E-GOVERNANCE AS A LEVER FOR PUBLIC ADMINISTRATION PERFORMANCE: A QUALITATIVE SURVEY

Zakaryae Mahmoudi *, Imane Najim **

* *Corresponding author*, Le Laboratoire de Recherche en Management des Organisations (LAREMO), L'École Supérieure de Technologie de Casablanca (ESTC), Université Hassan II, Casablanca, Morocco
Contact details: LAREMO, ESTC, Université Hassan II, N°51, Hay Ifriquia Rue Echahid Eloualid Essaghir, Casablanca 20000, Morocco
** Le Laboratoire de Recherche en Management des Organisations (LAREMO), L'École Supérieure de Technologie de Casablanca (ESTC), Université Hassan II, Casablanca, Morocco

How to cite this paper: Mahmoudi, Z., & Najim, I. (2024). E-governance as a lever for public administration performance: A qualitative survey. *Corporate & Business Strategy Review, 5*(2), 118–128. https://doi.org/10.22495/cbsrv5i2art10

ISSN Online: 2708-4965
ISSN Print: 2708-9924

Received: 08.06.2023
Accepted: 22.04.2024

JEL Classification: G34, H75, I2
DOI: 10.22495/cbsrv5i2art10

Abstract

The digital transformation of the international economy has made it easier for both public and private companies to reinforce the process of migrating value to the Internet. Internet integration has thus become a sine condition for maximizing the chances of success. The new public management (Er Rays et al., 2022) makes e-administration a strategic axis in our country. In Morocco, digital technology is a fundamental part of the system used to modernize the administration. E-administration generates transparency and efficiency, paving the way for e-governance that harmonizes organizational performance (Scupola & Zanfei, 2016). The COVID-19 pandemic required the administration to use digitalization to ensure continuity and modernization of public services. The qualitative exploratory study was carried out to assess perceptions and expectations, and to identify levers for improving the quality of distance learning in order to achieve the desired performance. The results clearly illustrate that this type of teaching has been a success with teachers, despite certain constraints noted by this type of alternative or complementary teaching.

Keywords: Digital Transformation, E-Governance, Satisfaction, University Moulay Ismail (UMI)

Authors' individual contribution: Conceptualization — Z.M. and I.N.; Methodology — Z.M. and I.N.; Investigation — Z.M.; Writing — Z.M.; Supervision — I.N.

Declaration of conflicting interests: The Authors declare that there is no conflict of interest.

1. INTRODUCTION

The latest COVID-19 health crisis has demonstrated the inescapable role played by the digitalization of organizations, and more specifically public administrations. The public sector has been involved in the actions of new technologies, moving towards the interventions and changes brought about by new information and communication technologies (ICT) in order to achieve the aims and objectives targeted: transparency for citizens, interoperability aimed at the business world (citizens and companies) as well as the financial business climate.

According to the research of Gupta et al. (2008), the use of digital technology in public administration offers and contributes to improving the level of efficiency of departments and governing bodies, transparency through the involvement of accountability in the development of regulations for the management of all departments of public administration.

In the research of Cordella and Iannacci (2010), we note that the integration of digital into public management can provide a certain results-oriented culture. Like Saoud (2013), the latter emphasized the use of digital technology, which has now become a means of standardizing all work regulations and improving the efficiency and transparency of organizational systems.

In addition, studies conducted by Bressolles et al. (2014) have shown that these changes have opted for this choice, which comes in a context that adheres to more effective and efficient improvement in administrative rules and procedures. These are to be employed by all government enterprises with the aim of achieving a good-quality product also in terms of improving the degree of citizenship.

The digital transformation didn't officially appear with *Maroc Numérique* until 2013, then encouraged, accompanied and supported in 2015. The goal of digitalizing the public service has become a strategic axis of the new public management aimed at modernizing government public institutions, which must focus on the new characteristics of public service in order to capture the following: effectiveness and efficiency, speed and satisfaction, transparency, and accountability (Barberis, 1998; Watkins & Arrington, 2007; De Chatillon & Desmarais, 2012).

This is how we aim to work and frame the main axes in the form of a roadmap to maximize the chances of success of digital transformation at the level of Moroccan public administration and also achieve the modernized state: 1) task automation (Parviainen et al., 2017), 2) cost and time savings (Mimeche, et al., 2016), 3) improved citizen relations (Buschor, 2013), 4) trust, streamlined regulations and administrative procedures (Parviainen et al., 2017), 5) improved satisfaction levels, under the enclosure of the Digital Morocco pathway that proves a new development model as exercised by University Moulay Ismail (UMI).

Firstly, it is worth noting that the author Warin (1999) has made it known during this period that all public administrations in the various countries of the world are becoming increasingly satisfied with user satisfaction as a non-financial indicator of performance. period, that public administrations around the world have become increasingly satisfied with user satisfaction as a non-financial indicator of performance on the one hand, but also as a means of moving from a classical to a modern state on the other. This is inspired by new public management, which focuses on the quality of services provided through the modernization of new systems and new intervention procedures, leading to the desired performance. The success of e-governance must, therefore, remain linked to the socio-economic context in which it operates.

All these elements lead to the following question:

RQ: To what extent can e-governance contribute to improving public performance?

Hence the importance of this qualitative study, which focuses more on teacher satisfaction in order to improve the quality of teaching and achieve the targeted performance.

To answer our main question, we present our literature review in Section 2, in which we discuss the conceptual and theoretical framework of the keywords digitalization, e-government and new public management, as well as the place of digitalization and e-governance in Morocco's new development model, including key success factors. Section 3 highlights the methodology used to conduct this exploratory qualitative study on e-governance as a lever for public performance. Section 4 focuses on the results obtained from the survey after processing the data collected. Section 5 outlines the analysis and interpretation of the results obtained. Finally, the last Section 6 presents the limits and perspectives of our research.

2. LITERATURE REVIEW

2.1. The place of digital technology and e-governance in Morocco's new development model

The scientific revolution currently taking place in the world of digital technology has led most countries to progressively or fully embrace it in their strategic processes and activities. Studies by Singh et al. (2020) and Dobrolyubova (2021) have shown that ICT integration improves and harmonizes quality while increasing the rate at which users (citizens and businesses) are satisfied with the public services produced. This digital transformation has been marked by the management and production of digital services that respond positively to citizens' expectations (public administration reform — dematerialization of documents). In turn, this new public management style has introduced a results-based public sector management culture (civil service reform) based on ICT as the driving force behind this new management style.

New public management is moving towards:

- standardization of work rules and procedures;
- transparency and accountability;
- efficiency and satisfaction;
- speed and efficiency.

This new public management, which the majority of the world's countries wish to achieve, has also echoed a considerable historical evolution from the Weberian model of classical bureaucracy (Weber, 1978; Thom & Ritz, 2017) through the privatization movements to achieve a new, updated public management inspired by the foundations of managerial approaches and theories of organization (Nigro & Kellough, 2008; Box et al., 2001), namely: 1) agency theory (Albouy, 2002); 2) property rights theory (Bozec, 2004; Albouy & Obeid, 2007); 3) transaction cost theory (Islam, 2015); and 4) public choice theory (Pesqueux, 2020), which has represented the main theoretical articulation of traditional management reforms. These theoretical foundations have facilitated the transposition and convergence of public and private management, as well as the transition from a public administration characterized by inefficiency to modern public management marked by managerial traits.

This form of public management, known as new public management (NPM), seeks to transpose private-sector management solutions to the public sector (Zaoudi, 2021).

In Morocco, this is clearly set out in the 2018–2021 National Administration Reform

Plan, which includes 24 main projects divided into four transformations: 1) organizational, 2) managerial, 3) digital and 4) ethical (2018–2021) in order to achieve the modernized state (The Ministry of Administration and Civil Service Reform of Morocco, 2018).

E-government has also been able to add value in terms of achieving objectives while monitoring the performance indicators of the new public management system.

The integration of digitalization as an engine for national economic growth is a strategic requirement for the success of Morocco's new development model.

The digitalization of public administrations has three main dimensions:

•*Digital technologies*. These must include certain categories such as the Internet of Things, Big Data analytics, artificial intelligence, advanced tracking, tracing technologies and wearables, as well as additive manufacturing (Buyukozka & Gooçer, 2018).

•*Digital transformation*. Which constitutes the process of improving an organization by triggering significant and profound changes in its attributes, and doing so through a combination of information, communication and connectivity technologies (Vial, 2019).

This digital transformation must be employed as a managerial culture throughout the organization. It aims to put into practice a key concept that is gaining in importance within institutions: e-government.

•*E-government* is considered to be a concept that emerged in the 1990s. The United Nations (UN) and the American Society for Public Administration (ASPA) were responsible for defining the concept.

According to Brown (2005), e-government is the result of interactions between ICT, management, departments and branches of public administration. According to him, it is also a successful transposition of technological innovation aimed at management practices from the private sector to the public sector. This operation has enabled most countries to be more decisive and agile, particularly in times of crisis.

Researchers Eggers and Bellman (2015) confirm the positive transformative effect of technological innovations on public administration. According to their findings and the results of their international surveys, digital transformation takes precedence over digitalization, which could be brutal, conjectural and disruptive in terms of habits, with possible risks of inertia and rejection.

For other researchers, this concept represents a new stage in the digitalization of public services, with a focus on customer satisfaction and improving citizens' confidence in public administration.

This digital transformation operation is seen as a vast and complex process involving a profound mutation of the company's culture as well as certain changes at all levels.

2.1.1. Towards a digital transformation of public services

A review of the literature on information technology in government institutions and departments during the 1970s shows that researchers Kraemer and King (1986) and Rahm (1999) were able to bow to the use of information technology in public institutions.

The e-transformation of public administration remains pivotal to the development of public enterprises while improving the degree of satisfaction and management (Calay et al.,2019). Reports drawn up by international organizations (UN) in 2016, 2018 and the Organisation for Economic Co-operation and Development (OECD), confirm the role that involves the progression of the process of digitalization of public administrations in countries. For its part, the OECD confirms the importance and added value generated by the implementation of e-government, as well as the satisfaction and well-being of citizens[1]. The work of Oktal et al. (2016) confirms these statements.

A number of Arab countries, including Jordan, have embraced the transition to e-governance. Morocco, for its part, has also taken several steps in the digital quest but still has some challenges to overcome.

The digitalization of public services means the seamless, effective and far-reaching integration of new information and communication technologies into the activities, roles and functions of public administrations, enabling improvements to be made in service performance and quality, without forgetting transparent accountability. According to Brown (2005), this operation is based on four pillars: 1) the citizen, 2) information, 3) skills and 4) the management and accountability approach. The positive and significant impact of e-government is well established[2]. To achieve this, it has been necessary to modernize public administration and its services, as it has become difficult to be warned of possible changes and crises (Al-Hujran et al., 2015). The success of such an approach implies ease of access for users and their perfect and correct use by the latter. This requires platforms to be kept up to date in order to acquire continuous service improvement (Ozkan & Kanat, 2011; Liu et al., 2014; Al-Hujran et al., 2015).

This digital transformation of public services is currently a cornerstone for the development of public administration as well as for the improvement of their managerial practices (Calay et al., 2019) within its departments. Now, therefore, it seems clearly necessary in developed countries exercising this digital system of which we speak of a modern state. According to some reports, Denmark is the best example of a developed country that has opted for and developed its path in the digitalization of public services (European Union, 2018; Scupola & Zanfei, 2016).

Success on the web means developing adaptive capabilities upstream (supply) and downstream (customer service, distribution). For such an operation to be successful, it requires good political will and a trend towards technological innovation in information and communication. The UN's e-government reports for 2016 and 2018 provide a strong illustration (European Union, 2018).

In Morocco, the digital transformation project is gaining momentum in order to achieve the modernized state as quickly as possible, and to deal with geopolitical changes and possible socio-economic and financial crises.

In Morocco, this digital project represents

[1] The case of Denmark and other developed countries.
[2] Vaccination against COVID-19 and the role of foxglove.

a fundamental step towards the modernization of public administration, which began in 2013. However, there are still a number of areas of dissatisfaction that mar the transition to digital, with unsatisfactory platforms, websites that are not up to date, costly systems and citizens who are not used to digital management. On the one hand, this is a handicap for digital administration to get off to a flying start, while on the other hand, human resources training is useful for overcoming certain difficulties.

2.1.2. Digitalization and the new development model

In this new development model, our country has made digital technology a cross-functional priority that can be applied to all economic sectors. To achieve this, three pillars are essential:

- *Hardware*. It needs to be fully implemented nationwide, and require an Internet connection capable of covering the whole country, with no exceptions between the country's regions.
- *Software*. Considered to be an essential cover for the success of the Moroccan digital project, its implementation requires compliance with certain criteria: agility, simplicity, flexibility and ease of handling.
- *Human*. This third necessity is specifically reserved for the training of staff, human resources (HR) and users (citizens and businesses). On the one hand, it is recommended that the staff of public institutions be well-trained to satisfy users, and on the other hand, it is necessary to improve the degree of their intense confidence in the public sector.

The integration of this national digitalization project comes in a very specific context, focused on the objectives of the new development model to mitigate the effects of a possible economic crisis, and following on from the 2021–2026 government program, and the introduction of the provisions of Law No. 55.19, which stipulates new administrative procedures.

The digitalization of the management of the emergency vaccination campaign is a striking example of this and has enabled the successful integration of the above-mentioned dimensions (hardware, software and human resources).

The *watiqa*, *chikayati* and *telmide tice* platforms were also the first to be set up to ensure and maintain such proximity in this situation.

As a result, we can see that our country has been able to make great strides over the last few decades with the implementation of a multitude of national digital development programs (e-Morocco 2010, Digital Morocco 2013, Digital Morocco 2020). However, as strategies and transformation plans come and go, it is clear that little progress has been made in terms of embracing the ambitions set and keeping up with the scale and pace of the technological, economic and social changes taking place around the world. In addition, a number of challenges remain, notably in terms of governance, hardware, regulation, human resources and, last but not least, digital culture.

According to policy paper research carried out by La Tribune Afrique and Mazars (2019), Morocco has emerged as one of the "leading African tech" countries. The study by the aforementioned cabinet revealed figures achieved by the Kingdom, this is what ranks Morocco one of the leading continental players in connectivity, telecoms, internet access as well as the use of digital in the broadest sense. However, there are still many challenges to be met, notably in the convergence of public policies, the upgrading of infrastructures, and the establishment of an incentive framework for investment in this sector. La Tribune Afrique and Mazars (2019) hope, therefore, to overcome these handicaps in order to reach the milestone of a digital nation[3].

However, while public action meets the threefold objective of convergence, coherence and crystallization, certain effects remain multiplied.

The Moroccan Digital Development Agency (DDA), in its general orientation note on the development of digital in Morocco to 2025, has demonstrated certain anomalies that constitute challenges for the success of this strategic project, namely:

- lack of an integrated vision of digital transformation;
- creation of barriers regulating the digital transformation operating system;
- creation of an appropriate digital infrastructure.

In addition, to meet existing challenges, DDA[4] has focused its action on accelerating the country's digital transformation, in order to ensure the success of the strategic development project. This clear, objective vision, which can be integrated to cover the next few years, has been translated into a series of strategic orientations. This approach falls within the scope of DDA's missions as a strategic public establishment in charge of implementing the government's strategy in this field, by supporting the promotion of the dissemination of digital tools and the development of their use by citizens and businesses.

Digital transformation of the Moroccan administration — a crucial challenge today, to radically change public services and make them more efficient, transparent and rapid. This transformation must take into account the provisions of the regulatory texts in force, in particular, Law No. 55.19 on the simplification of administrative procedures and formalities. The state is, therefore, intervening in three areas (hardware, software and human resources) to accelerate this transformation:

- the establishment of a global framework for effective interoperability between administrations and fundamental prerequisites;
- the development of structuring digital initiatives to accelerate the digital transformation of public services;
- maintain the model of end-to-end digitalization of public services for citizens and businesses, focusing on user needs;
- development must be accelerated towards the digital economy in Morocco;
- social inclusion and human development;
- setting up a national broadband network;
- implementation of a sector-wide digital transformation plan.

[3] Digital nation = means the right combination of "hard" elements (pipes, infrastructure, investment) and "soft" elements (education, content, vision).
[4] https://data.gov.ma/fr/feedback, https://data.gov.ma/fr/propos

2.2. Key success factors for e-governance in Morocco's public sector

Every state must be considered a novelty or an art of new information technologies and digital transformation, which are rooted in the work undertaken in this direction and which have highlighted several criteria and indicators that can measure and evaluate user satisfaction. From this multitude of indicators and measures, we have selected six that are relevant to our research object, while remaining in harmony with our study context, namely the Moroccan university. The indicators of the variable explained: user satisfaction, are chosen to assess their perceptions and expectations in order to identify levers for improving the quality of these services. They were chosen from among others, according to the Moroccan distance learning context. With this in mind, the interest and usefulness of public e-services in automating tasks and streamlining procedures and administrative decisions have been highlighted (Parviainen et al., 2017). For cost minimization and speed of execution as well as informational efficiency, these have been reported by author Mimeche et al. (2016). As for the dematerialization of operations, the latter was noted by Legner et al. (2017). The importance of the transition from the classic state to the modernized state and the multidimensional added value generated by the latter has been well highlighted by the work of researchers (Twizeyimana & Andersson, 2019).

The authors Luna-Reyes et al. (2012) have put together an arsenal of key criteria in the form of a multi-criteria package to help managers assess the quality of services provided to users, as well as transparency, efficiency, cost-effectiveness and accountability. In the same context, the work of researchers Singh et al. (2020) and Dobrolyubova (2021) also contributes to the evaluation of criteria for the establishment of the modern state.

Improving public administration and services requires the development of an e-governance strategy capable of making them more accessible to users, transparent, efficient (de Chatillon & Desmarais, 2012) and cost-effective, in order to contribute to the growth and development of the national economy.

This strategy must:

- respect the principles, organization and internal structure of democratic government;
- improve process efficiency (Barberis, 1998; Watkins & Arrington, 2007; De Chatillon & Desmarais, 2012);
- broaden the offer to users (communication, transactions, etc.);
- use an inclusive, non-discriminatory approach;
- involve users in strategic and priority choices (Pesqueux, 2020);
- guarantee transparency, safety and sustainability;
- improve user confidence and satisfaction with public services;
- facilitate access to electronic platforms and services;
- ensure system interoperability;
- maintain effective risk assessment and rigorous risk control;
- provide a partnership framework capable of strengthening work between different sectors and departments.

Taking these elements into account guarantees the success of such a strategy and reduces risks while helping to overcome crises and become more agile.

3. RESEARCH METHODOLOGY

The study was based on a questionnaire submitted to 165 teachers to find out how satisfied they were with this type of distance learning, during the state-ordered lock-in period. Only 93 people were questioned, 50 of whom gave objective answers. On the other hand, the 43 remaining answers were considered undecided, given their dubious and uncertain nature.

The choice of questionnaire focused on assessing satisfaction with this type of teaching, which will enable us to improve performance.

In addition, this was done with a view to assessing perceptions and expectations, and at the same time identifying levers for improving the quality of this type of teaching.

The analysis of this processing was preceded by data processing, which is just as delicate a process, but one that is essential for evaluating the improvement and performance of these same data. These could only be obtained after data collection, by means of an operation called pre-processing of reliable, usable and useful information, and this was carried out in the first instance. The data is then subjected to a cleaning or sorting operation. This made it possible to discard anything that seemed unnecessary and to take into consideration those elements deemed interesting and indispensable with a view to the eventual transformation and validation of the data in question.

The rate of successful respondents was 30.30%, i.e., 50 teacher-researchers who answered the questionnaire out of 165 researchers. In fact, we received 93 questionnaires, but we only validated 50, and 43 responses were unsuccessful, which we rejected. The reasons for this rejection are, on the one hand, the refusal to answer on the grounds that distance learning is a new practice that cannot be evaluated, let alone audited, particularly during the COVID-19 period. On the other hand, other respondents are totally opposed to this practice and its institutionalization without any participatory approach involving the teaching staff and all parties concerned.

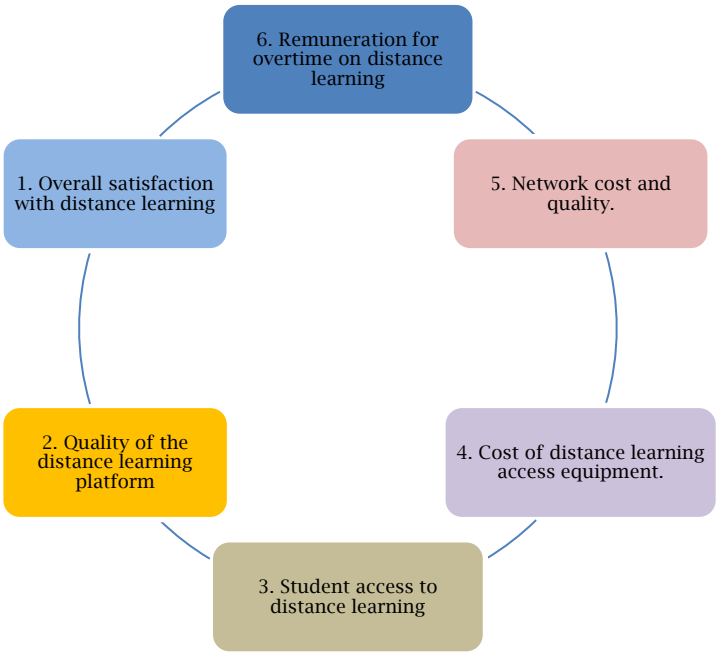
Some feedback was received from teacher-researchers whose questionnaires were rejected, resulting in the following justifications:

- teachers' incomplete view of distance learning, given its newness;
- the fear of making this type of teaching the only appropriate one, especially for certain module elements;
- there are no regulations governing distance learning;
- teachers prefer face-to-face teaching because of its advantages (face-to-face teaching, effective participation, tests and examinations, etc.).

This survey has been oriented towards this so-called satisfaction in terms of:

1. Level of general satisfaction with distance learning.
2. Quality of UMI's distance learning platform.
3. Student access to distance learning.
4. Cost of distance learning access equipment.
5. Network cost and quality.
6. Distance learning overtime compensation.

Figure 1. Indicators of teacher-researchers satisfaction with the digitalization of services.



Source: Authors' elaboration.

This field survey proved to be non-exhaustive. Another attempt was made to obtain teachers' impressions, and at the same time to get a clear idea of how distance learning went during the confinements that were the subject of the aforementioned health crisis, on the one hand, and on the other, to draw out remarks and recommendations likely to be useful for this kind of teaching.

It should be noted that this qualitative study can be carried out using other qualitative methods employing appropriate techniques and tools, such as interviews and focus groups, and so on.

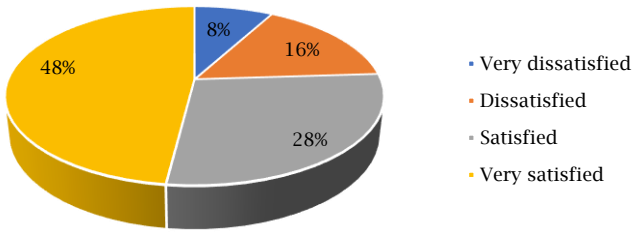
4. RESULTS

The results of the investigation are presented in tables and figures below.

Table 1. Overall level of satisfaction with distance learning

Level of satisfaction	*Workforce*	*Percentage, %*
Very dissatisfied	4	8%
Dissatisfied	8	16%
Satisfied	14	28%
Very satisfied	24	48%
Total	50	100%

Figure 2. Overall level of satisfaction with distance learning



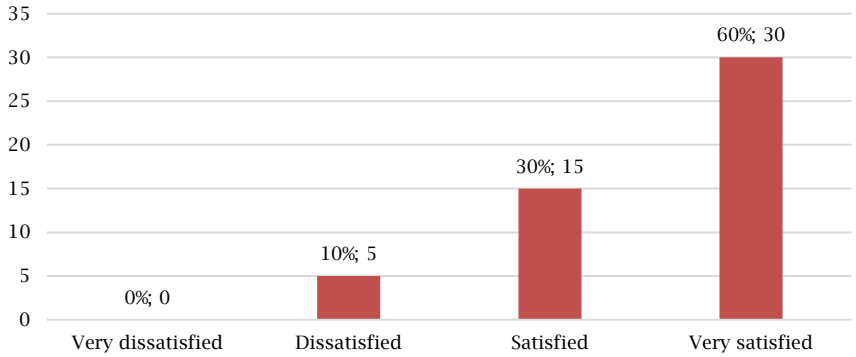
Source: Authors' elaboration.

Over two-thirds of teachers expressed general satisfaction with distance learning. This encourages the implementation of this type of teaching as a complement to face-to-face teaching in future years, in the event of a crisis.

Table 2. Quality of UMI's distance learning platform

Level of satisfaction	*Workforce*	*Percentage, %*
Very dissatisfied	0	0
Dissatisfied	5	10
Satisfied	15	30
Very satisfied	30	60
Total	50	100

Figure 3. Quality of UMI's distance learning platform



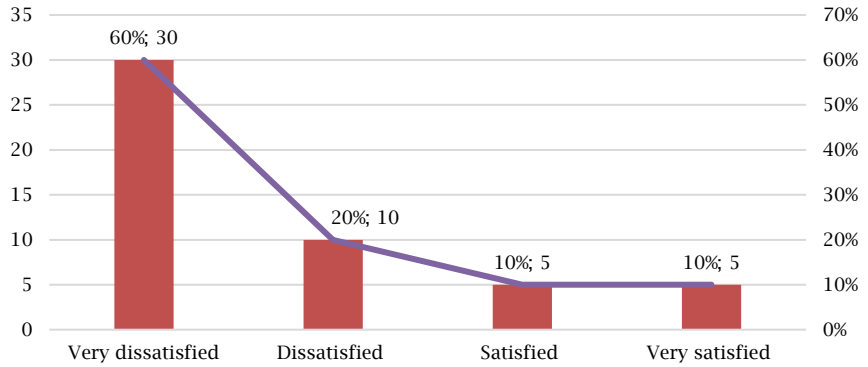
Source: Authors' elaboration.

Almost all of the teachers (90%) are satisfied with the quality of the platform, while those who are dissatisfied say that they had to make several efforts to better understand how to use the platform, while praising the training sessions organized under the chairmanship of UMI and by the affiliated establishments.

Table 3. Student access to distance learning

Level of satisfaction	*Workforce*	*Percentage, %*
Very dissatisfied	30	60
Dissatisfied	10	20
Satisfied	5	10
Very satisfied	5	10
Total	50	100

Figure 4. Student access to distance learning



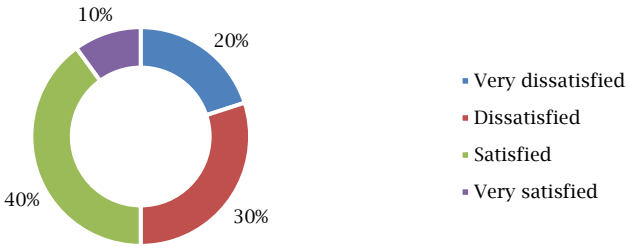
Source: Authors' elaboration.

Among the teachers, 80% expressed their total dissatisfaction. Very low attendance rates during sessions and difficulty in examining and interacting are at the root of this situation. No doubt the students also had their own reasons.

Table 4. Cost of distance learning access equipment

Level of satisfaction	*Workforce*	*Percentage %*
Very dissatisfied	10	20
Dissatisfied	15	30
Satisfied	20	40
Very satisfied	5	10
Total	50	100

Figure 5. Cost of distance learning access equipment



Source: Authors' elaboration.

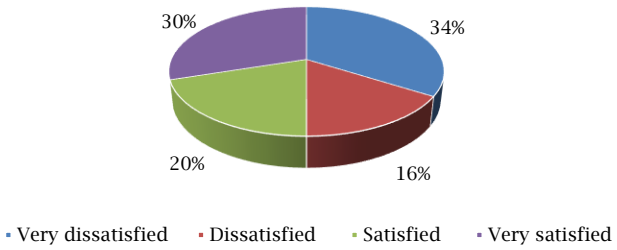
In this context, we note that half the teaching staff are categorically dissatisfied with the cost of distance learning equipment, and are calling for greater investment in this area, with easier access for teachers, administrators and especially students. Room equipment for direct access, a reduction in the cost of materials and even the abolition of connection fees are all in demand.

50% of users declare that they are satisfied with the network. As for network quality, this requires the commitment of all those in charge.

Table 5. Network cost and quality

Level of satisfaction	*Workforce*	*Percentage %*
Very dissatisfied	17	34
Dissatisfied	8	16
Satisfied	10	20
Very satisfied	15	30
Total	50	100

Figure 6. Network cost and quality

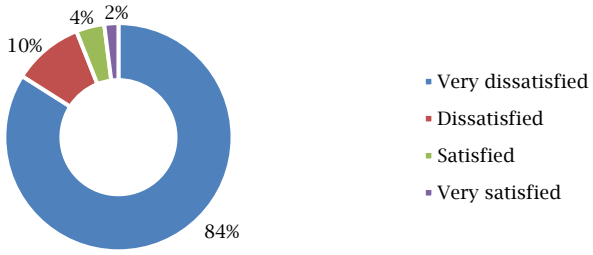


Source: Authors' elaboration.

Table 6. Overtime remuneration on distance learning

Level of satisfaction	*Workforce*	*Percentage %*
Very dissatisfied	42	84
Dissatisfied	5	10
Satisfied	2	4
Very satisfied	1	2
Total	50	100

Figure 7. Overtime remuneration on distance learning



Source: Authors' elaboration.

When it comes to teachers' remuneration, they express their dissatisfaction (over 90%).

5. DISCUSSION

Overall level of satisfaction with distance learning. 76% of teachers expressed general satisfaction with distance learning. This encourages the implementation of this type of teaching as a complement to face-to-face teaching in future years, in the event of a crisis.

During the COVID-19 health crisis, and in view of the international spread of this pandemic, public administrations and institutions in general, and Moroccan universities in particular, found themselves obliged to urgently adopt new approaches and steps capable of minimizing the damage caused by the crisis.

Quality of the UMI's distance learning platform. Almost all teachers are satisfied with the quality of the platform, while those who are not dissatisfied point out that they were obliged to make several efforts to better understand how to use the platform, while praising the training sessions organized under the chairmanship of UMI and by the affiliated establishments.

As part of its commitment to providing easy access to distance learning for all users, Moulay Ismail University has set up and made available to teachers a range of online electronic tools — "modern platforms" that can be consulted remotely — to ensure quality online training. This has made it possible to avoid travel during the COVID-19 period and guarantee course continuity. In this respect, 90% of the teachers questioned were satisfied with these practices, while 10% were dissatisfied.

Student access to distance learning. Among the teachers, 80% expressed total dissatisfaction. Attendance rates were very low during the sessions, and difficulty in examining and interacting were at the root of this situation. The students probably had their own reasons too.

Successful student access to the platforms has been hampered by a number of human and material factors: poor navigation, lack of connection and electronic tools; computers and tablets, lack of network for students living in villages and mountains, poverty all these and other factors have contributed to user dissatisfaction with distance learning.

Cost of distance learning access equipment. In this context, we note that 50% of teaching staff are categorically dissatisfied with the cost of distance learning equipment, and are calling for greater investment in this area, with easier access for teachers, administrators and especially students. Room equipment for direct access, lower material costs, computers and tablets, especially for students, and even the abolition of connection fees are all in demand.

Network cost and quality. 50% of users stated that they were satisfied with the network. As for the quality of the network, this requires the commitment of all those in charge to cover the entire territory as soon as possible by all operators, in order to guarantee social equity in access to electronic services and especially distance learning.

Overtime remuneration on distance learning. Over 90% of teachers express their dissatisfaction with teacher remuneration. The administration needs to create a set of specifications for paying teachers.

To this end, the results obtained show that certain indicators are performing satisfactorily. This means that teachers are generally satisfied with e-services. These results concur with the work carried out by the researchers cited in the literature review (Singh et al., 2020; Dobrolyubova, 2021), who demonstrate that the success of the digitization of administration relies mainly on the degree of satisfaction of e-services users. However, the indicator relating to student access to distance learning shows considerable user dissatisfaction. For the last three indicators, the State must urgently commit to resolving existing problems in order to maintain this type of education as an alternative or complement to face-to-face teaching.

The avenues for progress proposed by the interviewees for further development of distance learning within the UMI involve the requirement to activate what is indispensable, namely:

1. Equipment.
2. Institutionalization.
3. Use distance learning as a complement to classroom teaching, even in normal periods, to relieve pressure on infrastructures.
4. Usefulness for storing digital teaching aids Database
5. Useful for academic support, especially in the area of soft skills.
6. Easing the cost of digital access, especially for students.

6. CONCLUSION

Before concluding this study, it's important to point out that the results of distance learning have been more or less appreciable at all levels, and that the COVID-19 pandemic offered our country the ultimate opportunity to practice this kind of distance learning that our administration and Moroccan society have never experienced before. This operation has created a multitude of difficulties, both vertical and lateral, and this has been noticed at almost every level, in other words, all stakeholders have been affected.

The survey turned out to be an important one, as it provided a clear and important overview of the use of digital technology by all of the country's administrative departments. Moreover, it revealed that digital transformation has not been a choice, but an unavoidable obligation for Morocco. For this reason, the country was fully committed to the digital project before the pandemic, seeing it as an unavoidable strategy focused on the national socio-economic priority. Nevertheless, there have been a number of drawbacks that have hampered the emancipation of this digital project. In practice, however, a wide range of situations and issues have been encountered, all of which relate to the results of the survey carried out among UMI's teacher-researchers.

Thus, the adoption of this project will require rules and systems that will become widespread within all Moroccan organizations, whether public or private, and its implementation will require the efforts of all organizational managers, as well as all socio-economic players. Support is essential to meet all the financial, human and strategic challenges; but its success depends on the organizational culture and the reluctance of the various socio-economic players to embrace the new digital practices.

This is why it is recommended that all public administration departments and their companies adopt a digital transformation that works in parallel with the organizational culture.

Successful digital transformation in Morocco requires the full involvement of all stakeholders, within a synergistic framework aimed at system performance.

Finally, as soon as the will is expressed and realized, it should be put into practice, using all means likely to bring about efficiency and at the same time acquire the challenge that is a "digital nation".

This study, notwithstanding its valuable insights, is not without its limitations. Firstly, the modest sample size of 50 teacher-researchers could potentially restrict the generalizability of the findings. Secondly, the exclusive reliance on qualitative methods such as semi-structured interviews could be enhanced by the integration of quantitative approaches to achieve a more comprehensive understanding. Lastly, the study's dependence on self-reported data introduces the possibility of response bias.

In the future, longitudinal studies may be employed to monitor the enduring impact of e-governance on public administration performance. Furthermore, comparative analyses spanning across nations could illuminate the efficacy of various approaches. Additionally, the incorporation of quantitative measures has the potential to offer more precise metrics regarding the impact of e-governance. Moreover, studies with a user-centric focus should prioritize citizen satisfaction and accessibility. Ultimately, ongoing research should continue to serve as a guiding force for policymakers in the implementation of effective e-governance strategies.

REFERENCES

Albouy, M. & Obeid, H. (2007). L'impact des privatisations sur la performance des entreprises françaises [The impact of privatizations on the performance of French companies]. *Finance, Contrôle et Stratégie*, *10*(1), 6–37. http://surl.li/sbyma

Albouy, M. (2002). L'actionnaire comme apporteur de ressources financières [The shareholder as a provider of financial resources]. *Revue Française de Gestion*, *5*(141), 17–35. https://www.cairn.info/revue-francaise-de-gestion-2002-5-page-17.htm

Al-Hujran, O., Al-Debei, M. M., Chatfield, A., & Migdadi, M. (2015). The imperative of influencing citizen attitude toward e-government adoption and use. *Computers in Human Behavior*, 53, 189–203. https://doi.org/10.1016/j.chb.2015.06.025

Barberis, P. (1998). The new public management and a new accountability. P*ublic Administration*, *76*(3), 451–470. https://doi.org/10.1111/1467-9299.00111

Box, R. C, Marshall, G. S, Reed, B. J., & Reed, C. M. (2001). New public management and substantive democracy. *Public Administration Review*, *61*(5), 608–619. https://doi.org/10.1111/0033-3352.00131

Bozec, R. (2004). L'analyse comparative de la performance entre les entreprises publiques et les entreprises privées: Le problème de mesure et son impact sur les résultats [Comparative analysis of performance between public companies and private companies: The measurement problem and its impact on results]. *L'actualité Economique*, *80*(4), 619–654. https://doi.org/10.7202/012130ar

Bressolles, G., Durrieu, F., & Senecal, S. (2014). A consumer typology based on e-service quality and e-satisfaction. *Journal of Retailing and Consumer Services, 21*(6), 889–896. https://doi.org/10.1016/j.jretconser.2014.07.004

Brown, D. (2005). Le gouvernement électronique et l'administration publique [Electronic government and public administration]. *Revue Internationale des Sciences Administratives*, *71*(2), 251–266. https://doi.org/10.3917/risa.712.0251

Buschor, E. (2013). Performance management in the public sector: Past, current and future trends. *Tékhne*, *11*(1), 4–9. https://doi.org/10.1016/j.tekhne.2013.05.005

Büyüközkan, G., & Göçer, F (2018). Digital supply chain: Literature review and a proposed framework for future research. *Computers in Industry, 97*, 157–177. https://doi.org/10.1016/j.compind.2018.02.010

Calay, V., Mosty, M., & Paque, R. (2019). *La digitalisation de l'administration publique wallonne. État des lieux et perspectives* [The digitalization of Walloon public administration. Current situation and outlook] (IWEPS Research Report No. 29). L'Institut wallon de l'évaluation, de la prospective et de la statistique. https://www.iweps.be/wp-content/uploads/2019/05/RR29-PM4-Digiwa-Calay-complet.pdf

Cordella, A., & Iannacci, F. (2010). Information systems in the public sector: The e-government enactment framework. *The Journal of Strategic Information Systems, 19*(1), 52–66. https://doi.org/10.1016/j.jsis.2010.01.001

De Chatillon, A. E., & Desmarais, C. (2012). Le nouveau management public est-il pathogène ? [Is the new public management pathogenic?]. *Management international/International Management/Gestiòn Internacional*, *16*(3), 10–24. https://doi.org/10.7202/1011413ar

Dobrolyubova, E. (2021). Measuring outcomes of digital transformation in public administration: literature review and possible steps forward. *NISPAcee Journal of Public Administration and Policy*, *14*(1), 61–86. https://doi.org/10.2478/nispa-2021-0003

Eggers, W. D., & Bellman, J. (2015). *The journey to government's digital transformation.* Deloitte. http://surl.li/sbzpf

Er Rays, Y., Ait Lemqeddem, H., & Ezzahiri, M. (2022). Le new management public l'ère de COVID 19 et ses variantes: Quelle performance au Maroc? [New public management in the era of COVID 19 and its variants: What performance in Morocco?] *Revue Internationale des Sciences de Gestion*, *5*(1), 1020–1040. https://revue-isg.com/index.php/home/article/view/884

European Union. (2018). *eGovernment benchmark 2017: Taking stock of user-centric design and delivery of digital public services in Europe* (Final background report, Vol. 2). Publications Office of the European Union. https://www.capgemini.com/wp-content/uploads/2017/11/2017-egovernment-benchmark_background_v7.pdf

Gupta, B., Dasgupta, S., & Gupta, A. (2008). Adoption of ICT in a government organization in a developing country: An empirical study. *The Journal of Strategic Information Systems, 17*(2), 140–154. https://doi.org/10.1016/j.jsis.2007.12.004

Islam, F. (2015). New public management (NPM): A dominating paradigm in public sectors. *African Journal of Political Science and International Relations*, *9*(4), 141–151. https://doi.org/10.5897/AJPSIR2015.0775

Kraemer, K. L., & King, J. L. (1986). Computing and public organizations. *Public Administration Review*, *46*, 488–496. https://doi.org/10.2307/975570

La Tribune Afrique, & Mazars. (2019). Le Maroc, la future "Digital Nation" Africaine? [Morocco, the future African "Digital Nation"?]. (Policy paper). *La Tribune Afrique*. https://static.latribune.fr/1207516/le-maroc-la-future-digital-nation-africaine.pdf

Legner, C., Eymann, T., Hess, T., Matt, C., Böhmann, T., Drews, P., Mädche, A., Urbach, N., & Ahlemann, F. (2017). Digitalization: Opportunity and challenge for the business and information systems engineering community. *Business & Information Systems Engineering, 59*, 301–308. https://doi.org/10.1007/s12599-017-0484-2

Liu, Y., Li, H., Kostakos, V., Goncalves, J., Hosio, S., & Hu, F. (2014). An empirical investigation of mobile government adoption in rural China: A case study in Zhejiang province. *Government Information Quarterly*, *31*(3), 432–442. https://doi.org/10.1016/j.giq.2014.02.008

Luna-Reyes, L. F., Gil-Garcia, J. R., & Romero, G. (2012). Towards a multidimensional model for evaluating electronic government: Proposing a more comprehensive and integrative perspective. *Government Information Quarterly*, *29*(3), 324–334. https://doi.org/10.1016/j.giq.2012.03.001

Mimeche, W., Fallery, B., & Rodhain, F. (2016). Présence numérique des salariés et présence numérique de l'entreprise: Le cas d'une entreprise de conseil [Digital presence of employees and digital presence of the company: The case of a consulting company]. *Management des technologies organisationnelles*, *1*(5), 189–196. https://www.cairn.info/revue-management-des-technologies-organisationnelles-2016-1-page-189.htm

Nigro, L. G., & Kellough, J. E. (2008). Personnel reform in the states: A look at progress fifteen years after the winter commission. *Public Administration Review*, *68*(s1), s50–s57. https://doi.org/10.1111/j.1540-6210.2008.00978.x

Oktal, O., Alpu, O., & Yazici, B. (2016). Measurement of internal user satisfaction and acceptance of the e-justice system in Turkey. *Aslib Journal of Information Management, 68*(6), 716–735. https://doi.org/10.1108/AJIM-04-2016-0048

Ozkan, S., & Kanat, I. E. (2011). E-government adoption model based on theory of planned behavior: Empirical validation. *Government Information Quarterly*, *28*(4), 503–513. https://doi.org/10.1016/j.giq.2010.10.007

Parviainen, P., Tihinen, M., Kääriäinen, J., & Teppola, S. (2017). Tackling the digitalization challenge: How to benefit from digitalization in practice. *International Journal of Information Systems and Project Management*, *5*(1), 63–77. https://doi.org/10.12821/ijispm050104

Pesqueux, Y. (2020). *New public management (NPM) et nouvelle gestion publique (NGP)* [New public management (NPM) and new public management (NGP)] [PhD thesis].

Rahm, D. (1999). The role of information technology in building public administration theory. *Knowledge, Technology & Policy, 12*, 74–83. https://doi.org/10.1007/s12130-999-1015-3

Saoud, H. (2013). *Les technologies de l'information et de la communication comme levier de transformation du management des organisations publiques* [Information and communication technologies as a lever for transforming the management of public organizations] [Thesis, University of Versailles Saint-Quentin-en-Yvelines]. https://theses.fr/2013VERS041S

Scupola, A., & Zanfei, A. (2016). Governance and innovation in public sector services: The case of the digital library. *Government Information Quarterly*, *33*(2), 237–249. https://doi.org/10.1016/j.giq.2016.04.005

Singh, H., Grover, P., Kar, A. K., & Ilavarasan, P. V. (2020). Review of performance assessment frameworks of e-government projects. *Transforming Government: People, Process and Policy*, *14*(1), 31–64. https://doi.org/10.1108/TG-02-2019-0011

The Ministry of Administration and Civil Service Reform of Morocco. (2018). *Plan national de la réforme de l'administration 2018–2021* [National plan for administration reform 2018–2021]. https://hazbane.asso-web.com/uploaded/plan-national-de-la-ra-forme-de-la-administration-2018-2021.pdf

Thom, N., & Ritz, A. (2017). Die organisatorischen Gestaltungselemente des Public Managements. In *Public Management: Innovative Konzepte zur Führung im öffentlichen Sektor* (pp. 211–303). Springer. https://doi.org/10.1007/978-3-658-16213-9_5

Tinholt, D., van der Linden, N., Groeneveld, A., Enzerink, S., Radu, C., Cattaneo, G., Aguzzi, S., Pallaro, F., Noci, G., Benedetti, M., Marchio, G., & Tangi, L. (2017). *eGovernment benchmark 2017: Taking stock of user-centric design and delivery of digital public services in Europe* (Final background report, Vol. 2). European Union. https://data.europa.eu/doi/10.2759/742892

Twizeyimana, J. D., & Andersson, A. (2019). The public value of e-government — A literature review. *Government Information Quarterly*, *36*(2), 167–178. https://doi.org/10.1016/j.giq.2019.01.001

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems, 28*(2), 118–144. https://doi.org/10.1016/j.jsis.2019.01.003

Warin, P. (1999). La performance publique: Attentes des usagers et réponses des ministères [Public performance: User expectations and responses from ministries]. *Politiques et Management Public, 17*(2), 147–163. https://doi.org/10.3406/pomap.1999.2234

Watkins, A. L., & Arrington, C. E. (2007). Accounting, new public management and American politics: Theoretical insights into the national performance review. *Critical Perspectives on Accounting*, *18*(1), 33–58. https://doi.org/10.1016/j.cpa.2005.02.003

Weber, M. (1978). Bureaucracy. In G. Roth & C. Wittich (Eds.), *Economy and society: An outline of interpretive sociology* (pp. 941–1005). University of California Press.

Zaoudi, A. (2021). Le nouveau management public et la professionnalisation comme leviers de perfectionnement de la fonction publique au Maroc [The new public management and professionalization as levers of improvement of the public service in Morocco]. *International Journal of Accounting, Finance, Auditing, Management and Economics*, *2*(3), 133–148. https://doi.org/10.5281/zenodo.4641515