THE ROLE OF ELECTRONIC MANAGEMENT IN IMPROVING PUBLIC SERVICE
(A DESCRIPTIVE FIELD STUDY IN THE CITY HALL OF TIPAZA)

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Abstract:

This study aimed to answer the following general question: What is the role of e-management in improving the public service in the city hall of Tipaza? The following sub-questions are subdivided:

- What is the level of service development after the application of electronic management in the city hall of Tipaza? Has it really reached the concept of rationalizing public service?

- What are the most important obstacles facing the city hall of Tipaza in the application of electronic management?

The descriptive analytical method was adopted and the survey was used as a means of data collection. It was applied to a purposive sample of 46 employees in the city hall of Tipaza. After retrieving the forms and processing them by SPSS program, we reached the following results:

- E-management is an effective means to improve the performance of public service.

- E-management works to deliver services accurately and quickly while reducing time and costs.

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- Electronic management requires the provision of various physical, legal, technical, social and other requirements.

1- Introduction:

We live today in an era of developments and changes in many fields, the Internet has been having a transformational effect on our society, and governments worldwide have been undertaking various initiatives to improve the efficiency and effectiveness of internal operations, communication with citizens and transactions with organizations with the aim to encourage the adoption of electronic management in public service initiatives. Public organizations worldwide are adopting digital technologies to support the public encounter; the interaction between citizens and public officials. New opportunities for digitalization of public service provision associated with data mining, machine learning, sensor technology, and service automation have been discussed with great curiosity and optimism by scholars and policymakers alike, E-government involves the delivery online of government information and services to various stakeholders using the Internet, Internet of Things, and traditional modes for cutting-cost ideas in government. Stakeholders include citizens; non-citizen and business users; government employees; information technology developers; government policy makers; public administrators and politicians; and organizations.

The shift towards e-governance has resulted in a number of changes in the concept of public service. The e-governance model offers many opportunities for success, clarity and accuracy in service delivery and thus represents a revolutionary conceptual transformation and paradigm shift in the public service model.

However, such adoption studies often treat digital public services either as hypothetic or generic phenomena, thereby ignoring the context and diversity of e-services and their importance for citizens. Furthermore, scholars rarely go beyond the point of adoption, mostly studying e-services from either the organizational or citizen perspective rather than analyzing the interaction occurring directly between governments and citizens. Additionally, literature reviews have repeatedly called for more native theory development within e-

government and holistic studies of the interplay between systems and individuals.

Hence, both empirical and theoretical gaps exist in the e-government literature concerning how digitalization influences public services. The present study addresses this gap by analyzing the interaction between citizens and public authorities in relation to digital public services; i.e., public services provided or mediated through internet-based technology.

2- The Problematic of the study

In general, the administration is characterized by its role in the success of any work. It is a humanitarian operation aimed at cooperation and coordination between human efforts in a way that enables it to exploit its potential to achieve specific objectives with minimum time, effort and cost. The efforts and effectiveness of administrators are seen as one of the most important factors attributable to the progress or failure of societies.

The term "public service" refers to the association that combines public administration with citizens in meeting the desires and satisfying the different needs of individuals by the administrative bodies.

The public service has been defined as: "the necessary needs to preserve human life and ensure the well-being of the people, which must be provided for the majority of the people and commitment in the method of providing that the interest of the majority of society is the main driver of any policy in the affairs of services in order to raise the standard of living of citizens"[1]

The spread of the information network is a major factor leading to the emergence of influences that contributed to change the traditional simple service pattern, which was characterized by a kind of commission and time-consuming in addition to administrative and financial corruption, to another type more advanced and in line with the technological dimension.

Algeria is one of the countries that are gradually adopting technology, where electronic management is one of the main pillars of technical and administrative progress, which requires the preparation of administrative bodies for digital transformation, by converting all paper management information into electronic information, and make this information available to citizens quickly and accurately with low cost

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and effort and provide services to the citizen in a good and continuous manner.

Electronic management is defined as: "paperless exchange of process information using EDI, E-mail, and catalogue screens".[2]

Algeria's move towards the application of information and communication technology (ICT) is an entry point that reflects a major change in the culture and practice of government business from securing more efficient management of its resources and thus enabling it to implement its policies and plans with high efficiency. Starting in 2008, Algeria has embarked on the project "e-Algeria" and this is the development of various legislative texts and basic rules to ensure that, to prepare the various sectors for such development, where the document issued in December 2008 is the first official document carrying an integrated electronic management program in Algeria, it aims to build the information society, move the economy and make it digital, reduce bureaucracy and reach decision-making speed.

Based on the above, this study sheds light on this project and the extent of its contribution to improving the public service. We took the city hall of Tipaza as a field of study as the municipalities are the reference and the basic framework for public services and often resort to citizens.

Based on the above, we can ask the following general question: **What is the role of electronic management in improving public service in the city hall of Tipaza?**

This general question is subdivided into the following sub-questions:

- What is the level of service development after the application of electronic management in the city hall of Tipaza? Has it really reached the concept of rationalizing public service?

- What are the most important obstacles facing the city hall of Tipaza in the application of electronic management?

3- Hypotheses

In order to study the subject, and based on previous studies, the researchers formulated the following hypotheses:

The general hypothesis: E - management in its general sense is an effective tool and one of the modern means to develop and improve services provided to citizens.

Sub-hypotheses:

- There is a presence to achieve the advantages of time, cost and improve the quality of public services when the application of electronic management in the city hall of Tipaza, but it has not yet reached the full concept in the rationalization of public service.

- Electronic management witnesses several physical and intellectual obstacles.

4- Objectives of the Study

- Demonstrating the role of electronic management as a new strategy and get rid of the flaws of traditional management.

- Identifying the obstacles of the application of electronic management in the city hall of Tipaza.

- Trying to reach a picture of what will be the process of applying e-management changes within the public organizations and the public service in particular.

- Identifying the reality of electronic management in the city hall of Tipaza, the degree of its application, and its impact on public service.

5- Concepts and Terms

- **Management:** Henry Fayol defined it as: "To do management means to predict, plan, organize, issue orders, coordinate and monitor."[3]

- **Electronic management:** literally: "The means used to raise the level of performance and efficiency, a paperless management because it uses electronic archives, evidence, electronic diaries and voice messages, and a management that meets rigid requirements and rely on knowledgeable workers." [4]

It is also defined as: "It is the administrative process based on the distinctive possibilities of the Internet and business networks in the planning, direction and control of resources and the core capabilities of the institution and others without limits in order to achieve the objectives of the institution." [5]

The procedural definition of e-management is defined in this study as the application of information and communication technology techniques in

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all management structures in the city hall of Tipaza to carry out all jobs and functions electronically.

- **Public Service:** Literally "It is any function whose performance is guaranteed, adjusted and controlled by the governors, because the performance of this function is necessary to achieve and develop social cohesion, which is of a nature that does not make it complete only by the intervention of the power of governors." [6]

As we can say that the service: is the process of producing an intangible benefit in the first place, either in itself or as an essential element of a tangible product, where through any form of exchange satisfy the need or desire personalized by the client or beneficiary.[7]

Procedurally, the purpose of the public service in this study is the essential needs of citizens, without discrimination or exceptions, which are guaranteed by the State and its local bodies to ensure and meet them in order to facilitate and improve the daily life of the citizen.

6- Study Approach

In this study, the researchers relied on the descriptive and analytical method of collecting information and data, and then arranged and classified it according to what is applied systematically.

The descriptive approach was adopted because it is consistent with the objectives of this research and the nature of its hypotheses.

7- Study Limits

- Study Place: The field study was conducted in the city hall of Tipaza, which is located in the center of the city of Tipaza,

   The municipality of Tipaza is located on the coastline, 69 kilometers west of Algiers, bordered to the north by the Mediterranean Sea, to the south by the municipalities of Hadjout and Sidi Rashed, to the east by the municipality of Ain Tagourite, and to the west by the municipalities of Nador and Cherchell.

- Study Time: The study was carried out from February to April 2019.

- Study Community: The study population is represented by all employees in the city hall of Tipaza, where the number of 120 people according to public data taken from the Human Resources Department.[8]

We have relied in our study on the intentional sample to suit the subject, and therefore we distributed 50 forms of the survey through direct delivery to the administrative staff of the city hall, and only 46 forms were retrieved, which is the sample we adopted in this study.

8- Study Tools

In this research, we adopted the questionnaire and built a survey by following these steps:

- After reviewing previous studies on the topic,

- A preliminary questionnaire was built and then presented to six professors for arbitration, four (4) professors from the University Center of Tipaza, and two (02) from Blida University 2.

- After modifying the wording of some of the proposed questions, the survey was adopted in its final form and distributed to the sample members.

9- Presentation and Discussion of the Results

9-1. Results AnalysisRelated to Personal Data

- Distribution of sample members by age:

TableN° 1: Sample members by Age

Age	Repetition	Percentage
20 – 35 years	*27*	58,7%
35 – 50 years	*19*	41,3%
Total	*46*	100,0%

Source :by authors based on survey's results

According to the table, the majority of respondents (59%) are between the ages of 20 and 35 years, 41% of the respondents are aged between 35 and 50 years and there are no workers over 50 years of age. It is noteworthy that the youth category is the most comprehensive in the city hall of Tipaza, it is the active category with competencies because they are tender and vital while maintaining the element of expertise, and this helps the implementation of e-management project giving that the new generation of young people is more of use, applying new technology and more willing to adapt to it as part of its daily life.

- Distribution of sample members by educational level:

Table N°2: Sample members by educational level

Educational level	Repetition	Percentage
Lower secondary	*2*	4,3%
Upper secondary	*21*	45,7%

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University	23	50%
Total	46	100%

Source :by authors based on survey's results

The above table shows that the highest percentage is 50% with university level, followed by 46% which belong to individuals from upper secondary level and only 4% of respondents are lower secondary level.

These differences in the level of education can be explained by the nature of the institution, which requires different scientific qualifications according to the positions, but it depends a lot on individuals with high efficiency more than others.These results show that the majority of the sample of the study is with a university level of qualification, which is positive.

- Distribution of sample members by functional category:

Table N°3: Sample members by functional category

Functional category	Repetition	Percentage
Simple employee	37	80,4%
Head of department	2	4,3%
Head of service	1	2,2%
Head of office	6	13,0%
Total	46	100,0%

Source :by authors based on survey's results

It is clear from the data in the table above that the proportion of simple employees amounted to 80%, followed by 13% of respondents hold the positions of heads of offices, we find the equivalent of 5% of the respondents heads of departments, and finally only one head of service representing 2% of the surveyed sample.

9-2. Unloading and Analyzing the Results of the Survey Related to the Role of Electronic Administration in Improving Public Service

- Views of respondents on the role of e-management in improving public service:

Table N°4: Survey results regarding the role of e-management in improving public service

#	Paragraph	Agree		Neutral		Disagree	
		Rep	%	Rep	%	Rep	%
01	The success of e-management in activating the public facility	33	71.7%	11	23.9%	2	4.3%
02	Evolution of the level of service delivery after the application of e-management	36	78.3%	9	19.6%	1	2.2%
03	Speed of service currently offered	36	78.3%	8	17.4%	2	4.3%

04	Similar developed countries in providing the service by applying e-management	17	37%	10	21.7%	19	41.3%
05	Facilitate work and provide the best services after the introduction of e-management in the municipality	40	87%	4	8.7%	2	4.3%
06	Contribution of e-management in the retrieval of files and information	33	71.7%	5	10.9%	8	17.4%
07	The e-management system helps solve the mundane problems in the municipality	21	45.7%	19	41.3%	6	13%
08	Increase job satisfaction after adopting the e-management model	22	47.8%	15	32.6%	9	19.6%
09	Increasing the positive response to citizens' requests after applying e-management	33	71.7%	11	23.9%	2	4.3%
10	The use of e-management has reduced the problem of queues	21	45.7%	10	21.7%	15	32.6%
11	The application of e-public service increases the efficiency and effectiveness of employees.	26	56.5%	12	26.1%	8	17.4%

Source :by authors based on survey's results

Analyzing and discussing the opinions of the respondents on the role of electronic management in improving public service in the city hall of Tipaza:

- In paragraph 1, we note that 72% of respondents agree with the idea of the success of e-management in activating the public facility, while 24% of them were neutral, while the lowest percentage of 4% of respondents did not agree that the e-administration succeeded in activating the public facility. Therefore, we confirm that the electronic administration has already succeeded in activating the public facility and rationalizing the public service.
- We note from paragraph 2 in the table above that the idea of developing the level of service delivery after the application of electronic management was approved by 78% of respondents, and not by 2% (ie one person from the sample), while the remaining 20% was neutral in this Direction.
- Through paragraph 3, we conclude that the majority of respondents determined their position by agreeing to the speed of service currently provided by 78%. E-management facilitates and accelerates access to the necessary information needed at work.
- Through paragraph 4, it was concluded that 41% of respondents do not believe that the application of electronic administration in

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providing service in the city hall of Tipaza is similar to developed countries, only 37% of them support it, and the remaining 22% of respondents maintained a neutral opinion. It is clear from these results that the application of electronic management has not yet reached the similar developed countries due to the weakness of the infrastructure necessary to shift towards e-governance and weak motivation.

- The results of paragraph 5 show that the majority of respondents agree with the idea that the application of electronic management in the city hall facilitated the work and provide the best services by 87%, while 9% of them were neutral on this idea, while 4% of respondents do not believe that the application E-management in the city hall has facilitated work, and we conclude that after the introduction of electronic management system in the institution under study has resulted in facilitation in the work and provide the best services to citizens, and this is a positive indicator.

- In paragraph 6, we find that the majority of respondents (72%) confirm the contribution of the electronic administration in retrieving files and information, while 11% of them retained the neutral opinion, while 17% of respondents were against the idea. Through this analysis, it is clear that one of the advantages of electronic management is that it protects information and files from loss and damage and allows the possibility of retrieval at any time, which greatly facilitated the staff and contributed to the decrease of the archive burden.

- We note from paragraph 7 that the approval of the trend that the electronic management system helps solve the problems in the municipality estimated at 46%, while neutrals 41%, while opposed to the idea at all estimated at 13%, from this analysis we conclude that e-management facilitates work and removes obstacles and reduces efforts, which alleviates the problems of daily work and this proves the important role and the imperative need to adopt e-management in all institutions and the constant pursuit of development.

- In paragraph 8, it is clear that the job satisfaction rate following the adoption of the e-management model was acceptable to 48% of the respondents, 32% of them were neutral, while the remaining 20%

of the respondents were totally opposed to this idea. Through these results, the workers of the city hall of Tipaza proved that e-management contributes to improve their performance and highlight the most important and best competencies in doing business, as it keeps them away from routine and increases their job satisfaction.

- According to paragraph 9, the majority of respondents (72%) believe that the application of e-governance increased the positive response to citizens' requests, while 24% of respondents maintained a neutral opinion, while the lowest percentage of 4% of respondents disagreed with the majority in the same opinion. We conclude that e-management achieves better and faster communication with citizens regarding their services by providing the necessary information due to the quality of the approved network.

- In paragraph 10, we put forward the idea of reducing the problem of queues after the use of electronic management; where the idea received 46% of supporters, and about 22% of neutrals, while 32% of respondents, who were completely against the idea. Through these results, we conclude that the application of e-management reduces the effort exerted to the performance of employees to their tasks, and from this, we reach the effective role of e-management, it reduces the time and effort and the trouble of searching in the archiving, and ensure the correctness of information and this facilitates the work and reduces the queues of waiting.

- In paragraph 11 of the table above, we note that the majority of respondents (57%) agreed that the application of the e-public service increases their efficiency and effectiveness, while 26% retained the neutral opinion, while 17% of the respondents rejected the idea. We conclude that e-management is the essence of doing business and improve the conditions for the daily dependence of employees in all their operations, and the fact that e-management seeks to dispense with everything that hinders the course of work in the organization and ensure the continuity of work anywhere and anytime.

9-3. Unloading and Analyzing the Results of the Survey Related to the Obstacles of the Application of Electronic Management

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This part of the questionnaire was analyzed using repetitions and percentages of all paragraphs to show the impediments of the application of e-management according to the opinion of the respondents of the employees of the city hall of Tipaza:

Table N°5: Survey results regarding the obstacles of the application of electronic management

#	Paragraph	High		Medium		Low	
		Rep	%	Rep	%	Rep	%
01	Lack of staff mastering modern technology	8	17.4%	36	78.3%	2	4.3%
02	Poor level of infrastructure needed to implement e-management	4	8.7%	32	69.6%	10	21.7%
03	Lack of clarity regarding the process of transition to e-management	3	6.6%	37	80.4%	6	13%
04	Weak awareness of the importance of applying e-management	6	13%	31	67.4%	9	19.6%
05	Weak conviction and support of senior management of the project towards e-management	7	15.2%	28	60.9%	11	23.9%
06	Lack of computer hardware available in the city hall	8	17.4%	20	43.5%	18	39.1%
07	Low internet streaming speed	13	28.3%	18	39.1%	15	32.6%
08	Weakness of information security and protection programs in the city hall	3	6.5%	30	65.2%	13	28.3%
09	Fear of losing a job when introducing new technology to work	5	10.9%	22	47.8%	19	41.3%
10	Weak motivation for change, and resistance to it	7	15.2%	22	47.8%	17	37%
11	Lack of possibilities for the process of transition to e-management	8	17.4%	32	69.6%	6	13%
12	Weak financial allocations for staff training programs in e-management applications	10	21.7%	26	56.5%	10	21.7%

Source : by authors based on survey's results

- Through paragraph 1 of the table above, it is clear that 78% of the respondents believe that the impediment of the application of electronic management is the lack of control of employees in modern technology to a moderate extent, while 18% of them believe that it is a high handicap, while only 4% evaluate it low , From this, we can conclude that the city hall of Tipaza lacks a

little staff controlling the electronic means, due to the neglect of training courses in this area, despite its importance for employees and reflecting on their performance and thus on the performance of the institution in providing services to citizens.

- We note from paragraph 2 that the majority of respondents (70%) believe that the weak level of the necessary infrastructure is an obstacle to the implementation of e-management to a moderate degree, while 22% do not believe that, while 8% of them gave a high evaluation on the weakness of the infrastructure to apply Electronic Management System, from this we came to the infrastructure I caused the problem of obstructing the work somewhat.

- We note from paragraph 3 that most respondents to their opinion about the lack of clarity of vision regarding the transition to e-management favor a moderate obstacle, while about 7% of them support it highly, while the remaining 13% believe it a handicap but low, from this we conclude that the absence of planning delays the development of work in electronic management, and this creates ambiguity and confusion among workers about the orientation of electronic management and ambiguity in the concepts of work for employees, and this leads to hinder work and avoid the application of electronic management.

- Through paragraph 4, regarding the lack of awareness of the importance of applying e-management as a barrier in its application, 67% of respondents believe that it constitutes a moderate obstacle, while 20% do not believe this, while 13% support the idea highly. Through this analysis we conclude the weak organizational culture necessary for the application of e-management; the city hall should conduct educational sessions for workers who suffer from the lack of awareness of the importance of e-management.

- Through paragraph 5 of the table, which states that the top management is not convinced and doesn't support the project to move towards e-management, we find that 61% of respondents agree with the idea, but moderate, while 15% of them highly support it, while 24% were not supportive for the idea. This is

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evidenced by the lack of continuous development of software and hardware used.

- We note that in paragraph 6, 44% of the respondents believe that the lack of computer hardware available in the municipality is an obstacle in the application of e-governance to a moderate extent, while 17% of them believe that it is so high, while 39% of the respondents do not believe that it is an obstacle to the application of e-management.

- In paragraph 7, where we put forward the idea of twice the speed of Internet flow, 39% of respondents evaluate this medium, 33% low, and 28% of respondents evaluate the idea highly.

- In paragraph 8, we note that the majority of the respondents assess the weakness of information security and protection programs in the municipality at a moderate rate of 65%, followed by 28% of them assess it at a low level, while the lowest percentage (7%) of respondents give poor information security programs a high degree. From this analysis, we conclude that it is the duty of the institution under study to strengthen information security and protection programs more than they are currently, because the availability of a high system in the protection of information security encourages electronic dealing confidentiality, security and confidence, and this is managed by automatic access, user transfer capability and confidentiality of e-mail, to ensure the confidentiality and personal preservation of information and any wrong use of it, and therefore the continued availability of information as information security is an integral part of the strategy of electronic management.

- We note that in paragraph 9, 48% of respondents believe that the introduction of new technology will result in the loss of their jobs to a moderate degree, while 11% of them believe that a high degree, while 41% of them do not think the introduction of modern technology will a cause of losing their job. Through the results, we conclude that most workers are not afraid of losing their positions and jobs with the introduction of new technology, and this is because the sample of the study is proven in the beginning: youth class with university level, fertile to intellectual vaccine.

- In paragraph 10, we note that the weakness of the motivation and the occurrence of resistance to it constitute an obstacle to the application of electronic management to a moderate degree, according to the opinion of 48% of respondents, while 37% do not consider it an obstacle, while 15% of them confirm that.

- We note from paragraph 11 that the majority of respondents (70%) believe that the lack of possibilities necessary for the transition to e-management is a moderate obstacle in its application, while 18% of them believe it a high obstacle, while 13% of respondents give this idea a weak degree. Through this we concluded that there is a shortage of material and human resources, and this leads to a weak infrastructure for electronic management, and this does not encourage the application and push workers to adopt them, which results in a weak performance of workers.

- Through paragraph 12 of the table above, we note that the majority of respondents believe that the financial allocations for staff training programs are twice as likely as an obstacle to the implementation of e-management with an average of 56%. The remaining percentage of the sample is equally divided by high and low assessment (22% for each category). From this we conclude that the human resource is the essence of the adoption of e-management and its success, the presence of a young and well-informed and component contributes to the success of e-management programs with the efficiency and quality required and thus improve the performance of workers.

10-CONCLUSION

After studying in the city hall of Tipaza about the role of e-management in improving public service, we reached a number of results through which we can judge the validity or negation of the hypotheses formulated:

The first hypothesis: There is a presence to achieve the advantages of time, cost and improve the quality of public services when the application of electronic management in the city hall of Tipaza, but it has not yet reached the full concept in the rationalization of public service.

Through the results of the hypothesis, the hypothesis was proved

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correct. After the application of e-management in the city hall, there was a presence to realize the advantages of time, effort, cost and improvement of public services only moderately, the success of e-management in activating the public utility and developing the public services received moderate proportions by the respondents.

The second hypothesis: Electronic management is experiencing several physical and intellectual obstacles.

The results obtained from the analysis of the questionnaire show that the existing hypothesis is correct, as the electronic administration in the municipality of Tipaza witnesses several physical and intellectual obstacles, including: poor level of infrastructure needed to implement e-management, twice the speed of Internet flow, weak financial allocations to train employees on e-management applications, as well as the lack of control of employees in modern technologies and fear of losing their jobs after the application of e-management.

The following **conclusions** were reached:

- E-management works to provide services to citizens in modern and sophisticated ways while maintaining the confidentiality of information.

- E-management is an effective means to improve the performance of public service.

- E-management works to deliver services accurately and quickly with frying time and costs.

- Electronic management requires the provision of various physical, legal, technical, social and other requirements.

Based on the above results, a set of **recommendations** that contribute to the improvement of public service through the application of e-management can be presented as follows:

- Remove the ambiguity of the concept of electronic management to answer the concerns of citizens and clarify the importance of its application.

- Providing internet service and other various necessary equipment for all departments and sections in the city hall.

- The need for legislation and legal provisions about electronic security and confidentiality.

- Raising the level of education and dissemination of electronic

culture among members of the community to ensure the ability to use this technology.

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