

Technological Innovation in Moroccan Public Organizations: Stakes, Process and Degree of Maturity.

Auteur 1 : OTMANI Ayoub

Auteur 2 : BENKARAACHE Taoufik

OTMANI Ayoub (PhD in Economics and Management)
Research Laboratory on Economic Regulations and Strategic Intelligence
Mohammedia, Morocco

BENKARAACHE Taoufik (full professor)
Research Laboratory on Economic Regulations and Strategic Intelligence
Mohammedia, Morocco

Déclaration de divulgation : L'auteur n'a pas connaissance de quelconque financement qui pourrait affecter l'objectivité de cette étude.

Conflit d'intérêts : L'auteur ne signale aucun conflit d'intérêts.

Pour citer cet article : OTMANI .A & BENKARAACHE .T (2023) « Technological Innovation in Moroccan Public Organizations: Stakes, Process and Degree of Maturity », African Scientific Journal « Volume 03, Numéro 21 » pp: 0042 – 0054.

Date de soumission : Novembre 2023

Date de publication : Décembre 2023



DOI : 10.5281/zenodo.10246340
Copyright © 2023 – ASJ



Abstract

Morocco has embarked on a reform process aimed at modernizing its institutions. Indeed, in a quest for performance, Moroccan organizations have invested in the integration of new innovative practices. Thus, technological innovation is now recognized as a factor in saving and rationalizing time and resources for organizations and simplifying administrative procedures for users. This paper focuses on the dynamics of digital innovation and its contribution to improving the performance of Moroccan public organizations. Using an exploratory qualitative approach, through the inductive analysis of semi-structured interviews with ten (10) executives, managers and project leaders at the Agence Nationale de la Conservation Foncière du Cadastre et de la Cartographie (ANCFCC), the results obtained provide an insight into the stakes, the process and the degree of maturity of technological innovation within the ANCFCC in collaboration with its partners.

Keywords

Public Innovation ; Technological Innovation ; Digitalization ; Information & Communication Technologies ; Performance ; Morocco.

Introduction

The advent of the knowledge-based economy, the emergence of new public management and Information and Communication Technologies (ICT), the appearance of economic and health crises as well as the increasing complexity of users' needs and expectations, have transformed the role of public organizations. Thus, innovation in the public sector has become an important issue in the debates and concerns of managers and public officials in order to face the contemporary challenges of our society. As a result, public organizations are increasingly interested in the generation, selection, implementation, adoption and dissemination of new innovative ideas that can produce sustainable performance and citizen value. In Morocco, the process of reforming and modernizing the public administration is progressing gradually. Initiated in 2000 following the findings of the 1995 World Bank report on the alarming state of the Moroccan public administration, an ambitious reform program was launched to improve human capital management and the quality of public services. Later, a series of public administration reforms were launched, including the Public Administration Reform Support Program, the government strategy for e-government E-Morocco 2005-2008, followed by the Maroc Numeric 2013 strategy and the Maroc Digital 2020 Plan, the adoption of the organic law relating to the finance law (2015), the implementation of the welcome charter (2016), the National Administration Reform Plan 2018-2021, the gradual dematerialization of processes and simplification of administrative procedures, etc. These programs of reform and modernization of public administration mobilize several public and private stakeholders, and integrate more the digital dimension in order to create a sustainable public service with high added value to meet the expectations of citizens and users, through the establishment of a more collaborative administration, open and focused on the user-client, allowing him to access public services through the use of ICT. This research is part of this perspective. It attempts to explore the issues, the state of play and the degree of maturity of technological innovation within the framework of the reforms undertaken by the ANCFCC. A strategic public organization in charge of registering land and improving the business and investment environment in Morocco. The choice of this organization as the scope of investigation is justified by several reasons including its prominent place in the economy through the promotion of land for investment, the contribution of the organization in improving the ranking of Morocco in the Doing Business report of the World Bank for the year 2018, as well as the strategic vision of the organization 2016-2021 as to the implementation of the ambitious program of digitization and total dematerialization of process and procedures, in order to achieve the project of the virtual agency.

This article looks at the dynamics of technological innovation and its degree of maturity within ANCFCC. We begin by exploring the concepts of innovation and digital transformation. Next, we examine the challenges of technological innovation in the context of Moroccan public organizations. Finally, we present the main findings of our exploratory study in terms of the technological innovation process and its impact on ANCFCC's performance.

1. Literature Review

1.1. Definition and Typology of innovation

Innovation refers to a totally new or improved product or the introduction of a new approach or practice within an organization. It refers to the character of novelty and to anything that is perceived as such by individuals (Rogers & Kim, 1985). In this sense, it can be a new idea, a new process, product or service (Thompson, 1965). As such, innovation consists of making changes in a product, process, organization, practice, etc. Miller (1985), Osborn (1988) and Bamberger (1991) make the distinction between invention and innovation by specifying that invention is limited to the identification and production of a new idea, whereas innovation is the implementation of this new idea. Thus, innovation can be defined as the novelty resulting from the invention. Furthermore, Zaltman et al. (1973) state that innovation is any idea, practice or material artifact perceived as new to the unit of analysis that adopts it. Thus, it appears that innovation does not strictly concern the process of production and implementation of new ideas, but also the process of integration and adoption of novelties. Thus, it can be the mechanism by which an existing novelty becomes part of the culture or group that adopts it (Barreyre, 1980) until it becomes a routine activity (Schumpeter, 1948), (Nelson & Winter, 1982), (Damanpour & Aravind, 2012). In this sense, Rogers (2003) defines innovation as "an idea, practice, or object that is perceived as new by an individual or adopting collective." Innovation in the public sector is defined as the introduction of new elements into a public service in the form of new knowledge, new organization or management, or new skills or processes, which represents a discontinuity with the past. Innovating is not simply coming up with a new idea, innovation must be used in practice (Pupion, 2018). Public innovation is often open-ended due to the fact that it requires the mobilization of resources and backgrounds and the interaction between several intra-organizational actors (De Vries, Bekkers & Tummers, 2016). Hartley (2005) distinguishes several types of public innovations, including product or service innovations through the introduction of new products and services, the integration of users in the production process (co-production) or new ways of offering services such as online service delivery,

requesting certificates and payment electronically, ...; technological or administrative process innovations through the introduction of the one-stop shop, dematerialization of procedures in public administrations, ...); innovations in organization through the design and adoption of a new administrative reorganization of organizational processes); innovations in strategy and the definition of new organizational objectives; innovations in governance through the adoption of new approaches and modalities such as the integration of the participatory approach of citizens, partnerships with private actors, etc.

1.2. From technological innovation to digital transformation

Because of the diversity of types of innovation proposed in the literature review, we propose to study, for our research, technological innovations. This choice was justified by two main reasons. First, the context in which Moroccan public organizations operate is strongly characterized by the explosion and exponential development of ICT and technological innovations, which are likely to transform organizations by adopting modernized, flexible and agile attitudes, allowing them to confront and take up the challenges of the new economy of knowledge and immateriality Secondly, and given the organizational and administrative reforms that have been underway for several years, we need to question the stakes and the contribution of digitalization in terms of public performance. Therefore, the objective would be to study the degree of integration of technological innovation within the Moroccan public organization (case of the ANCFCC). To this end, technological innovation consists of "the adoption of a new idea for a new product or service or the introduction of new elements either in equipment or in the organization of the process of transforming raw materials into products or services" (Damanpour & Gopalakrishnan, 1994). It refers to a set of knowledge and techniques, and is highly linked to the development of products, processes and equipment.

Digital transformation refers to the changes associated with the application of ICT in all areas of human society. In the company, it concerns the use of new digital technologies to make major improvements possible. The digital transformation consists in setting up a computer platform, in the form of an information system, which will be the intermediary between the customers and the organization. This platform allows the organization to place the customer-user at the center of its concerns. Indeed, it allows to manage the relationship with him, to listen to his needs and expectations, to satisfy them in the best conditions in terms of time and quality. Digital transformation also concerns the integration of NICTs into the organization's work and production processes. It implies a transversal transformation of all the dimensions of the organization: its activities, products and services, modes of operation and management, its

culture and its uses. Digital transformation is the radical exploitation by companies of the capabilities of the Internet.

According to Goncalves (2016), "digital transformation is a structured approach in which an organization adapts its value proposition, business model, strategy, operations, and technologies to the fundamental changes brought about by digital technologies. It is about coherently orienting the entire organization towards the new needs and uses of prospective customer-users induced by digital technologies". For Fayon & Tartar (2014), digital changes the game for organizations. Indeed, "the boundaries between web-based companies and traditional companies are blurring". The presence on the Internet allows companies to be closer to their customers and to expand their strategic areas of activity. In this way, Laudon KC & Laudon & Laudon (2014) believe that the potential of ICT in organizations generally favors Improved connectivity and global reach; Decreased cost of communications; Decreased cost of transactions; Improved interactivity, flexibility, and personalization; Accelerated knowledge dissemination. In addition, the use and adoption of ICT in the public sector is likely to foster the emergence of e-administration.

In this sense, Ducrey & Vivier (2019), recommends placing the digital transformation project on six pillars namely: Leadership and Management: developing a vision of the new digital strategy by Top Management, able to plan a new business model, raise awareness among employees, set an example and deploy the strategy; Culture and Organization: assessing the organization's culture and key success factors, reviewing competencies and processes, organizing training, establishing a new collaborative climate and leading the change; Technology: audit the ecosystem and technology infrastructure, plan business and IT integration, and optimize agility and open innovation with the major challenge of bringing ICT closer to the organization's business; Data : Marketing and Customer Experience: learn to listen to users and customers, review content, service and customer experience, and rethink media planning towards real-time marketing; Measurement: identify a small number of key indicators to be able to manage the digital transformation (best practices, definition of KPIs, analysis and metrics, dashboards and benchmarks). Furthermore, Issaac (2003) states that ICTs allow companies and administrations to enter the era of digitalization and to transform themselves into e-administrations and digital companies.

1.3. Stakes of technological innovation for Moroccan public organizations

Moroccan public organizations carry out their missions in a constantly changing world. In the era of globalization, public actors are facing national and international political, economic,

social and technological changes and challenges that require them to review their mode of governance of public services and to deploy new strategies and policies at all levels of the administration. Thus, the political challenge facing the public administration is to comply with the principles enshrined in the constitution and to ensure the right of citizens to access quality public services. The administration must adapt to this new reality and improve the way it deals with the citizen by considering him as a user-customer. Therefore, it must be attentive to the citizen-customer and follow up on his observations, proposals and complaints. In addition, the public administration must adapt with several significant changes, including the adoption of the organic law on the finance law in 2015, which would provide Morocco with a more efficient and transparent financial governance framework. The logic of results replaces that of means through the consecration of results-based management, with a substantial change in the legal and technical approach to the functioning of the administration towards a new user-oriented managerial approach. In addition, public procurement is being modernized with two major developments, namely the implementation of electronic bidding and electronic reverse auctions. At the social level, changes must be made to further improve the relationship between the administration and the user and society as a whole. The current constitution affirms the quality of services delivered to citizens and guarantees the right to petition. In view of the criticism from users of the poor quality of public services, several systems were launched. First, the public services reception charter was adopted in 2016 aimed at modernizing the reception of users, managing waiting times, publishing administrative procedures and managing complaints. Similarly, the government launched a unified national complaints management portal to enable the various administrations concerned to be more responsive to users and improve the quality of services. In addition, the IDARATI system was launched, offering access to three portals including public service, public employment and geolocation. Similarly, customer relationship management systems have been set up through the deployment of call centers and administrative orientation services. In addition, the national anti-corruption strategy was adopted in 2015 in order to strengthen the confidence of citizens. In addition, in terms of participatory democracy, an organic law on petitions was adopted in 2016. However, the OECD report (2017) highlights the alarming state of the Moroccan administrative environment, which is characterized by the complexity of procedures, the length of response times, the insufficient accountability of actors and the multiplicity of administrative mechanisms, which encourages nepotism and corruption. Thus, the Moroccan public administration remains very unresponsive to the demands of its citizens. In order to remedy this situation, several digital and organizational innovation projects have been launched, including:

Bill N° 55.19 on the simplification of administrative procedures and formalities, allowing for a new relationship between the administration and its users; Bill N° 54. 19 on the charter of public services setting the rights of users in their relations with the administration; the establishment of a national portal for complaints "chikaya.ma"; the development of a database of the most used administrative procedures and forms; the design of a platform "Business-Procedures. ma" platform, initiated by the National Committee for the Business Environment, to make administrative transparency a lever for economic competitiveness; the development of digital services for administrative correspondence to ensure the sustainability of public services with the emergence of the epidemiological crisis Covid 19 ; In addition, the process of digital transformation of the Moroccan public administration has been concretized by the Digital Development Agency (ADD), under Law N° 61-16 published in the BO N° 6604 of September 14, 2017, under the supervision of the Ministry of Industry, Investment, Trade and Digital Economy, in order to structure the digital ecosystem and promote the use of ICTs among the administration and its users.

Despite the efforts made, a certain crystallization still remains and several dysfunctions characterize the majority of Moroccan public administrations. Although they now have a showcase website, where information and administrative procedures are offered, the relational and transactional dimensions leave much to be desired. Again, the dissemination of information does not change the internal processes. Similarly, convergence and a participatory approach between the various public stakeholders and actors are lacking; and the processes of governance and steering of the digital strategy are not able to drive the change to establish a new digital culture in the public sector. As a result, the Moroccan public administration remains weak, decried, and perceived as a bureaucratic, cumbersome, and rigid apparatus that hinders Morocco's development. A new impetus to reform the administration and overhaul its structures, with a focus on integrating innovation practices from the private sector, is becoming a necessity. The importance that must be given to human and organizational factors is even more crucial than that of technological infrastructure.

2. Research Methodology

This This research is based on the constructivist epistemological positioning. It adopts the qualitative exploratory method and the case study of the technological and digital innovation project set up by the ANCFCC in collaboration with its professional partners, namely notaries and topographical engineers, concerning the total dematerialization of the process of processing land affairs.

Based on the semi-directive interview as a source of information, intended for a sample of respondents of the digital transformation project, we tried to identify and analyze the issues, the state of play and the degree of digital maturity within the ANCFCC. An interview guide was used to structure the observation criteria for the digital innovation project case around the following elements: i) the challenges of technological innovation for the ANCFCC; ii) the efforts made by the ANCFCC in terms of technological innovation; iii) the digital maturity and its contribution to the overall performance of the ANCFCC. The interviews were transcribed, coded, and analyzed using Nvivo data analysis software.

3. Results and Discussion

The Moroccan public administration carries out its functions in a context that is conducive to modernization. The strategic, political, economic and technological reforms, initiated by the government following the royal guidelines, favor the digitalization of processes and the simplification of administrative procedures. In this perspective, the ANCFCC acts in an unstable and constantly changing environment. Its role in improving the business climate and strengthening the country's economic and industrial competitiveness has become much stronger. The need to generalize the land registration system throughout the Kingdom, the development and securing of the land system, the fight against land grabbing and the establishment of peace and social cohesion, the integration of technologies and processes aimed at simplifying and streamlining procedures, etc. are all current issues and requirements that are posed with urgency. The ANCFCC is therefore called upon to constantly modernize in order to confront and meet the challenges it faces. In this context, the new strategy of the ANCFCC places its users at the heart of its concerns. To this end, it works for the real and effective implementation of e-government, the total dematerialization of public services, the simplification of procedures and the shortening of deadlines related to land registration operations, in order to improve the quality of services rendered to users and gain in performance. The ambition of the Top Management is to transform the ANCFCC into a real virtual agency. Moreover, the challenge of modernizing the ANCFCC is closely linked to the reform of the Moroccan public sector. Indeed, the reorganization, restructuring and modernization of the ANCFCC are part of the national strategy of reform of the Moroccan public administration initiated by the Moroccan government, in a perspective of introduction of the new public management, decentralization, integration of ICT for a substantial deployment of e-government to ensure the achievement of the objectives of good governance, quality, transparency, efficiency, dematerialization and simplification of procedures to better

meet the needs and expectations of users and partners. In addition, and given the importance of land in investment projects, growth of socio-economic development, the various stakeholders of the Moroccan land system, and mainly the ANCFCC, are working to establish effective land governance capable of enhancing and securing property rights to encourage industrial and agricultural investment, hence the importance of mobilizing collective intelligence and integrating innovations to modernize and boost the performance of the ANCFCC.

The project of technological innovation aimed at the dematerialization of administrative procedures for professional customers in this case notaries and topographical engineers, has the main objective of integrating ICT to better serve the customer. This digital transformation process does not require professionals to travel to the ANCFCC, and solves several anomalies such as the slowness of execution, the stressful waits, the expensive travel, etc. This technological innovation embodies the beginning of an ambitious Moroccan project of total dematerialization of public services and an acceleration towards paperless administration. As a result, the ANCFCC is accelerating its digital transformation and is now able to dematerialize a good number of procedures, with the aim of simplifying administrative procedures and reducing, in the best possible conditions, the time required to apply for the services provided by the Agency. The Agency's digitalization policy allows professional and private users to save time and money on travel. The online services include: E-certificate: a space to request, track and receive the certificate of ownership online; E-cadastral plan: a space dedicated to the ordering and online delivery of a cadastral plan; Service "MOHAFADATI": a service that offers the possibility to track all formalities performed on a land title; Land Advertising: A service that allows you to consult the extracts of requisitions, the rectifying extracts, the notices of closure of demarcation, the issuance of the duplicate and special certificate, change of name of the property, and the notices concerning the procedures of special registration published in the official bulletin and whose deadlines are in progress. On-line forms: Request for duplicate land title; Request for copy of documents; etc.

To benefit from this innovative service, a procedure must be followed. Professionals must register on the ANCFCC portal in order to access, remotely, an exchange space, allowing them to query databases, consult land title certificates, request copies of electronically signed documents, file online the land-related cases to be studied and processed, register or respond to remarks, etc.

The technological innovation in the process of studying and processing land matters remotely is an open and collaborative innovation insofar as the value is co-created through the intervention of several actors. The technological aspect intervenes to revolutionize the

traditional relationship between the administration and the citizen. The Top Management, being strongly aware of the contribution of ICT, deploys several initiatives and projects of dematerialization and signs agreements of public-private partnership to facilitate the exchange of land data allowing the creation of citizen value. Internally, a project team is mobilized and works in a network of actors (lawyers, IT specialists, managers, etc.) that pilots and monitors the proper implementation of the dematerialization process, analyzes feedback and introduces adaptations and improvements as and when users' comments are received. At the same time, a change management strategy has been launched through the organization of training sessions for internal employees in order to better disseminate, adopt and implement the new administrative processes.

The innovation process used by the ANCFCC to deploy the dematerialization of land affairs project is structured around a number of key phases: i) identification of a problem/opportunity for service delivery improvement; ii) generation and sharing of ideas and knowledge; iii) selection, development and implementation of the solution; iv) dissemination of the solution. This sequence of steps loops through ongoing meetings of the project team to improve outcomes.

The main performance indicators of this innovation seem to be the efficiency and speed of transactions, the continuity of public services in the midst of the Covid 19 health crisis, the improvement of the business climate, the security of the platform, the zero-paper policy and the satisfaction of professional users (notaries, Adouls and IGT). However, this digitization process has not yet been generalized to all users and faces obstacles due mainly to the lack of a real innovation strategy and culture, well-defined processes and actors dedicated specifically to innovation activities within the Organization. The majority of innovation actions are part of a general framework of reform and modernization of the Moroccan public sector, constraints related to the external environment, economic, social, legal, etc. As a result, innovation is generally perceived as an obligation and not a strategic choice made by top management, as it is often driven by factors external to the organization. Moreover, the hierarchical structure and the primacy of traditional management seem to hinder the autonomy and the creative spirit of human capital.

Conclusion

In conclusion, Moroccan public organizations carry out their functions in a constantly changing environment. The current context is marked by profound changes due to the intensification of international competition, the need for territorial attractiveness, the advent of a new knowledge-based economy, the exponential development of ICTs, the accumulation of budget deficits, the emergence of reform, modernization and development issues, and the growth and complexity of users' needs and expectations. This paradigm shift is both an opportunity and a challenge for public organizations. They are called upon to reinvent themselves and rethink their business model, their modes of operation, governance and decision-making.

The technological innovation project studied in this paper shows the importance of digital transformation in Moroccan public organizations in order to face and overcome the challenges and succeed in their reform and modernization plans. Indeed, digital innovation is no longer a choice but a necessity to better rationalize resources and improve the quality of public services provided to users. With the emergence of new political, economic and social demographic challenges, it is essential for the government and its public organizations to move from a managerial logic of means to a new logic of results, efficiency and performance. As a result, these organizations must rely heavily on practices that mobilize several factors (human, cultural, structural, relational, etc.) in order to produce, implement and disseminate new ideas that generate value and performance. In addition, they must maintain and enrich relational capital and open up to other knowledge-producing actors. Innovation is not only the production of new products or services, but also the integration of external solutions to problems into the internal processes of organizations. As a result, public innovation is often open and collaborative, which also calls on citizens to create participatory resources and propose solutions to socio-economic challenges, hence the emergence of open government and social innovation initiatives, which are real avenues for future research.

References

- Bamberger, P. (1991). Reinventing innovation theory: Critical issues in the conceptualization, measurement, and analysis of technological innovation. *Research in the Sociology of Organizations*. 9 (265), 294.
- Barreyre, P.Y. (1980). Typologies des Innovations. *Revue Française de Gestion*. 3 (24), 9-15.
- Damanpour, F. ; Gopalakrishnan, S. (1994). Patterns of generation and adoption of innovation in organizations: Contingency models of innovation attributes. *Journal of engineering and technology Management*, n°11, pp. 95-116.
- Damanpour, F. ; Aravind, D. (2012). Organizational structure and innovation revisited : from organic to ambidextrous structure. *Handbook of Organizational Creativity*, p. 483-513.
- De Vries, H. ; Bekkers, V.J.J.M. et Tummers, L. (2016). Innovation in the public sector : A systematic review and future research agenda. *Public Administration*, 94, 1, 146-166.
- Ducrey, V. ; Vivier, E. (2019). *Le guide de la Transformation Digitale*. 2ème éd. Edition Eyrolles. Paris.
- Fayon, D. ; Tartar, M. (2014). *Transformation digitale: 5 leviers pour l'entreprise*. Pearson Education. France.
- Goncalves. A. (2016). PAC : Mettre en place sa stratégie de transformation numérique - Market InSight - France .
- Hartley, J. (2005). Innovation in Governance and Public Services: Past and Present, *Public Money & Management*, vol. 25, no 1, pp. 27-34.
- Isaac H. (2003). *L'entreprise numérique : quelle réalité en France ?* .
- Laudon KC. ; Laudon JP. (2014). *Management Information Systems*, 8ème édition, Prentice Hall, p.608.
- Miller, R-E. (1985). *Entreprises et innovation*, Edition Presses Universitaires. Grenoble.
- Nelson, R. ; Winter, S.G. (1982). *An evolutionary theory of economic change*. The Belknap Press of Harvard University Press. Cambridge. Massachusetts.
- OCDE. (2017). *Compact pour la gouvernance économique. État des lieux : Maroc. Avancement des réformes de la gouvernance économique*. report consulted on 22/04/2022 at [https://www.oecd.org/fr/sites/mena/competitivite/Rapport-Compact-pour-la-gouvernance-%C3%A9conomique Maroc-FR.pdf](https://www.oecd.org/fr/sites/mena/competitivite/Rapport-Compact-pour-la-gouvernance-%C3%A9conomique%20Maroc-FR.pdf).

- Osborn, T. (1988). How 3M manages innovation. Marketing Communication. 13, 17-22.
- Pupion, P-C. (2018). L’Innovation dans le Secteur Public. Gestion et Management Public. Vol. 6 (2), n° 4. 6-8.
- Rogers, E. M. (2003). Diffusion of Innovation, 5th edition: New York Free Press.
- Rogers, E. M. ; Kim, J.I. (1985). Diffusion of Innovations in Public Organizations. Innovation in the Public Sector. 85-108.
- Schumpeter, J.A. (1942). Capitalism, Socialism, Democracy. Harper Perennial. New York.
- Thompson, V.A. (1965). Bureaucracy and Innovation. Administrative Science Quarterly. 10,1.
- Zaltman, G. ; Duncan, R. ; Holbek, J. (1973). Innovations and Organizations. John Wiley & Sons. New-York.