall organizational performance (Ismail, 2016). Furthermore, e-leadership, mediated by digital technologies, supports the effectiveness of e-planning by improving communication, decision-making, and management responsiveness (Van Wart, 2019).

2.2.2. E-organization is a key function of electronic management that arranges tasks, resources, and responsibilities to achieve organizational goals efficiently. Unlike traditional organization, electronic organization distributes authority more flexibly, fosters horizontal networked relationships, and enables real-time coordination among internal staff and external stakeholders, including digital customers and suppliers. It relies on tools such as email, shared databases, and network-based employee management systems to facilitate virtual organizational processes and replace many face-to-face interactions.

Research confirms that e-organization improves coordination, accelerates workflows, and enhances responsiveness, contributing to higher operational efficiency and better integration of internal and external processes (Rahmani, 2016); (Dahmani, 2023); (Ismail, 2016); (Van Wart, 2019).

2.2.3. E-leadership is essential for the successful implementation of any organizational plan, as it guides, coordinates, and motivates individuals and teams to achieve institutional goals. Leadership, defined as the process of influencing people toward achieving organizational objectives, requires strong leadership and an effective administrative system to ensure efficiency, address challenges, create future visions, and supervise daily operations.

Electronic leadership (e-leadership) extends traditional leadership by integrating technology to facilitate social influence, collaboration, and performance improvement at individual, team, and organizational levels. It leverages digital tools to overcome conventional barriers, introduce innovative approaches, and motivate employees, enhancing decision-making, communication, and organizational adaptability (Rahmani, 2016); (Dahmani, 2023); (Van Wart, 2019).

2.2.4. E-control is an essential function in electronic management, representing a systematic process of monitoring, evaluating, and correcting organizational activities to ensure that objectives are achieved. Traditionally, control involves reviewing progress toward goals, identifying deviations or obstacles, and taking corrective actions.

With the shift from traditional methods to digital processes, electronic control (e-control) leverages modern technologies to monitor activities, transactions, and data flows within an organization efficiently. E-control enhances the ability to detect deviations in real time, allows management to identify weaknesses during execution, and facilitates immediate corrective measures. By utilizing internal networks, shared databases, and real-time reporting systems, e-control reduces effort, time, and costs while minimizing risks, ensuring that organizational objectives are achieved more accurately and efficiently (Rahmani, 2016); (Dahmani, 2023); (Van Wart, 2019).

2.3. Literature Review:

Given the importance of the tax sector in Algeria, which requires accuracy, speed, and transparency in dealing with taxpayers, examining the implementation of e-management functions at the Tax Center of Saïda Province is both timely and relevant. This study focuses on evaluating four core e-management dimensions: e-planning, e-organizing, digital communication and guidance, and e-control. The aim is to determine the current state of implementation, identify strengths and weaknesses, uncover challenges, and propose actionable recommendations to enhance operational effectiveness.

Previous studies have demonstrated considerable interest in electronic management (e-management) due to its strong connection to technological advancement and its direct influence on organizational performance and service delivery. Salim (2002), in his doctoral dissertation at Aligarh Muslim University, examined the impact of e-commerce on business value in service organizations. He argued that e-commerce is fundamentally based on information exchange, communication technologies, and electronic networks to support advanced services and

payment systems, stressing that the internet is the primary enabler of financial and non-financial transactions. His findings revealed that customers significantly influence the structure and effectiveness of e-commerce programs, and that organizations enhance the value and reach of their products by integrating e-commerce into their operations, particularly through annual investments in IT infrastructure and online transactions.

In a different context, Michel (2004) highlighted the role of electronic public management in reshaping relationships among citizens, elected officials, and government authorities. Her research emphasized that strengthening democratic interaction through ICT constitutes a foundational step toward institutionalizing e-government. She proposed a conceptual model illustrating how citizen–administration relationships evolve through digital platforms, covering e-management, e-government, and e-learning. According to her results, integrating digital systems into administrative and political processes—especially in elections and e-voting—enhances transparency and strengthens political trust, which aligns with the current study's focus on digitalization and modernization across institutions regardless of sector.

Al-Mughirah (2010), in his study at Naif Arab University for Security Sciences, analyzed the barriers hindering the implementation of e-management within the Saudi Ministry of Interior. His findings showed that organizational challenges—such as dependence on personal experience, overlapping roles, lack of psychological readiness among employees, and the absence of flexible strategic plans—significantly restrict the adoption of e-management. The study also identified technical, human, and financial constraints as key obstacles limiting the transition toward full digital administration.

In the Algerian setting, Hadid (2007) evaluated the role of internet technologies in preparing Algerian enterprises for integration into the global economy. His results indicated that the internet enables organizations to manage commercial activities more efficiently and to face the challenges imposed by economic openness. However, he concluded that Algerian companies still lack interest in collaborative digital tools and rely largely on email and basic information search functions, which limits their global competitiveness.

Similarly, Chabani (2010) explored the state of information systems and ICT in Arab information centers. He found that institutions attempt to adapt their systems to future technological changes, yet they often lack clear mechanisms for performance assessment and system integration. His study emphasized that developing ICT requires key indicators such as internet access levels, mobile and fixed-line penetration, and multimedia access, all of which contribute to forming a digital society capable of supporting e-learning, e-commerce, and e-government—objectives pursued by most countries globally.

Adwan (2007), analyzing e-government acceptance among citizens in Gaza, revealed that while citizens generally trust the potential of electronic services to reduce the problems of traditional services, concerns persist regarding

online financial transactions, particularly credit card payments. The findings also showed that limited access to public internet facilities reduces citizens' ability to fully adopt e-government services.

Recent studies (Alshammari, 2022; Razak, 2021; OECD, 2023) confirm that organizations and governments that adopt strategic digital transformation frameworks achieve higher administrative efficiency, improved transparency, and enhanced service quality. Modern literature further highlights that digital transformation not only improves operational processes but also serves as a catalyst for innovation, public value creation, and organizational sustainability in the long term.

Research Gap and Study Contribution:

Despite the growing body of research on electronic management and digital transformation, limited empirical studies have specifically examined the practical implementation of e-management functions within Algerian public institutions, particularly in the tax administration sector. Most previous studies have either focused on general digital transformation frameworks or investigated private sector organizations. Therefore, there is a gap in understanding how e-management is operationalized in a localized public institutional context in Algeria.

This study addresses this gap by evaluating **four** core e-management dimensions—e-planning, e-organizing, digital communication and guidance, and e-control—at the Tax Center of Saïda Province. By providing empirical evidence on the current implementation status, strengths, weaknesses, and institutional challenges, the study offers practical insights and actionable recommendations that can inform future digital initiatives within Algerian public institutions. Accordingly, the study contributes both to the academic literature on public sector digital transformation and to the practical modernization of administrative processes at the institutional level.

3. Research Methodology:

3.1. Sample :

The study population includes all employees working at the Tax Center of Saïda Province, with a total workforce of approximately 50 staff members distributed across several administrative units. Given the relatively limited size of the population, a purposive sampling technique was adopted to select employees who were directly involved in the administrative processes under investigation. Accordingly, 32 employees participated in the survey, representing about 64% of the total study population, which provides a substantial representation of the institution's workforce.

After collecting the distributed questionnaires, all returned responses were found to be complete and suitable for statistical analysis, resulting in a response rate of 100%. Despite this relatively high representation within the institution, the sample size remains limited from the perspective of broader generalization. Therefore, the findings of this study primarily reflect the situation within the Tax Center of Saïda and should be interpreted within this

specific institutional context. Consequently, caution should be exercised when extending the results to other public institutions in Algeria, which constitutes one of the main limitations of the present study.

To ensure the reliability of the sampling process, the selection of participants was based on their direct involvement in digital and administrative workflows within the institution. This approach aligns with recommendations in organizational and public administration research, which emphasize selecting respondents who possess relevant knowledge about the studied phenomenon (Creswell, 2018) (Taherdoost, 2016).

3.2. Study Instrument:

The present study relied on a structured questionnaire as the primary data collection tool. The questionnaire consisted of two main sections. The first section addressed the participants' demographic information, including gender, age, educational level, and job position. The second section comprised a set of items designed to measure the core e-management functions, namely: electronic planning, electronic organizing, electronic leadership, and electronic control.

Participants' responses to the items in the second section were assessed using a five-point Likert scale, with scores ranging from (1) to (5), as displayed in the table below:

Table N°1: Five-Point Likert Scale

Response	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Score	1	2	3	4	5

Source: Source: Prepared by the researchers based on Sekaran (2016, p. 207).

The use of the Likert scale is widely recognized in management and organizational research for measuring perceptions and attitudes due to its reliability and ease of interpretation (Joshi, 2015) ; (Boone, 2012). Similarly, questionnaires are considered an effective tool for collecting standardized data in administrative and behavioral studies) (Creswell, 2018).

3.2. Instrument Validity:

To assess the validity and reliability of the study instrument, Cronbach's Alpha coefficient was employed, as this measure is considered adequate and appropriate when its value exceeds 0.60, indicating acceptable internal consistency (Nunnally, 1994). The reliability coefficient (Cronbach's Alpha) was calculated for all questionnaire items using the Statistical Package for the Social Sciences (SPSS). The obtained Cronbach's Alpha value was **0.876**, which is considered high and reflects a strong level of internal consistency of the study instrument (Field, 2018) (Tavakol, 2011).

4. Results and discussion:

4.1. Presentation and Analysis of Questionnaire Results:

4.1.1. Analysis of Participants' Demographic Characteristics:

The analysis of the demographic data revealed the following results:

Demographic Data Analysis: Gender

The findings indicate **that 56.3%** of the respondents were male (18 participants), while females represented 43.8% of the sample (14 participants). This suggests a relatively balanced gender distribution within the study sample, with a slight numerical predominance of males. Such demographic profiling is essential, as the characteristics of respondents may influence their perceptions and responses in social research (Creswell, 2018) (Bryman, 2016).

Table N°2: Gender Distribution

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	18	56.3	56.3	56.3
Female	14	43.8	43.8	100.0
Total	32	100.0	100.0	—

Source: Prepared by the researchers based on SPSS V29 outputs.

Demographic Data Analysis: Age

Regarding the age distribution of the study sample, the results indicate that participants aged 20–30 years represented 6.3% of the sample (2 respondents). The age group 31–40 years accounted for 28.1% (9 respondents). The highest proportion was recorded among participants aged 41–50 years, who represented 43.8% of the sample (14 respondents). Meanwhile, respondents aged above 50 years constituted 21.9% (7 participants). These results suggest that the 41–50 age group was the most represented within the study sample, which may reflect the age structure commonly observed in public-sector institutions where mid-career employees tend to dominate staff distribution (Al-Zu'bi, 2020) (Creswell, 2018).

Table N°3: Age Distribution

Age Category	Frequency	Percent	Valid Percent	Cumulative Percent
20–30 years	2	6.3	6.3	6.3
31–40 years	9	28.1	28.1	34.4
41–50 years	14	43.8	43.8	78.1
Above 50 years	7	21.9	21.9	100.0
Total	32	100.0	100.0	

Source: Prepared by the researchers based on SPSS V29 outputs.

Demographic Data Analysis: Educational Level

The results indicate that the majority of participants hold a university-level education, accounting for 78.1% (25 participants) of the sample. This is followed by secondary education at 12.5% (4 participants), and vocational

training at 6.3% (2 participants). The "Other" category represents only 3.1% of the sample (1 participant). This distribution reflects a clear predominance of university-level education within the study sample.

Table N°4: Educational Level Distribution

Educational Level	Frequency	Percent	Valid Percent	Cumulative Percent
University	25	78.1	78.1	78.1
Secondary	4	12.5	12.5	90.6
Vocational	2	6.3	6.3	96.9
Other	1	3.1	3.1	100.0
Total	32	100.0	100.0	

Source: Prepared by the researchers based on SPSS V29 outputs.

Demographic Data Analysis: Job Position

The results show that the majority of respondents held the position of Service Assistant, representing 62.5% (20 participants). They were followed by Department Heads at 25% (8 participants), while 12.5% (4 participants) fell under the "Other" category. Reporting job distribution is essential in understanding workplace structure and interpreting perceptions related to administrative functions (Sekaran, 2020).

Table N°5: Job Position Distribution

Job Position	Frequency	Percent	Valid Percent	Cumulative Percent
Department Head	8	25.0	25.0	25.0
Service Assistant	20	62.5	62.5	87.5
Other	4	12.5	12.5	100.0
Total	32	100.0	100.0	

Source: Prepared by the researchers based on SPSS V29 outputs.

4.1.2. Analysis of Section Two: E-Management Functions

After collecting the questionnaire responses, the data were analyzed to identify the level of implementation of electronic planning, electronic organizing, electronic leadership, and electronic control. These functions represent fundamental components of e-management systems as highlighted in prior literature (Heeks, 2006) (Alenezi, 2018).

Table N°6: Level of Electronic Planning Implementation

Item	Mean	Std. Dev.	Relative Importance	Decision
The use of computers in administrative planning procedures	4.156	0.767	0.831	High
Reliance on software to provide alternative plans when needed	3.906	1.058	0.781	Moderate–High
Employee involvement in planning through communication networks	3.656	1.208	0.731	Moderate–High
Ensuring communication networks to keep pace with changes	3.937	1.243	0.788	Moderate–High
Providing the technical infrastructure to reduce planning problems	3.937	1.190	0.788	High
Overall Average	3.919	1.093	0.784	Moderate–High

Source: Prepared by the researchers based on SPSS V29 outputs.

The results indicate a moderate to high level of electronic planning implementation at the Tax Center of Saïda Province. As shown in Table 6, the overall mean of 3.9187 places most items at a “high-moderate” level. This suggests that the institution is actively striving to align its planning processes with digital transformation initiatives and strengthen its e-planning function.

Item (1) achieved the highest mean score (4.1562), followed by items (4) and (5), each with a mean of 3.9375. These items specifically relate to the use of technological tools in the planning process, reflecting that employees recognize the importance of digital infrastructure in facilitating effective administrative planning. According to the respondents, the availability of ICT tools allows them to access data more quickly, coordinate across departments efficiently, and anticipate potential operational challenges, thereby reducing manual workload and errors.

This finding aligns with prior research emphasizing the role of ICT in enhancing planning efficiency in public institutions (Yunis, 2018) and the importance of adequate technological resources, integrated communication networks, and active staff engagement in planning activities (Kim, 2022; Rodrigues, 2021). Furthermore, similar studies in organizational settings (Al-Zoubi, 2021; Alenezi, 2020; Al-Shammari, 2023) highlight that institutions with well-implemented e-planning systems can better manage workflows, improve coordination, and respond flexibly to emerging administrative challenges.

In summary, the high scores for these items indicate that employees perceive e-planning as a practical tool that reduces effort and enhances operational efficiency, demonstrating the tangible benefits of digitalization in the administrative planning function.

Table N°7: Data on the Level of Electronic Organization Implementation

Statements	Mean	Std. Deviation	Relative Importance	Decision
Electronic organization contributes to creating a flexible environment	4.21875	0.832	0.84375	High
Facilitates communication among various administrative processes	4.375	0.492	0.875	High
Relies on computers to accomplish different organizational tasks	4.1875	0.931	0.8375	High
Reduces effort	4.46875	0.621	0.89375	High
Depends on an electronic archiving system	4.0625	1.076	0.8125	High
Uses computers to enhance organizational aspects	4.375	0.609	0.875	High
Total / Overall	4.28125	0.760	0.85625	High

Source: Prepared by the researchers based on SPSS V29 outputs.

The data in Table 7 indicate that all items related to electronic organization achieved mean scores at the “high” level, reflecting employees’ strong belief in the importance of e-organization within their institution. Item 4 recorded the highest mean score (4.46875), focusing on the role of electronic organization in reducing effort.

These findings demonstrate that employees clearly recognize the value of adopting electronic systems for organizing work. According to the respondents, e-organization facilitates the streamlining of procedures, reduces administrative complexity, and improves coordination across departments, thereby saving significant time and effort. The high mean for item 4 indicates that employees perceive electronic organization as directly contributing to operational efficiency and workload reduction.

These results are consistent with previous studies emphasizing that effective e-organization enhances institutional flexibility, improves communication efficiency, and supports smoother administrative workflows (Rodrigues, 2021; Yunis, 2018). Furthermore, research in organizational settings highlights that well-implemented electronic organization systems positively influence employees’ productivity and engagement, while enabling institutions to respond more swiftly to emerging challenges (Alenezi, 2020; Al-Shammari, 2023; Kim, 2022).

In summary, the high scores suggest that employees value electronic organization not just as a technological tool but as a practical mechanism to reduce effort and improve administrative performance, demonstrating the tangible benefits of digitalization in structuring institutional work.

Table N°8: Data on the Level of Electronic Leadership Implementation

Statements	Mean	Std. Deviation	Relative Importance	Decision
Reliance on computers in decision-making processes	2.9375	1.105	0.5875	Moderate
Communication networks facilitate continuous interaction among decision-makers	3.75	1.016	0.75	Moderate-High
Aims to reduce bureaucratic procedures in completing transactions	3.875	1.040	0.775	Moderate-High
Helps in optimal utilization of information	4.0	0.842	0.8	High
Supports the rapid implementation of administrative decisions	3.90625	0.963	0.78125	Moderate-High
Contributes to improving electronic performance	4.09375	0.777	0.81875	High
Total / Overall	3.7604	0.957	0.7521	Moderate-High

Source: Prepared by the researchers based on SPSS V29 outputs.

The data in Table 8 indicate that the overall level of electronic leadership implementation is classified as “high-moderate,” with an overall mean of 3.7604. Item 6 recorded the highest mean score (4.0937), highlighting the role of electronic leadership in improving performance, reflecting employees’ clear awareness of the importance of technology-supported leadership methods in enhancing individual and team efficiency (Alenezi M. , 2020) (Al-Shammari, 2023). In contrast, item 1 scored the lowest mean (2.9375), focusing on reliance on computers in decision-making processes, suggesting some hesitation among participants regarding this type of dependency, due to the perception that decision-making requires human judgment and experience that digital technologies cannot fully replace (Kim, 2022) (Rodrigues, 2021). These findings are consistent with literature emphasizing that electronic leadership requires a balance between leveraging technology to enhance administrative efficiency and maintaining human decision-making in critical situations (Yunis, 2018) (Al-Zoubi, 2021).

Table N°9: Data on the Level of Electronic Control Implementation

Statements	Mean	Std. Deviation	Relative Importance	Decision
Contributes to providing administrators with feedback	3.65625	1.096	0.73125	Moderate-High
Assists communication networks in monitoring daily task completion	4.09375	0.689	0.81875	High
Helps detect errors and deviations	4.0	0.880	0.8	High

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Provides diverse methods for evaluating administrative work	3.75	0.916	0.75	Moderate-High
Improves individual performance through monitoring	3.8125	0.931	0.7625	Moderate-High
Total / Overall	3.8625	0.902	0.7725	Moderate-High

Source: Prepared by the researchers based on SPSS V29 outputs.

The data in Table 9 indicate that all items related to electronic control achieved closely aligned mean scores, generally classified at the “high-moderate” level, with an overall mean of 3.8625. Item 2 recorded the highest mean score (4.09375), focusing on the role of communication networks in daily task monitoring. This reflects participants’ awareness of the importance of using electronic communication tools to facilitate real-time monitoring and enhance precise and immediate control within the institution (Alenezi M. , 2020); (Al-Shammari, 2023). These findings demonstrate that electronic control contributes to improving both individual and group performance by providing managers with feedback and detecting errors and deviations, thereby enhancing administrative process effectiveness and reducing operational challenges (Kim, 2022) ; (Rodrigues, 2021); (Yunis, 2018).

4.2. Discussion:

Based on the statistical analysis of the study data, the research hypotheses were tested and interpreted in light of both empirical findings and the relevant literature. The discussion below presents each hypothesis alongside its consistency with previous studies.

First Hypothesis: “E-management contributes to improving planning in organizations.”

The findings indicate that the level of electronic planning implementation within the institution falls within the “upper-medium” category. This suggests that digital tools are used to support planning activities, although their application has not yet reached an optimal level. Thus, the hypothesis is partially supported, confirming a positive but moderate role of e-management in enhancing the planning function.

These results align with earlier studies such as Al-Omari (2019), which reported that digital tools enhance the quality and accuracy of planning, though their effectiveness depends on employees’ digital skills and the availability of advanced analytical systems. Similarly, insufficient training often limits the benefits of electronic planning systems. Therefore, the institution is encouraged to reinforce the use of digital planning tools through advanced software solutions and targeted training programs in strategic electronic planning.

Second Hypothesis: “The use of e-management makes administrative organization easier and more effective.”

The results indicate that the level of electronic organization is “high,” suggesting effective implementation of digital systems in structuring administrative processes, distributing tasks, and clarifying responsibilities. This provides strong support for the second hypothesis.

These findings are consistent with previous research demonstrating that e-management systems, particularly human resource information systems (HRIS) and workflow automation, significantly improve organizational clarity, reduce role conflict, and streamline communication within institutions. Likewise, Heeks (2018) noted that digital organizational tools reduce administrative complexity and enhance responsiveness. Therefore, the observed institutional performance reinforces the broader literature confirming the positive impact of e-organization on administrative efficiency.

Third Hypothesis: “E-management strengthens communication between leaders and employees.”

Study results reveal that electronic leadership falls within the “upper-medium” range, indicating moderate but meaningful use of digital tools for communication and guidance. This provides partial support for the hypothesis, suggesting that while digital communication is beneficial, its full potential remains underexploited.

These findings correspond with those of Avolio (2019) and Zaccaro (2020), who found that electronic leadership improves transparency and team coordination but requires a strong digital culture and consistent use of interactive communication tools to be fully effective. Similarly, Yukl (2021) highlighted that leaders’ digital competencies significantly influence the success of e-leadership practices. In light of these insights, the institution would benefit from investing in leadership development programs focusing on digital communication skills and e-leadership strategies.

Fourth Hypothesis: “E-management facilitates accurate monitoring of tasks and enables rapid detection of errors.”

The results show that electronic control and monitoring systems are implemented at an “upper-medium” level. This provides partial support for the hypothesis, as the systems used provide reasonable oversight but do not yet achieve full coverage or real-time precision across all operations.

These results are in line with studies indicating that digital monitoring tools improve accuracy and transparency but require integration with performance measurement systems (KPIs) and automated reporting platforms to reach maximum effectiveness. Similarly, research in e-governance emphasizes the role of digital dashboards in enhancing accountability and accelerating error detection. Strengthening electronic monitoring tools and integrating key performance indicators can further enhance this function.

The overall assessment of e-management functions — planning, organizing, leading, and controlling — reveals that the institution has achieved levels ranging from “upper-medium” to “high.” This reflects a growing organizational awareness of the strategic role of digital transformation in administrative improvement. The

findings are consistent with a wide body of literature, which emphasizes that e-management generally enhances organizational efficiency, although its effectiveness varies depending on training, technology availability, and managerial support.

Consistent with previous empirical studies in similar institutional contexts, the results confirm that e-management contributes positively to improving administrative performance, albeit to different extents across functions. Enhancing digital tools, expanding the use of smart systems, and intensifying employee and leadership training are key recommendations that align with global best practices in digital governance and modern administrative management.

5. Conclusion:

In light of the findings presented in this study, which addressed electronic management from both theoretical and practical perspectives, it can be concluded that e-management is no longer merely a transitional or optional approach. Rather, it has become a fundamental pillar for any modern administrative system seeking to achieve efficiency, effectiveness, transparency, and prompt execution. Rapid technological advancements have imposed a new reality that requires institutions of all types to adapt to the digital environment and enhance their performance through modern tools and methods.

From a theoretical standpoint, the study examined the conceptual dimensions of e-management, including its definitions, characteristics, objectives, and core functions, as well as the driving factors behind its adoption and the essential requirements for its successful implementation. The challenges that institutions may face during adoption were also highlighted. It was evident that e-management goes beyond being a tool to reduce paperwork and simplify routine procedures; it represents a comprehensive administrative system that contributes to organizational restructuring and modernizes operational practices in line with quality and transparency standards. From a practical perspective, the field study conducted at the Tax Center of Saïda Province, using a questionnaire distributed among a sample of employees, revealed a positive inclination toward the adoption of e-management, particularly in organizational and control functions. However, certain challenges persist in leadership and electronic planning functions. The results also indicated that employees recognize the importance of this transformation and are willing to contribute to its success, provided that appropriate training and technical support are available.

Therefore, e-management can be regarded as a strategic and effective tool for improving institutional performance. Its successful implementation necessitates continued investment in digital infrastructure, the development of employee skills, and the promotion of an organizational culture that supports digital transformation to ensure that institutional goals are achieved with greater efficiency and effectiveness.

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