The Digital Transformation of Public Administration in Morocco: Challenges, Issues, and Opportunities.

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Abstract

The digital transformation of public administrations has become a strategic priority for many countries, including Morocco. This process aims to modernize public services by integrating digital technologies to improve efficiency, transparency, and the quality of services offered to citizens. This article analyzes the major issues associated with this transformation in Morocco, highlighting the obstacles encountered, such as resistance to change, budgetary constraints, and technological challenges. It also examines the opportunities presented, including improved access to public services, reduced administrative costs, and the promotion of e-governance. The implications of this work are significant for public policymakers, as they offer concrete pathways to overcome the identified obstacles and capitalize on the opportunities offered by digital transformation. The findings of this study could influence how public policies are designed and implemented, guiding the necessary reforms to ensure a more agile and citizen-centric administration. Finally, the article presents the strategies and initiatives already implemented by the Moroccan government and concludes with the need to strengthen efforts to ensure a more agile, efficient, and future-oriented public administration. The main conclusion emphasizes that, despite the challenges, digital transformation is a crucial lever for modernizing the Moroccan public administration.

Keywords: digital transformation, public administration, Morocco, e-government, public services, digital development.

Introduction

In recent decades, digital transformation has profoundly changed the way organizations, both private and public, operate. The rapid development of digital technologies and associated innovations, such as artificial intelligence, big data and collaborative platforms, has made it possible to improve the efficiency of processes, increase the accessibility of services and enhance the transparency of interactions between institutions and their users (ERRAGZI & ELABBASSI, 2024).

In this global context of digital transition, public administrations are faced with the need to modernize their structures and practices to meet citizens' growing expectations in terms of service quality and administrative agility (NOKHAILI & LEMQEDDEM, 2024).

Morocco, like other emerging countries, has embarked on a vast process of administrative modernization, placing digital technology at the heart of its reform strategies. The Moroccan strategy for digital transformation, notably through the "Maroc Digital 2020" and then "Maroc Digital 2025" initiatives, aims to strengthen the country's competitiveness while improving the public services offered to citizens and businesses (NACHED & ZABADI, 2024).

Electronic administration (or e-government) is a fundamental pillar, with projects such as the national portal for administrative procedures, the interconnection of administrative information systems, or the development of online public services (Zehir et al., 2015).

However, while significant progress has been made, many challenges remain. The success of digital transformation in Moroccan public administration depends not only on the implementation of technological solutions, but also on a change in organizational culture, the training of public servants in digital tools and the redesign of administrative processes to integrate new collaborative working models. On the other hand, issues relating to technological infrastructure, data security, digital governance and the digital inclusion of marginalized populations continue to hamper this transition (Benkada, 2024).

This article examines the issues, challenges and opportunities of digital transformation in Morocco's public administration. Through a literature review, analysis of national strategies and examination of international best practices, the study aims to identify the levers of success for the modernization of Moroccan administration. The aim is to provide a global vision of the transformations underway, and recommendations for maximizing the impact of digital technology on the efficiency of public services, user satisfaction and the performance of administrations.

This article therefore seeks to answer some key questions: What progress has been made to date? What obstacles still stand in the way of the digital transition of public administration in Morocco? And above all, how can digital technology help to make the Moroccan administration more accessible, efficient and responsive to the needs of its citizens and to economic and social change?

This reflection is part of a global context in which the digitization of public services is seen not only as a lever for modernization, but also as a means of strengthening good governance, improving transparency and stimulating citizen participation.

1. Literature review

1.1. Digital transformation

Digital transformation is a global process aimed at rethinking practices, processes and business models within organizations through the use of digital technologies (EL HAJ, 2020). This concept is not limited to the application of technologies, but also includes cultural and organizational change (ECHINE & KIBOU, 2024). In the public sector, digital transformation is essential to improve service efficiency and enhance transparency (Chatit & Mohamed, 2023). Technologies such as big data and artificial intelligence are helping to better understand citizens' needs and improve service delivery. The literature emphasizes the importance of a digital strategy for successful transformation, as organizational goals must be aligned with technological initiatives (IBRAHIM & BENABDELHADI, 2023).

1.2. Public administration

Public administration refers to the set of institutions and organizations that implement public policies and provide services to citizens (EL ABIDINE & EL KADIRI, 2022). It plays a crucial role in managing public resources, regulating economic activities and guaranteeing citizens' rights (Ibrahim & Benabdelhadi, 2021). Public administration is often perceived as a central player in governance, as it establishes a link between the state and society (Ouboumlik & Touhami, 2024).

The literature on public administration emphasizes the importance of efficiency, transparency and accountability in the management of public affairs. In a context of rapid change and increasing demands from citizens, public administrations must adapt and innovate to meet society's needs (MARINI, 2023). This implies not only the adoption of new technologies, but also a review of organizational practices and improved collaboration between the various public players (NOKHAILI & LEMQEDDEM, 2024).

1.3. Links between digital transformation and public administration

Digital transformation and public administration are closely interconnected, as technological change profoundly influences the way public services are delivered and managed (Ouboumlik & Touhami, 2024). Digital transformation in this sector involves integrating digital technologies to improve the efficiency, transparency and accessibility of administrative services (TAHTAH, 2022).

Adopting digital tools streamlines administrative processes, reduces processing times and improves the citizen experience (Lahlimi et al., 2023). For example, online platforms can facilitate access to public services, enabling users to submit requests, consult information or track the progress of their files without having to physically go to the office. This helps to relieve congestion in administrative offices and reduce operational costs. (JANATI-IDRISSI, 2020).

Moreover, digital transformation fosters a culture of transparency and accountability within public administration. Open data and information systems enable citizens to better understand public decisions and monitor institutional performance. This strengthens the trust between citizens and administration, which is essential for effective governance. (BENABDELHAK, 2022).

2. Digital transformation in Moroccan public administration: progress and initiatives

Digital transformation in Moroccan public administration has seen significant progress in recent years, but it also faces several challenges (EL YAMANI et al., 2023). The Moroccan government has undertaken various initiatives to modernize its public services, notably through the implementation of the "Maroc Numérique 2020" strategy. This initiative aims to improve access to public services and increase the efficiency of administrative processes through the integration of digital technologies (EL YAMANI et al., 2023).

2.1. Digital Morocco 2020 strategy

The digital transformation of the Moroccan public administration is part of the " Digital Morocco 2020" national strategy, launched in 2015. This strategy aims to make digital a lever for economic and social development, by integrating new technologies into public services to meet citizens' growing expectations for efficiency and transparency (BELHASSANI, 2023).

"Digital Morocco 2020" is based on a number of strategic priorities. Firstly, the generalization of electronic services is a major objective (IBRAHIM & BENABDELHADI, 2023). This involves setting up digital platforms that enable citizens to easily access various administrative

services, such as civil status, building permits and grant applications. The aim is to reduce waiting times and simplify administrative procedures, making interaction with the administration more fluid and less bureaucratic (IBRAHIM & BENABDELHADI, 2023).

Secondly, promoting Internet access is a priority. The strategy aims to extend Internet coverage, particularly in rural and remote areas, to ensure that all citizens can benefit from digital services (Mohamed, 2023). This is crucial to reducing the digital divide and enabling every individual to participate in the information society.

Another key area is improving the digital skills of civil servants. Ongoing training and skills development are essential if civil servants are to make effective use of digital tools and support users in their online procedures (ELKHALKHALI et al.). This also contributes to a culture of innovation within public institutions, fostering an environment conducive to the evolution and improvement of services.

Lastly, " Digital Morocco 2020" focuses on digital governance, by encouraging collaboration between the various administrations and promoting the exchange of information. This will optimize internal processes and ensure better coordination of public actions (EL ABIDINE & EL KADIRI, 2022).

2.2. Portals and online services

The digital transformation of Moroccan public administration is taking place through the creation of digital portals that facilitate access to administrative services. These portals aim to improve the efficiency, transparency and accessibility of public services, thereby meeting the growing expectations of citizens (BARHON et al., 2024).

The "www.service-public.ma" portal is one of the main tools used to centralize online administrative services. It enables citizens to carry out a variety of procedures, including renewing identity documents, paying taxes, and applying for official documents. (Ibrahim & Benabdelhadi, 2021). Users can renew their national identity card without having to travel, simplifying the process. As far as taxes are concerned, the portal offers the possibility of paying them online, making these transactions more convenient and avoiding queues (Nabaouia & Dounia, 2024). In addition, citizens can apply for documents such as birth certificates or certificates of residence with just a few clicks.

The Moroccan government has also introduced electronic payment systems to facilitate financial transactions between users and the administration. These systems offer a number of advantages, including secure transactions thanks to security protocols that ensure the protection

of users' personal data. By limiting physical interaction between administrative agents and citizens, these systems also help to reduce opportunities for corruption.

Online portals and services offer many benefits for citizens, such as saving time, avoiding long queues and simplifying access to administrative services. (Mohamed, 2023). What's more, these services are accessible to all, including citizens living in rural areas, as long as they have an Internet connection. The portals are designed to be user-friendly, with clear instructions that make it easy to use the services.

2.3. E-government and digital platforms

The rise of e-government in Morocco represents a major turning point in the way public administration interacts with citizens. The aim of this initiative is to simplify administrative procedures, increase accessibility to services and improve the efficiency of government operations (Ibrahim & Benabdelhadi, 2021).

Digital platforms, such as "Tadamoune", have been created to integrate social and administrative services (Nabaouia & Dounia, 2024).. This type of platform is essential for facilitating access to government assistance, particularly for the most vulnerable households. For example, Tadamoune enables citizens to access information on available aid programs, check their eligibility and apply online. This system reduces application processing times and enables resources to be better allocated to citizens in need.

The introduction of e-government has also led to a simplification of administrative procedures (EL ATTAR, 2021). Many services that previously required physical visits to government offices can now be carried out online. This includes processes such as company registration, applying for building permits and accessing public documents.

E-government also facilitates transparency and accountability. Digital platforms enable citizens to track the status of their requests, check processing times, and submit complaints in the event of problems. This encourages public administrations to improve their performance, as they need to respond quickly to citizens' expectations (MARINI, 2023).

E-government initiatives are accompanied by efforts to educate and train users in the use of these digital tools. Communication campaigns and training workshops are organized to familiarize citizens with the new technologies and encourage them to use online services. This approach contributes to wider adoption of e-government and a better user experience (Zinaoui & El Khettab, 2022).

2.4. Digitization of internal procedures

One of the major advances in this field is the implementation of electronic document management systems (TAHTAH, 2022). These systems enable administrative documents to be dematerialized and centralized in digital databases. This reduces the need for paper documents, speeds up information processing and reduces the risks associated with the loss or deterioration of physical documents (TAHTAH, 2022). Thanks to this dematerialization, public employees can quickly access the information they need, exchange documents securely and track the history of modifications (NINISS, 2022).

Digitization is also affecting human resources management (HRM) systems in public administrations (Chatit & Mohamed, 2023). The introduction of HR management software makes it possible to better organize the recruitment, career monitoring, leave management and training processes of public employees (ETTAGUENAOUTY, 2024). These tools enable smoother, more transparent personnel management, while facilitating decision-making based on reliable data.

At the same time, internal digital collaboration platforms have been set up to facilitate teamwork within administrations (Rachad et al., 2024).. These platforms enable document sharing, project coordination and remote task management, particularly in a context where telecommuting is becoming an increasingly common practice. They also promote better communication between different departments, reducing processing times and boosting overall productivity (El Yaagoubi & Khalid, 2023).

Finally, the digitization of internal processes helps enhance the transparency and traceability of administrative decisions (ECHINE & KIBOU, 2024). Automated, standardized procedures make it possible to track every stage of the decision-making process, guaranteeing better control and reducing the risk of fraud or corruption. Administrations can thus offer more reliable services, while ensuring a higher level of control and accountability.

2.5. Smart City projects

The rise of Smart City projects in Morocco represents a significant step forward in the digital transformation of cities and public administration (EL HAJ, 2020). These initiatives aim to integrate innovative technological solutions to improve citizens' quality of life, optimize public services and strengthen urban sustainability (EL ABIDINE & EL KADIRI, 2022). By adopting an innovation-centric approach, local authorities are striving to respond to contemporary challenges such as urban congestion, resource management and public safety.

One of the key aspects of Smart City projects is the implementation of intelligent traffic management systems (EL YAMANI et al., 2023). These systems use advanced technologies such as sensors, cameras and artificial intelligence to monitor traffic flow in real time. Using this data, authorities can regulate traffic, optimize public transport routes and reduce congestion, thereby contributing to smoother traffic flow and lower carbon emissions.

When it comes to street lighting, several Moroccan cities have begun to adopt connected solutions. Intelligent lighting makes it possible to remotely control streetlights, adjust light intensity according to the presence of pedestrians or vehicles, and optimize energy consumption (EL HAJ, 2020). These initiatives not only help to reduce energy costs, but also improve the safety of public spaces at night.

Smart City projects also include dedicated mobile applications, enabling citizens to report urban problems such as potholes, faulty streetlights or garbage problems. These tools encourage citizen participation and enable a rapid response from municipal services, strengthening the link between administration and citizens.

In addition, Smart City initiatives include waste management programs based on digital solutions (TAOUABIT et al., 2023). For example, waste tracking and collection route optimization systems are implemented to ensure more efficient waste management, reduce operational costs and minimize environmental impact.

2.6. Training and awareness-raising

The digital transformation of Moroccan public administration is not limited to the implementation of new technologies; it also requires particular attention to the training and awareness of public agents (NINISS, 2022). This is essential to ensure that government employees have the skills they need to use digital tools effectively and understand the issues associated with this transformation.

In this context, several training programs have been set up. These aim to familiarize public servants with emerging technologies, such as electronic management systems, online service platforms and digital communication tools. The main objectives are to improve agents' technical skills, strengthen their ability to interact with citizens through digital channels, and encourage a culture of innovation within public institutions (TAYAZIME & MOUTAHADDIB, 2021).

In parallel, awareness-raising initiatives are also being developed to inform agents of the benefits of digital transformation. These programs address a variety of themes, such as the importance of transparency, accountability and responsiveness in the relationship between the administration and users (NOKHAILI & LEMQEDDEM, 2024). The idea is to create an

environment where agents understand not only how to use digital tools, but also why these tools are crucial to improving the quality of services offered to citizens.

Workshops, seminars and online training courses are organized on a regular basis to ensure continuous monitoring of public employees' skills (MARINI, 2023). In addition, partnerships with academic institutions and private companies are established to provide external expertise and additional resources (JANATI-IDRISSI, 2020). These collaborations enable us to enrich our training programs and keep abreast of the latest technological trends.

Finally, raising awareness of digital transformation also includes campaigns to promote the use of digital services among citizens (Nabaouia & Dounia, 2024). By informing the public about the benefits of online services and training users in their use, the administration helps to reduce resistance to change and encourage wider adoption of digital tools.

3. Challenges and obstacles to digital transformation in Moroccan public administration

Despite the significant advances made in the digital transformation of Moroccan public administration, several challenges remain that hinder the full realization of this ambition (HATTAB & EL HOUARI, 2024; Ouboumlik & Touhami, 2024). These obstacles are varied in nature, touching on technological as well as organizational and human aspects.

3.1. Insufficient technological infrastructure

Technological infrastructures are the backbone of the digital transformation of public administration (NACHED & ZABADI, 2024). In Morocco, one of the major challenges is the disparity of infrastructures between the country's different regions. In urban areas, administrations generally benefit from access to advanced technologies, including high-speed Internet connections, modern data centers and high-performance IT equipment (Mohamed, 2023). On the other hand, rural and remote areas face a crying lack of infrastructure, which limits their access to the digital services offered by the administration.

This digital divide has significant repercussions on the efficiency of public services. For example, citizens living in areas poorly served by the Internet may have difficulty accessing digital portals, preventing them from benefiting from online services such as issuing official documents, paying taxes or applying for subsidies (Kamal & El Qour, 2024). This inequality of access creates a gap between citizens, fostering a situation where those living in urban areas can enjoy the benefits of digitization, while those in rural areas are left behind.

To alleviate this problem, it is imperative that the Moroccan government invests in the development and improvement of technological infrastructures, particularly in disadvantaged

areas (Nabaouia & Dounia, 2024). This could include extending telecoms networks, installing public Wi-Fi hotspots, and improving Internet connections.

Furthermore, it is also crucial to train and equip local administrations so that they are able to effectively manage the available digital technologies (Ouboumlik & Touhami, 2024). This could involve partnerships with technology companies to develop solutions tailored to the specific needs of local authorities.

3.2. Resistance to change

Resistance to change is a major obstacle to digital transformation within Moroccan public administration (Rachad et al., 2024). This resistance can come from both employees and managers, often due to fear of the unknown, skepticism about the effectiveness of new technologies, or concerns about data security.

To overcome this resistance, it is essential to implement change management strategies (TAHTAH, 2022). This includes awareness-raising initiatives to educate public servants on the benefits of new technologies, as well as training programs to help them adapt to new ways of working. In addition, involving employees in the transformation process can foster a sense of ownership and buy-in, which can reduce resistance to change.

It is also important to demonstrate concrete success stories arising from digital transformation (Lahlimi et al., 2023). By presenting examples of cases where digitization has led to tangible improvements for both agents and users, the administration can convince those who are skeptical of the real benefits of these initiatives.

3.3. Lack of digital skills

Another significant challenge is the lack of digital skills within public administrations (IBRAHIM & BENABDELHADI, 2023). Digital transformation requires not only modern technological tools, but also skilled human resources capable of using them effectively. Yet many public sector employees lack the skills needed to navigate in a digital environment.

This skills deficit can be attributed to several factors, including the lack of adequate training and the absence of professional development programs (ERRAGZI & ELABBASSI, 2024). Consequently, even when digital technologies are introduced, their potential may not be fully exploited due to agents' inability to use them effectively.

To remedy this situation, it is essential to implement ongoing training programs for public servants (Chatit & Mohamed, 2023). These programs should cover areas such as cybersecurity, data management, and the use of digital tools to improve the efficiency of administrative services.

3.4. Cybersecurity issues

As Moroccan public administration continues its digital transformation, cybersecurity issues are becoming an increasing concern (ELKHALKHALI et al., n.d.). The digitization of administrative services exposes the sensitive data of citizens and businesses to a variety of risks, such as data theft, cyber-attacks and privacy violations. Protecting sensitive information is crucial to maintaining citizens' trust in digital services.

To meet these challenges, it is imperative that robust cybersecurity measures are put in place (EL ATTAR, 2021). This includes adopting advanced security protocols, training public officials in digital security best practices, and establishing monitoring systems to detect potential threats. In addition, appropriate legislation should be implemented to regulate data management and protect citizens' rights.

A proactive approach to cybersecurity is essential to ensure that digital transformation does not compromise data security (Benkada, 2024). By establishing a culture of cybersecurity within public administrations, Morocco will be better prepared to face digital challenges and strengthen citizens' trust in government services.

3.5. Evaluation of results and impacts

Finally, evaluating the results and impacts of digital transformation in public administration is a key challenge that requires special attention (Ibrahim & Benabdelhadi, 2021). Currently, there is a lack of clear indicators to measure the effectiveness and impact of digital initiatives on the quality of services provided to citizens. Without rigorous evaluation, it is difficult to determine whether the efforts made are actually leading to significant improvements.

To overcome this challenge, it is crucial to develop evaluation and monitoring systems that measure progress in digital transformation (El Yaagoubi & Khalid, 2023). This can include the definition of specific performance indicators, such as application processing time, user satisfaction, and increased access to online services. By analyzing this data, administrations will be able to identify areas requiring adjustment and optimize processes to improve results.

In addition, involving stakeholders, including citizens and employees, in the evaluation process can provide valuable insights and enhance transparency (BENABDELHAK, 2022). Open communication on the results of digital transformation will help maintain citizen engagement and ensure continuous improvement of public services.

4. The impact of digital transformation on public services

Digital transformation is having a significant impact on public services, improving both their efficiency and accessibility.

4.1. Improving efficiency and transparency

The digital transformation of public services in Morocco plays a fundamental role in improving the efficiency and transparency of administrative operations (BELHASSANI, 2023). Thanks to the adoption of digital technologies, several notable advances have been made.

First and foremost, digitization streamlines and accelerates administrative processes. The automation of certain tasks, such as processing requests or managing files, considerably reduces the time needed to finalize these operations (BARHON et al., 2024).. This enables public servants to concentrate on higher value-added tasks, thereby increasing administrative productivity.

Secondly, digital platforms offer citizens quick and easy access to information about public services, their rights and obligations (Zinaoui & El Khettab, 2022). By putting documents and procedures online, administrations improve the clarity and availability of information. This transparency helps to reduce the opacity that may have existed in the past, reinforcing citizens' confidence in public institutions.

Moreover, with digitalization, citizens can track the progress of their requests in real time via online portals (TAYAZIME & MOUTAHADDIB, 2021). This feature not only reassures users that their requests will be processed, but also limits opportunities for corruption and abuse, as every stage of the process can be traced. This establishes a more balanced relationship between administration and citizens, where accountability and transparency are paramount.

Digital transformation also contributes to reducing the operational costs of public administrations (NOKHAILI & LEMQEDDEM, 2024). By dematerializing services that previously required physical interaction, the costs associated with managing premises, paper and staff can be reduced. This frees up financial resources that can be reinvested in other essential areas of public service.

Finally, the transparency brought about by digitization means greater accountability on the part of civil servants (Nabaouia & Dounia, 2024). With the data and results of administrative services accessible to the public, agents are encouraged to meet high standards of performance and integrity. This contributes to a culture of accountability essential to the smooth running of public administration.

4.2. Strengthening civic commitment

Strengthening citizen engagement is one of the major positive spin-offs of the digital transformation of public services in Morocco (MARINI, 2023). The adoption of digital technologies has made it possible to create new channels of communication and interaction between citizens and the administration, thus encouraging greater user participation in the decision-making process and the development of public policies.

Firstly, the introduction of digital platforms and mobile applications facilitates citizens' access to information on public services, rights and obligations (Kamal & El Qour, 2024). This accessibility enables users to better understand the issues that concern them and to learn about government initiatives. Thanks to information portals, citizens can become more actively involved in monitoring government actions, thus contributing to a constructive dialogue between the state and society.

Secondly, the digitization of public services offers citizens practical and rapid means of expressing their opinions, suggestions or complaints (JANATI-IDRISSI, 2020). For example, online feedback platforms enable users to give their opinion on the quality of services provided. In addition, the use of social networks as a communication tool has created a space for dynamic exchange between citizens and decision-makers (Lahlimi et al., 2023). These platforms make it possible not only to share information, but also to gather opinions and mobilize citizens around common causes. Awareness and information campaigns can reach a wider and more diverse audience, making citizen engagement more inclusive.

Digital transformation also makes it possible to organize online public consultations. These consultations offer citizens the opportunity to actively participate in the formulation of public policies, by sharing their ideas and concerns (IBRAHIM & BENABDELHADI, 2023). This creates a participatory environment that values citizens' voices and reinforces their sense of belonging to the community.

Finally, increased transparency and accessibility of information foster a climate of trust between the administration and citizens (HATTAB & EL HOUARI, 2024). When users see that their concerns are taken into account and that decisions are justified by clear data, they are more inclined to get involved and support government initiatives.

4.3. Case studies illustrating positive changes

Case studies illustrating the positive changes resulting from digital transformation in Moroccan public administration highlight the concrete impact of digital initiatives on the quality of services offered to citizens. These examples demonstrate how digitization has not only

improved administrative efficiency, but also promoted the accessibility and transparency of public services.

A first significant example is the project to set up the "www.service-public.ma" portal. This portal centralizes a multitude of online administrative services, enabling citizens to carry out various procedures, such as renewing identity documents, paying taxes or applying for certificates, without having to go to the office. Statistics show a marked increase in the number of users of the portal, reflecting improved accessibility and reduced queuing at administrative offices. Feedback from users highlights the simplicity and speed of the procedures, which has considerably improved their experience.

Another example is the deployment of the online payment system for taxes and fines. Prior to the implementation of this solution, many citizens encountered difficulties in making their payments due to cumbersome administrative processes. With the introduction of electronic payment platforms, users can now complete their transactions in just a few clicks, which has contributed to a significant increase in government tax revenues. In addition, this approach has reduced opportunities for corruption by minimizing physical interactions between administrative agents and citizens.

The "Tadamoune" project, aimed at integrating social and administrative services, is another relevant illustration of positive change. This platform centralizes information on government aid, facilitating access to resources for vulnerable households. Thanks to this initiative, a growing number of beneficiaries have been able to access aid quickly, reducing the time taken to process applications and increasing transparency in the distribution of resources.

Finally, the digitization of internal procedures has also borne fruit. The implementation of electronic document management systems has speeded up the processing of administrative files. For example, in some municipalities, processing times for building permit applications have been significantly reduced thanks to the use of modern management software. Not only has this improved administrative efficiency, it has also had a positive impact on citizen satisfaction, as their requests are processed more quickly.

5. Prospects for digital transformation in Moroccan public administration

Digital transformation in Moroccan public administration presents promising prospects that can contribute to the continuous improvement of public services and to the country's socio-economic development (ERRAGZI & ELABBASSI, 2024; ETTAGUENAOUTY, 2024). While significant progress has already been made, there are a number of avenues to be explored in the future, aimed at boosting efficiency, transparency and civic involvement.

5.1. Strategies to overcome the challenges identified

To take full advantage of digital transformation in Moroccan public administration and overcome the challenges identified, several strategies need to be implemented. These strategies aim not only to address existing obstacles, but also to build a solid foundation for the sustainable evolution of public services.

One of the main challenges remains the lack of adequate technological infrastructures (ELKHALKHALI et al.). To remedy this, targeted investment in the development and modernization of digital infrastructures is required. This could involve the creation of public-private partnerships to mobilize financial and technical resources. In addition, efforts need to be made to extend Internet access to rural and remote areas, ensuring that all citizens have the opportunity to access online services.

Resistance to change, often fuelled by a lack of familiarity with new technologies, requires ongoing training initiatives (NINISS, 2022). Training programs need to be developed for public servants, enabling them to acquire the skills they need to navigate the digital environment. Such training should include modules on cybersecurity, data management and the use of digital tools, thus fostering a culture of innovation within public institutions.

To ensure successful adoption of digital services, it is crucial to raise awareness of the benefits of digital transformation.

A clear, appropriate regulatory framework is essential to support digital transformation (TAOUABIT et al., 2023). This includes putting in place laws and policies that promote the use of digital technologies while protecting data privacy and security. Creating quality standards for digital services can also help ensure that citizens receive reliable and secure services.

Finally, it is imperative to establish regular evaluation mechanisms to monitor the effectiveness of the strategies put in place (NINISS, 2022). This can be done through performance indicators that measure the progress and impact of digital transformation initiatives. Feedback from users and public servants must also be taken into account to continually adjust and improve services.

5.2. The importance of innovation and adaptability

Innovation and adaptability play a crucial role in the digital transformation of Moroccan public administration (Benkada, 2024). To survive in an ever-changing technological environment, it is imperative that public institutions adopt a culture of innovation. This means encouraging creativity within teams and promoting experimentation with new solutions to meet citizens' needs.

An innovative approach could include setting up innovation labs, where civil servants can test ideas, collaborate with startups and explore emerging technologies (Rachad et al., 2024). In addition, the administration must be ready to adapt its processes in line with feedback and technological developments. For example, the ability to rapidly integrate tools such as artificial intelligence or data analysis can improve the efficiency of public services and make the administration more responsive to citizens' demands.

Moreover, innovation must not be limited to new technologies. It must also apply to working methods, human resource management and the way services are delivered. By fostering an agile and adaptable mindset, public administrations can better anticipate and respond to change, thus guaranteeing continuous improvement in the services they provide.

5.3. Promoting inter-institutional collaboration

Digital transformation requires a collaborative approach between different public institutions and between the public and private sectors (Ouboumlik & Touhami, 2024). Networking the players involved in digital transformation makes it possible to share best practices, exchange resources and harmonize efforts.

To achieve this, collaborative platforms need to be established, enabling different government departments to work together on common projects. These collaborations can include the development of shared technological solutions, the creation of common data standards and the exchange of information between agencies (NACHED & ZABADI, 2024). This not only promotes an integrated approach to digital transformation, but also a better allocation of resources, which can reduce redundancies and improve service efficiency.

In addition, collaboration with the private sector is essential. Technology companies can provide valuable expertise and innovations that can be integrated into administrative processes (Mohamed, 2023). Public-private partnerships can facilitate access to new technologies and enable better adaptation to citizens' needs. By combining the strengths of the public and private sectors, public administration can build a more robust and responsive digital infrastructure.

5.4. Ongoing assessment and feedback

To ensure the success of digital transformation, ongoing evaluation of the initiatives implemented is essential (Zinaoui & El Khettab, 2022). This involves defining clear performance indicators to measure the impact of digital services on efficiency, transparency and citizen satisfaction.

Feedback mechanisms must also be established to gather the opinions of digital service users (EL YAMANI et al., 2023). This can include satisfaction surveys, online discussion forums and regular consultations with citizens.

In addition, regular evaluation helps to ensure that digital transformation objectives are being met, and that resources are being used optimally. It can also help detect potential obstacles before they become major problems, ensuring smooth and efficient implementation of digital initiatives.

5.5. Citizen awareness and involvement

The digital transformation of public administration cannot be truly successful without the commitment and active participation of citizens (Ibrahim & Benabdelhadi, 2021). To achieve this, awareness campaigns are essential to inform the public about the digital services available and the benefits they offer.

These campaigns need to be targeted and tailored to different segments of the population, taking into account levels of familiarity with digital technologies (El Yaagoubi & Khalid, 2023). Workshops, seminars and information sessions can be organized in communities to familiarize citizens with online services, showing them how to use them and how they can simplify their administrative procedures.

In addition, the creation of feedback platforms where citizens can share their experiences and suggestions regarding digital services can enhance their engagement (EL HAJ, 2020). By listening and responding to citizens' concerns, public administration can build a relationship of trust and encourage active participation in the digital transformation process.

Involving citizens in digital transformation can also foster a sense of ownership of public services, strengthening engagement and overall satisfaction with the administration (EL ABIDINE & EL KADIRI, 2022). By including citizens in the transformation process, Moroccan public administration can not only improve the quality of services, but also ensure that these services meet the real needs of the population.

Conclusion

The digital transformation of public administration in Morocco represents a decisive turning point towards more efficient, transparent and citizen-centric governance. Through initiatives such as the "Maroc Numérique 2020" strategy, the development of online portals and services, and the digitization of internal procedures, the country has made significant progress in integrating digital technologies into its administrative operations. These efforts have not only helped to improve the services offered to citizens, but have also strengthened the image of public administration as a modern, responsive entity.

However, this transformation process is not without its challenges. Issues such as insufficient technological infrastructure, resistance to change on the part of public officials and accessibility difficulties remain major obstacles to successful implementation. It is essential that political decision-makers recognize these challenges and take proactive steps to overcome them. This means stepping up investment in digital infrastructure, providing adequate training for public servants, and guaranteeing equitable access to digital services for all citizens.

The implications of this article are manifold. On the one hand, it highlights the importance of digital transformation as a lever for economic and social development. On the other hand, it underlines the need for a strong commitment from stakeholders, from political decision-makers to citizens, to ensure the sustainability of digital initiatives. By integrating feedback from users and encouraging their active participation, public administration can not only improve the quality of services offered, but also strengthen public confidence in institutions.

the success of digital transformation depends on a concerted effort by all stakeholders. By overcoming the challenges identified and capitalizing on the advances made, Morocco can position itself as a model for modernizing public services in the region. This will contribute not only to the country's economic development, but also to the promotion of more transparent, inclusive and efficient governance, in line with citizens' expectations.

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