

"The Digital Transformation as a Lever for Territorial Development – Case Study of an Urban Municipality in Morocco"

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Abstract— The digital revolution has brought about rapid changes spreading at an impressive pace, generating profound socio-economic impact. In the current global landscape, digital has become an essential strategic imperative for development. This transformation has a remarkable influence not only on economic and social structures but also provides territories with the opportunity to significantly enhance their competitiveness and attractiveness.

Keywords— Digital Transformation; digitalization; Territorial Development; Digital Administration

I. INTRODUCTION

The ongoing digital transformation is recognized as a driving force behind the fourth industrial revolution, characterized by its rapid and profound socio-economic impact. Digital advancements have become ubiquitous, serving as indispensable tools for development and strategic assets. This shift has triggered significant changes in economies and societies, enhancing the competitiveness and attractiveness of regions. Adopting digitalization is considered a solution to enhance the efficiency of territories, giving rise to concepts such as "Smart City," "Smart Territories," and "Smart Government". To adapt to the digital era, regions globally, Morocco included, have directed financial resources towards the digital domain to maintain relationships with investors. The COVID-19 pandemic has accelerated Morocco's digital transformation, prompting the government to adopt digital solutions for administrative processes, distance learning, and telecommuting. Since the 2000s, Morocco has implemented national programs focused on digital development, resulting in tangible achievements in the industrial and economic sectors. This research explores the role of digital transformation in territorial development. It begins by clarifying the concepts of digital transformation and territorial development.

Subsequently, it offers a comprehensive overview of the evolution of digital transformation in Morocco, examining its impact on territorial development through a detailed case study.

II. DIGITAL TRANSFORMATION: CONCEPTUALIZATION AND LITERATURE REVIEW

In this section, our goal is to define digital transformation, specify its key success elements, and present the maturity models associated with this transformation.

A. Definition of Digital Transformation

For many years, "Digital" has played a major role in our society; it was based on a technological paradigm, where technology was perceived as a digital component. "Digital" is frequently used to refer to marketing with a technical connotation [1]. The influence of digital extends well beyond the technological framework and has similar consequences on socio-economic aspects. The dynamics of digital emerge from the interaction between individuals and technology. The concept of digital encompasses "the space of integration of conventions resulting from interactions between technology and human behavior" [2]. According to [3]; "the adoption of technology to significantly improve business performance or scope is a concern for global businesses." Moreover, according to [4]; "digital transformation encompasses all aspects of human life, including changes caused or influenced by digital technology." Furthermore, "digital transition involves reinventing a business to implement digitalization of its operations and establish extended relationships within the supply chain" [5]. The digitalization of businesses essentially faces the challenge of revitalizing companies that have already fully exploited information technologies. Finally, according to [6]; "a company, its business model, processes, or methodology

evolves deliberately and continuously, whether strategically or tactically.”

B. Success Factors of Digital Transformation

Since their emergence, Information and Communication Technologies (ICT) has played a predominant role in shaping the evolution of societies, whether industrialized or developing. They have also a considerable impact on economic, social, and environmental domains. In this context, digital transformation has introduced significant changes to the economy [7]. According to [8]; “the use of digital technology alters environmental conditions.” Moreover, “innovation and digitalization radically transform processes, products, services, and relationships within companies” [9]. Currently, researchers describe the digital transformation as “a major organizational change, elaborated or triggered by digital technology, fundamentally transforming how business is conducted” [10]. The concept of digital transformation involves the use of other concepts such as digitalization and innovation. However, a crucial distinction between them is necessary for the success of digital transformation. “Digitalization relies on the use of digital technology to change the structure of society, composed of organized parts such as products, services, user experience, and processes” [11]. Digitalization, innovation, and digital transformation are closely interconnected. According to [12]; the outcomes of digital innovation can lead digitalization by involving individuals in the diffusion phase of the digital innovation process. Increased innovation and digitalization has the potential to bring about notable changes in business behavior. In 2018, Romain Dequesne¹ from the McKinsey strategy consulting firm highlighted key insights for a successful digital transformation. This includes the importance of having a strategic vision, involving the coordination of the digital transformation plan with the necessary financial and human resources to disseminate the transformation across all business lines. Customer-centric thinking is emphasized, encouraging proximity to the customer to understand each interaction and identify needs and trends. The recruitment of highly qualified talent and the preservation of digital skills are crucial and involve implementing the necessary means for change, including creating a new structure, updating the value proposition, and renewing the corporate culture. Additionally, establishing a culture of testing and learning, accelerating decision-making processes, and monitoring economic impact are integral aspects of a successful digital transformation, requiring in-depth analysis of the profitability of a digital project.

C. Maturity of Digital Transformation

Understanding the concept of digital maturity involves a thorough comprehension of digital transformation, impacting organizational, strategic, technological, human,

and business aspects. During this process, it becomes crucial to assess the initial level of an organization's digital maturity. However, in the literature, digital maturity is frequently defined as the state or status of an organization at a given moment. Reference [13] emphasizes that this involves “describing what has been accomplished and what remains to be done to 'become mature,' whether from a technological, managerial, strategic, or organizational perspective.” To assess the state of an organization's digital transformation, the use of multidimensional maturity models seems to be a relevant approach [14]. Reference [13] mentions that “the most advanced models analyze various dimensions such as digital culture, technology, processes, strategy, organization, innovation, and user experience.” Evaluating maturity across these different dimensions allows organizations to understand their overall level of digital maturity. Reference [15] highlight that most models are often developed by practitioners, which can result in a lack of methodological rigor, validation, and external references.

III. TERRITORIAL DEVELOPMENT: CONCEPTUALIZATION AND LITERATURE REVIEW

In this section, our goal is to define territorial development, specifying its fundamental principles, and then highlighting the various elements involved in the territorial development process.

A. Definition of Territorial Development

Since the early studies dedicated to the development of territories, the local dimension has consistently been omnipresent. Territorial development is an approach that aims to sustainably mobilize actors within a territory around a project encompassing economic, institutional, social, and cultural dimensions. Reference [16] focusing on the joint treatment of economic and social issues, states that “local development is the expression of local solidarity, creating new social relationships and reflecting the residents' willingness to enhance local wealth, generating economic development”. Territorial development revolves around integrated and comprehensive mobilization procedures of local actors and their relationships with power. The mobilization for territorial development involves a political approach initiated by residents to curb the economic decline of their territory. It is “an original compromise between political regulation, economic planning, and sociological dynamics” [17], [18]. This compromise referred to as a “social contract” [19], creates “consensus on a certain way of life in society and presupposes a specific conception of morality, normality, and desirability” [19]. Local development offers a perspective that enables territories to develop, acquire autonomy, and face both internal and external constraints. Moreover, territorial development is also defined as “an inevitable and essential condition for any territory, emphasizing the economic aspect while not neglecting the social aspect related to territory governance. Thus, territorial development encompasses several dimensions related to management and relationships between actors” [20].

¹ Interview conducted with Romain Dequesne, Partner Associate at McKinsey in Paris in March 2018:
<https://www.thinkwithgoogle.com/intl/fr-fr/futur-du-marketing/transformation-digitale/mckinsey-7-facteurs-de-reussite-de-la-transformation-digitale/>

Local development is also conceptualized as a close interaction between humans and resources, emphasizing local management of wealth to promote adapted and sustainable growth. This development also represents a process of diversification and enrichment of economic and social activities in a territory through the mobilization and coordination of its resources and energies. However, since the nineties, rather than exclusively talking about local development, it seems more appropriate to refer “to the concept of territorial development, as it should not be restricted to the small dimension alone” [21]. The main goal of territorial development is to confer increased attractiveness and competitiveness to territories, thus providing opportunities in international competition. This is achieved by optimizing the resources specific to each territory, with a central role attributed to local actors.

B. The Principles of Territorial Development

The emergence of territorial development is primarily observed in decentralized and peripheral areas. It relies on a set of essential components for its implementation. These components include:

TABLE I. PRINCIPLES OF TERRITORIAL DEVELOPMENT

Components	Impacts
Tourism	Generates development within a territory. Its positive impacts include job creation, promotion of entrepreneurial tourism, and increased commercial activities.
Social and Solidarity Economy	Aims to establish a local and autonomous economy that leverages the endogenous resources of the territory, thus providing concrete solutions to local constraints, promoting job creation, and reinforcing the economic attractiveness of the territory.
Cultural factor	Plays an essential role in development, contributing to attracting investments and improving the local economy. It also acts as a factor for social cohesion and the valorization of heritage.
Territorial governance	Encompassing all methods of management at the territorial level, territorial governance allows for the design of territorial development actions and integrates mechanisms of citizen participation during project development.

In this perspective, territorial development holds paramount importance in contributing to mitigating social disparities, combating unemployment, and improving wealth production. This is achieved through the promotion of private investment and the establishment of greater transparency.

C. Actors of Territorial Development

Actors in territorial development play a crucial role in understanding the territory by emphasizing its organization and system. According to [22]; the territory is closely linked to actors. He asserts that “the territory, as a space of action woven with a complex network of transactions, strategies, intentions, debates, and countless interactions, is fundamentally a matter of actors.” Through action, the actor modifies the logic of the action system, giving rise to new issues as objectives are achieved. A system of alliances and oppositions forms around the mode of managing economic and social achievements. Territorial development is primarily driven by collaboration between public and civil actors, generating a local general interest. This synergy promotes a holistic

approach to development, effectively aligning efforts and resources to meet the specific needs of the community. Such cooperation also facilitates the integration of public policies with local realities, promoting sustainable and balanced growth at the territorial level. Additionally, the state plays a crucial role in territorial development, with particular importance given to central bodies, notably the government. Furthermore, decentralized services of ministerial departments hold a significant position in the realization of sectoral public policies at the territorial level. Alongside state actors, various actors represented by the private sector, professional organizations, and civil society associations are added. These actors are the best partners for the municipality to enhance its resources and improve its quality of intervention. Taking into account the central role of the local population in the development of a municipality, citizens remain pivotal actors. Local development thus requires the active and dynamic involvement of all community members, mobilizing collective efforts.

IV. DIGITAL TRANSFORMATION IN MOROCCO: CURRENT STATUS

Globally, digital is perceived as a “transformative” factor, creating economic opportunities and bringing unprecedented societal changes. Recognizing its importance, Morocco has implemented several programs aimed at fostering digital development. The acceleration of digital transformation has been a focal point for Morocco, materialized through strategies such as “Maroc Numeric 2013” and “Maroc Digital 2020”². Launched in 2009, “Maroc Numeric 2013” aimed to position Morocco as a digital leader, focusing specifically on the growth of the digital ecosystem, support for SMEs, and e-administration. In continuity, “Maroc Digital 2020” consolidated these achievements by focusing on key areas such as high-speed connectivity, the development of digital skills, e-government, digital entrepreneurship, and technological innovation. These initiatives were followed by the elaboration of the General Orientation Note for the Development of Digital in Morocco, reflecting Morocco's commitment to a deep and strategic digital transformation.

A. Development Perspectives of Digital in Morocco

According to the “General Orientation Note for the Development of Digital in Morocco by 2025”³, conducted by the Digital Development Agency (ADD), digital transformation will enable Morocco to address the socio-economic challenges it will face. This transformation particularly emphasizes three key aspects:

- Optimization of the quality of public services through the digital transformation of administrations: The objective is to improve efficiency and effectiveness, resulting in significant time savings for public administration and user satisfaction. This enhances appeal for investors and establishes well-coordinated,

² Report from the Economic, Social, and Environmental Council (CESE) “Towards a Responsible and Inclusive Digital Transformation,” Self-referral No. 52, 2021.

³ Note published in March 2020 by the Digital Development Agency.

seamless, and secure exchanges between administrations.

- Optimization of the competitiveness of the Moroccan economy: Relies on digital as a crucial lever for economic competitiveness and wealth generation. Productivity gains resulting from digital transformation make it a catalyst for economic growth and competitiveness, especially beneficial for SMEs. Furthermore, digitalization offers to Morocco the opportunity to assert itself as a major digital hub in Africa, attracting sector companies, stimulating investments, and fostering the convergence of technological offerings.
- Reduction of social disparities envisaged through digitalization: Opens up new perspectives by providing less privileged populations with increased access to information, social benefits, healthcare services, and education.

B. Strategic Guidelines to Accelerate Digital Transformation

The Digital Development Agency⁴ outlines in its “General Orientation Note for the Development of Digital in Morocco by 2025” the strategic guidelines to accelerate digital transformation:

- A digital administration aiming to meet the needs of citizens and businesses: The government commits to three areas to intensify digital transformation. This includes establishing an effective overall framework of interoperability between administrations and creating fundamental prerequisites, as well as establishing an innovation lab to develop structuring digital initiatives. Finally, the government aims for the complete digitalization of public service pathways for citizens and businesses.
- The development of a competitive economy through the growth of technological sectors and performances generated by digital: The creation of an innovative economy relies on establishing a digital and technological ecosystem to accelerate the digital transformation of the Moroccan economy. The goal of this initiative is to position Morocco as a leading Digital and Technological Hub in Africa. It will also contribute to strengthening the Moroccan technological ecosystem by attracting international and regional investments.
- The promotion of an inclusive society through digital: Digital is mobilized to promote human development by simplifying access to social assistance, healthcare services, and education, while establishing services that are easier to use and better suited to the needs of beneficiaries. In this sense, digital transformation emerges as a crucial lever for social inclusion, providing

citizens and vulnerable populations with easier access to information.

V. THE IMPACT OF DIGITAL TRANSFORMATION ON TERRITORIAL DEVELOPMENT IN THE MOROCCAN CONTEXT

For several years, Morocco has been actively involved in territorial development to mitigate spatial disparities. At the core of this initiative, digital technology emerges as an essential element, providing an innovative response to socio-economic challenges. This digital transition, based on multiple strategies, highlights the impact of digital technology on enhancing interactions between citizens and administrations. Through the use of digital leverage, Morocco aims for balanced growth, promoting social cohesion, and reducing spatial disparities. In this context, Law No. 55.19, effective since March 19, 2020, addresses the simplification of administrative procedures and formalities, sets out the general principles guiding the relationship between users and the administration. This regulatory framework is applicable to all administrative entities responsible for providing services to users. The implementation of the provisions of Law No. 55.19 began immediately after its publication in the “Bulletin Officiel” on September 28, 2020. This law grants administrations a five-year period from its effective date to review the procedures and formalities related to their administrative acts within their competencies, making them digital (Article 25 of Law 55.19).

A. Digital Transformation of the Public Sector

The digitalization of the administration is seen as an unavoidable necessity to improve the quality of exchanges between the administration, citizens, and operators. Various actions are undertaken to ensure an innovative and digital administration, as presented in the following table:

TABLE II. KEY INITIATIVES FOR DIGITAL TRANSFORMATION IN PUBLIC ADMINISTRATION IN MOROCCO

Actions	Descriptions
Simplification of Administrative Procedures	Establishment of the National Portal for Administrative Procedures and Formalities, named «Idarati». Its represents a unified, integrated, and versatile information platform, simplifying access to administrative information for users.
Interoperability Between Information Systems	Law 55.19 requires administrations to identify and exchange data and documents within their domains when a user makes a request, without requiring explicit solicitation from the user to produce them.
Digital Factory	A physical space and multidisciplinary team working with agile principles to transform a product or service. The goal is to accelerate the digitalization of the customer journey, serve as a hub for digital talents, stimulate and lead digital transformations. Examples include the Ziara Project, E-himaya Project, and StartupHup Maroc Project.
Common Module Catalyst for Digital Transformation	Establishment of a common foundation for administrations by integrating modules for the dematerialization of public services, user identification and authentication, and support for administrations in the internal dematerialization of their procedures. Examples include digital/mail office, appointment scheduling, and the Chikaya platform.

⁴ Established in accordance with Law No. 61.16. Published in the Official Bulletin No. 6604 of September 14, 2017. This public entity falls under the Ministry Delegate to the Head of Government in charge of Digital Transition and Administrative Reform.

Open Data for Economic and Social Innovation	Aims to provide data generated by public entities, accessible via the national portal. The data is made available in open, standardized, and documented formats to facilitate their use. The objective is to improve transparency in public actions and simplify access to public data for citizens and businesses.
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B. Digital Transformation and Local Authorities

Local authorities are actively engaged in the path of digital transformation, aligning their efforts with government digitalization initiatives. In response to the Covid-19 pandemic, local authorities have utilized their applications to reduce users' visits to public entities. This approach also aims to avoid the submission and handling of physical files, marking a significant advancement in the digitalization process of their missions. According to the General Directorate of Local Authorities, digitalization applications within local authorities cover both allocation management and applications for users.

Applications related to allocation management include:

- Civil Status Management System
- Integrated Expenditure Management System, Revenue Management System, and Budget Management System
- INDIMAJ system dedicated to personnel payroll management
- Digital mail office and the electronic mail/portfolio management system (eparapheur.gov.ma)

User-benefiting applications include:

- Rokhas.ma platform, simplifying the complete dematerialization process for obtaining urban planning and economic permits
- Chikaya solution, intended for managing complaints from all public entities (public administrations, local authorities, and public establishments)
- Chafafiya solution, designed for collecting requests related to the right of access to information
- Wraqi and Watika solutions, dedicated respectively to the dematerialization of signature legalization procedures and certification of copies, and the entry of requests for civil status documents.

VI. CASE STUDY: IMPACT OF DIGITAL TRANSFORMATION ON TERRITORIAL DEVELOPMENT - THE CASE OF INEZGANE MUNICIPALITY

To highlight the correlation between digitalization and its impact on the transformation of municipal management and the implementation of projects by these local authorities to promote local development, a study was conducted in the municipality of Inezgane, located in the Prefecture of Inezgane Ait Melloul.

A. Presentation of the Study Area:

The Prefecture of Inezgane Ait Melloul, situated in the Souss Massa region, constitutes 0.43% of the total area of the region, covering 293 km². Known for its commercial dynamism, this prefecture exhibits a significant population density, with 420,000 inhabitants, accounting for 13.48% of the total population of the region according to 2014

statistics. It is also distinguished by basic infrastructure such as the Inezgane Al Massira airport and two major industrial zones, namely Tassila and Ait Melloul. The municipalities within the Prefecture of Inezgane Ait Melloul include Ait Melloul, Dcheira El Jihadia, Inezgane, Lqliaa, Oulad Dahou, and Temsia.

B. Study Procedure:

To thoroughly examine the impacts of digital transformation on territorial development in the municipality of Inezgane, a qualitative approach was chosen. This method enables an in-depth exploration of the experiences, perspectives, and practices of local stakeholders involved in the digitization process. Participants were selected from various departments of the municipality, including finance, urban planning, information technology, and human resources, to ensure a diverse representation of viewpoints and experiences. Semi-structured interviews were conducted with the selected officials, using a pre-established interview guide to cover a wide range of topics related to digital transformation and its effects on territorial development. Topics addressed included specific digitization initiatives implemented by the municipality, challenges encountered, perceived benefits, and impacts on local businesses, job creation, and social cohesion. Interviews were recorded with participants' consent and subsequently transcribed and analyzed using a thematic approach to identify recurring trends and patterns. All necessary measures were taken to ensure the confidentiality and anonymity of participants, and this study was conducted in accordance with ethical research principles.

C. Inezgane Municipality's Digital Transformation Initiatives:

The interviews revealed that the municipality is aware of the importance of digitalization. Following the guidelines of Law No. 55.19, the municipality has developed the process of digital transformation. According to the financial affairs division, the Inezgane municipality allocated expenses for the creation of a website with hosting, with a budget of 59,000.40 Moroccan Dirhams (dhs). Additionally, it incurred an expense of 63,478.64 dhs for the purchase of computer equipment and software. Furthermore, the municipality communicates with the local population through its Facebook page to disseminate all news or public notices. The Inezgane Municipality has also adopted electronic management of construction permits by digitizing the authorization granting process through the Rokhas platform. This initiative involves collaboration between several stakeholders, including urban agencies, the general treasury of the kingdom, the national geospatial portal for urban planning, directorates, and network management companies, the ANCFCC (National Agency for Land Conservation, Cadastre, and Cartography), as well as the CRI Invest (Regional Investment Center). The goal is to ensure simplified monitoring of all procedures, access to files, and verification of the authenticity of e-signed documents. It also allows monitoring projects on the ground and controlling violations. Moreover, the Rokhas platform enables construction permit applicants to track the process from the submission phase of their file to the

electronic signature by the municipal president by entering their file reference on the platform. In terms of data analysis, the platform aims to calculate synthetic and weekly indicators, track individual and collective performance indicators, and automatically report all files experiencing processing delays. The Inezgane Municipality uses the latest version (V3) of the Rokhas platform which is digital. This update brings several new features, including an integrated video conferencing function, allowing commission members to communicate and see each other. It also enables real-time collective viewing and annotation, both in-person and remotely.

VII. CONCLUSION

From a theoretical perspective, digitalization, with its various definitions, plays a pivotal role in society by reducing costs, minimizing waiting times, and expediting processes. Whether in the public or private sector, embracing digital technology is crucial for success, aiming to bring administrative services closer to users. The Moroccan administration, as demonstrated by platforms such as Rokhas, Watiqa, and Chikaya, has made significant progress in the digitization of procedures. Local authorities, such as the municipality of Inezgane, demonstrate a strong commitment to digital transformation, evident in their website, social media presence, and electronic administrative procedures. Inezgane municipality excels in the electronic management of construction permits, topping the national rankings on "Rokhas.ma". This case study illustrates how digitalization enhances municipal budget management, simplifies procedures for investors, and promotes transparency in fighting corruption. The digitalization of local authorities fosters transparency, attracting both local and international investors and strengthening the trust relationship between citizens and their administration. Digital transformation instigates a cognitive revolution, establishing a «digital culture» that permeates all sectors, influencing social interactions, communication, work, consumption, and production. The inevitable evolution towards digital compels local authorities to innovate, dematerialize processes, modernize services, and transition towards a «Territory 2.0» model.

Furthermore, the findings of this study could inform policy decisions and guide further research in the field of smart cities and digital transformation. By examining more closely the implications of digital transformation initiatives on territorial development, researchers could contribute to the formulation of more effective policies and strategies to promote sustainable development and social inclusion. Exploring remaining challenges and emerging opportunities in this domain could also pave the way for new research avenues aimed at optimizing the benefits of digital transformation for all stakeholders.

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