Digitalization as a Driver of Innovation and Transformation in Tax Administration: Evidence from the Moroccan General Directorate of Taxes (2013–2024)

Abstract

Digital transformation has emerged as a major strategic lever for the modernization of public administrations, particularly within tax administrations characterized by high information intensity and complex regulatory environments. In Morocco, the General Directorate of Taxes (DGI) has undertaken, for more than a decade, a structured digitalization process aimed at enhancing public governance performance, improving service quality for taxpayers, and strengthening the efficiency of revenue mobilization. However, the organizational, managerial, and governance implications of this transformation remain insufficiently explored through longitudinal analyses in the management sciences literature.

This article examines the extent to which digitalization functions as a driver of innovation and organizational transformation within the Moroccan tax administration, and how it contributes to improving public governance performance. The study adopts a qualitative longitudinal case study design based on documentary analysis of the official annual activity reports published by the General Directorate of Taxes over the period 2013–2024. Data were analyzed using a thematic approach to identify the key technological, organizational, and managerial transformation dynamics.

The findings reveal a progressive increase in digital maturity within the DGI, reflected in the widespread deployment of e-tax services, the automation of management and control processes, enhanced data exploitation, and the development of digital assistance mechanisms for taxpayers. This trajectory has been accompanied by significant organizational innovations, including the reallocation of human resources toward higher value-added activities, strengthened voluntary tax compliance, and sustained improvements in fiscal performance. Furthermore, digitalization appears as a structuring factor in reinforcing administrative efficiency, transparency, and trust-based relationships between the tax administration and its stakeholders.

By providing a longitudinal analysis grounded in institutional sources, this research offers an original empirical contribution to the management literature on digital transformation, public sector innovation, and public governance performance within tax administrations.

Keywords

Digital Transformation; Public Innovation; Public Governance; Tax Administration; Qualitative Study ; Institutional Reports; Morocco.

1.1 Introduction

Digital transformation has progressively become a central strategic pillar in the modernization of public organizations, driven by rapid technological advancements, increasing fiscal constraints, and growing societal expectations regarding efficiency, transparency, and service quality. Beyond the mere adoption of digital tools, digital transformation entails a profound reconfiguration of public action mechanisms, organizational structures, and managerial practices. It reshapes governance models and redefines the ways in which public value is created and delivered (Mergel et al., 2021). In this perspective, digital transformation should be understood not as a technological upgrade, but as an organizational and institutional process with structural implications for public sector performance.

Within this broader landscape, tax administrations constitute a particularly relevant empirical setting. Their operations are characterized by high information intensity, continuous interaction with taxpayers, regulatory complexity, and a critical role in mobilizing public revenues necessary to finance public policies. Digitalization in this domain operates simultaneously as a tool for administrative rationalization and as a catalyst for organizational innovation. It enables process automation, enhances data-driven decision-making, strengthens voluntary tax compliance, and contributes to the modernization of the relationship between tax authorities and taxpayers (Junquera-Varela et al., 2022). Consequently, tax administrations offer a strategic vantage point for examining the organizational and governance implications of digital transformation in the public sector.

In Morocco, the General Directorate of Taxes (DGI) has engaged, since the early 2010s, in a structured and progressive digitalization trajectory embedded within broader public administration reforms. This transformation has materialized through the widespread deployment of e-tax services, modernization of information systems, increasing automation of management and audit processes, and the development of digital assistance and communication platforms for taxpayers. The sustained evolution of these initiatives over more than a decade provides a particularly rich empirical context for analyzing how digital transformation affects organizational performance, governance mechanisms, and innovation capacities within a tax administration.

However, the digitalization of tax administrations cannot be reduced to its technological dimension. It raises significant organizational, managerial, and institutional challenges, including the reconfiguration of internal processes, the development of new competencies, interdepartmental coordination, and the emergence of data-driven governance practices. Although management research has extensively examined digital transformation in the public sector, empirical studies focusing specifically on tax administrations remain relatively limited—particularly in developing country contexts. Moreover, longitudinal analyses grounded in continuous institutional sources over extended periods remain scarce. This gap constrains our understanding of the cumulative and progressive organizational dynamics induced by digital transformation (Clavey et al., 2019; Houda et al., 2023).

In this perspective, the present article seeks to examine the extent to which digitalization operates as a lever of innovation and organizational transformation within the Moroccan tax administration, and how it contributes to enhancing public governance performance. Drawing on a qualitative longitudinal documentary analysis of the official annual activity reports published by the General Directorate of Taxes over the period 2013–2024, the study aims to identify the major technological, organizational, and managerial developments associated with the digital transformation process.

More specifically, the research seeks to uncover the mechanisms through which digitalization reshapes administrative practices, strengthens fiscal efficiency and performance, and fosters a more sustainable trust-based relationship between the tax administration and taxpayers. By analyzing a decade-long trajectory of institutional reforms through continuous official sources, this study moves beyond cross-sectional assessments and provides a dynamic understanding of how digital transformation becomes embedded in organizational routines and governance structures.

Through this longitudinal and institutionally grounded approach, the article makes an original empirical contribution to the management literature on digital transformation, public sector innovation, and governance performance in tax administrations. It also generates practical insights for public decision-makers engaged in reform strategies aimed at modernizing public administration, improving service delivery, and enhancing fiscal sustainability in developing country contexts.

1.2 Literature Review

Digital transformation has progressively established itself as a central research domain within management sciences due to its far-reaching implications for organizational structures, governance systems, and institutional performance across both public and private sectors. In the public sphere, digital transformation is conceptualized as a multidimensional process encompassing technological, organizational, managerial, and institutional dimensions aimed at enhancing public sector effectiveness, improving service delivery, and strengthening administrative transparency (Dunleavy, 2005). This evolution unfolds within a broader context marked by accelerating digital innovation, heightened societal expectations, and increasing pressure on public administrations to enhance adaptability in complex and rapidly changing socio-economic environments.

1.2.1 Digital Transformation and the Modernization of Public Administrations

The literature commonly distinguishes three levels of digital integration within organizations: digitization, digitalization, and digital transformation. Digitization refers to the conversion of analog data or physical documents into digital formats. Digitalization involves the integration of information and communication technologies into existing organizational processes. Digital transformation, however, represents a deeper structural shift, characterized by a comprehensive reconfiguration of organizational models, managerial practices, and public value creation mechanisms (Vial, 2019).

Within public administrations, digital transformation implies a departure from traditional bureaucratic management models toward performance-oriented, innovation-driven, and citizen-centered governance frameworks. It entails not merely technological implementation but structural realignment involving information systems, human competencies, organizational culture, and institutional arrangements (Cordella & Paletti, 2018). Public organizations are therefore compelled to develop new organizational capabilities, particularly in terms of interdepartmental coordination, strategic performance management, and data-driven decision-making.

The COVID-19 crisis further accelerated this transformation trajectory. The pandemic exposed the limitations of conventional administrative models and underscored the necessity of robust digital infrastructures capable of ensuring continuity of public services under conditions of heightened uncertainty (Mergel et al., 2021). Consequently, digital transformation has been repositioned as a strategic priority for governments worldwide, especially in high information-intensity sectors such as tax administrations.

1.2.2 Digitalization and Public Innovation

Public innovation represents a core analytical dimension within the literature on digital transformation in public administrations. It is generally defined as the capacity of public organizations to introduce new processes, practices, or service delivery models in response to emerging economic, social, and institutional challenges (Osborne & Brown, 2011). Within this framework, digitalization functions as a structuring catalyst that enables organizational and managerial innovation.

Management research indicates that digital technologies primarily stimulate process and organizational innovations. These innovations manifest through procedural simplification, increased automation of repetitive tasks, and the reallocation of human resources toward higher value-added activities (OECD, 2023). In the public sector, such transformations enhance administrative efficiency and strengthen institutional responsiveness to evolving citizen expectations.

In the Moroccan context, recent studies highlight the structuring role of digital transformation in modernizing both public administration and the broader institutional ecosystem. Amzil and Tourabi (2025) argue that digital transformation constitutes a strategic pillar of structural reform within the Moroccan public sector, contributing to institutional performance improvement, service modernization, and governance enhancement. These findings suggest that digital-induced public innovation extends beyond administrative modernization and participates in a broader process of institutional development.

1.2.3 Digitalization of Tax Administrations and Organizational Performance

The performance of tax administrations occupies a central place in the literature on public sector digitalization. It is typically conceptualized through multiple complementary dimensions, including operational effectiveness, revenue mobilization efficiency, service quality, and voluntary tax compliance (Yetman & Yetman, 2008).

A substantial body of research demonstrates the positive impact of digitalization on administrative efficiency within tax administrations. Process automation reduces processing time, minimizes errors, and enhances fiscal traceability (Amzil et al., 2026). Furthermore, the dematerialization of procedures lowers administrative costs for both the tax authority and taxpayers while improving accessibility to fiscal services.

Digitalization also plays a crucial role in strengthening tax compliance. Integrated information systems, cross-database analytics, and big data exploitation enable more precise targeting of audits and more effective detection of tax evasion and avoidance (Fuest, n.d.). Simultaneously, procedural simplification and improved online service quality foster voluntary compliance and contribute to building trust between tax authorities and taxpayers.

However, the literature emphasizes that the performance effects of digitalization are neither automatic nor uniform. Technocentric approaches are frequently criticized for overlooking organizational and human dimensions of transformation (Cordella & Paletti, 2018). Sustainable performance gains depend on complementary investments in skills development, structural adaptation, and managerial culture evolution.

1.2.4 Artificial Intelligence and Fiscal Governance

Recent research highlights the growing role of advanced technologies particularly artificial intelligence in the evolution of tax administrations. AI is conceptualized as an extension of digitalization, enabling the transition from process automation to predictive, analytical, and decision-support capabilities within public organizations (Wirtz et al., 2019).

In the Moroccan case, Amzil and Tourabi (2025) demonstrate that the gradual integration of AI solutions contributes to strengthening the dynamic capabilities of the tax administration by improving decision quality, enhancing revenue forecasting, and optimizing audit targeting mechanisms. AI thus functions as a lever of organizational reconfiguration, transforming professional practices and internal governance structures.

Nevertheless, AI adoption raises significant ethical and institutional concerns, including algorithmic transparency, data protection, accountability, and regulatory oversight (OECD, 2023). These challenges necessitate rigorous governance frameworks to ensure that technological innovation preserves public trust and institutional legitimacy.

1.2.5 Public Governance, Transparency, and the Administration–Taxpayer Relationship

Digital transformation in tax administrations also carries substantial implications for public governance. Digital technologies can enhance administrative transparency, strengthen accountability mechanisms, and consolidate trust-based relationships between tax authorities and taxpayers (Bertot et al., 2012).

Digital platforms facilitate information dissemination, improve service accessibility, and enhance interactive communication between administrations and users. Online assistance tools reduce informational asymmetries and contribute to improved taxpayer experience, thereby fostering voluntary compliance. However, digitalization also introduces risks related to digital divides, cybersecurity vulnerabilities, and unequal access to digital services particularly in developing country contexts.

1.2.6 Limitations of the Literature and Research Positioning

Despite the extensive body of research on digital transformation and public innovation, several gaps remain. First, many studies adopt cross-sectional designs, limiting the ability to capture the cumulative and progressive dynamics of digital transformation over time. Second, empirical research focusing specifically on tax administrations in developing countries remains relatively scarce.

In the Moroccan context, existing research underscores the increasing importance of digitalization in modernizing the tax administration but highlights the need for longitudinal analyses grounded in continuous institutional data. This gap justifies the relevance of the present study, which proposes a decade-long longitudinal examination (2013–2024) of digital transformation within the Moroccan tax administration, with particular attention to its organizational, managerial, and performance implications.

1.3 Theoretical Foundations and Development of the Conceptual Framework

The analysis of digital transformation within tax administrations requires a robust theoretical grounding that transcends purely instrumental or technological interpretations of the phenomenon. In management sciences, digitalization is increasingly conceptualized as a complex organizational process resulting from dynamic interactions between digital technologies, organizational structures, managerial practices, and governance mechanisms. This organizational perspective aligns with contemporary conceptualizations of digital transformation that emphasize structural reconfiguration and institutional change rather than mere technological adoption (Vial, 2019).

Within this framework, digital transformation is understood as a multidimensional phenomenon that simultaneously reshapes internal processes, redistributes organizational resources, modifies professional roles, and alters governance arrangements. Consequently, analyzing digitalization as a lever of innovation and performance improvement in tax administrations requires the mobilization of complementary theoretical lenses capable of explaining adaptation, capability development, and institutional transformation.

To address this analytical need, the present study draws primarily on contingency theory and dynamic capabilities theory, while integrating insights from public innovation research. Together, these frameworks provide a coherent conceptual foundation for examining how digital transformation influences organizational alignment, adaptive capacity, and governance performance in fiscal administrations.

1.3.1 Contingency Theory and Digital Transformation in Public Organizations

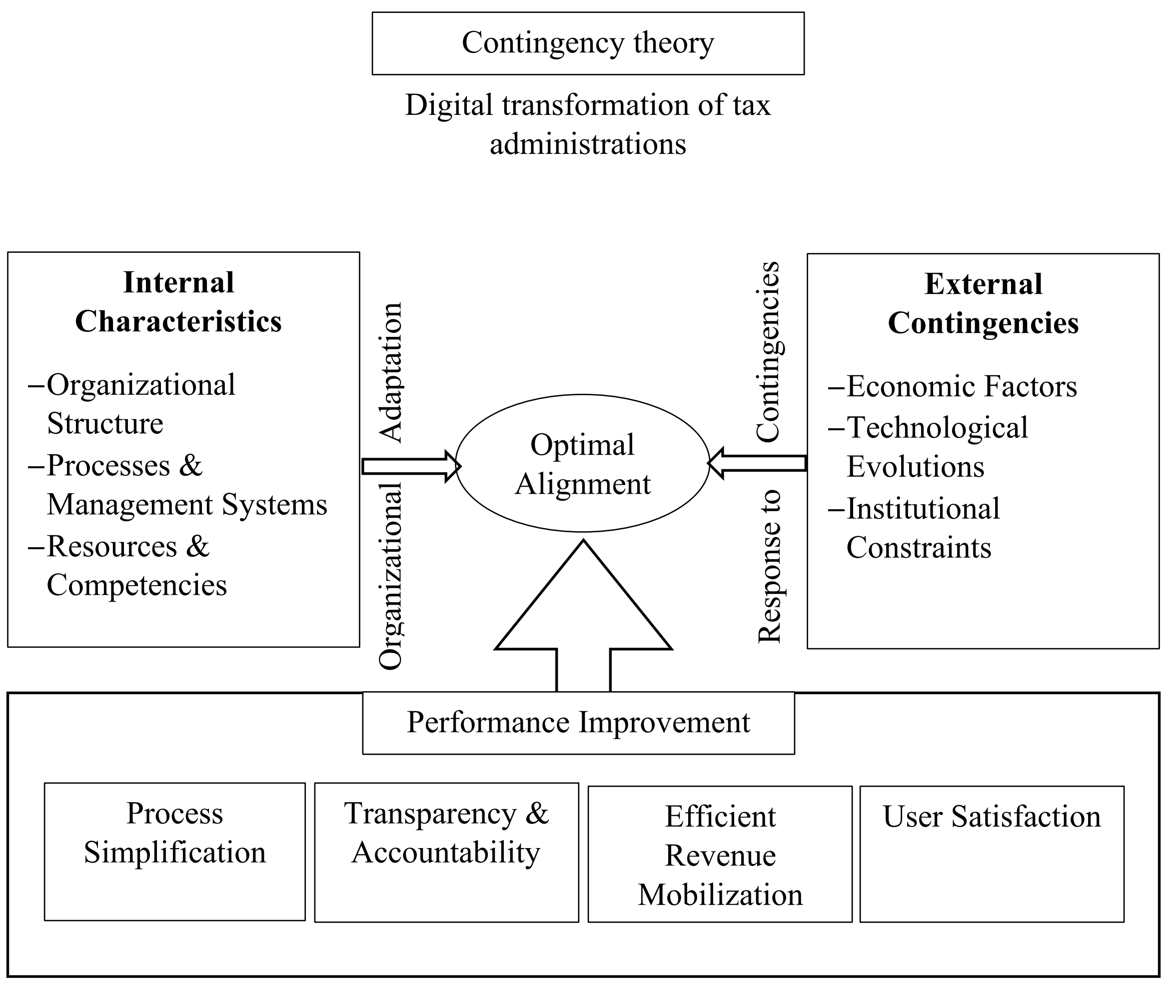
Contingency theory represents one of the foundational analytical frameworks for explaining how organizations adapt to their environments. According to this perspective, there is no universally optimal organizational structure; rather, organizational performance depends on the degree of alignment between internal characteristics such as structures, processes, and management systems and external contingencies, including economic, technological, and institutional conditions (Donaldson, 2001; Freeman et al., 1969; Lawrence & Lorsch, 1986).

Applied to public administrations—and more specifically to tax administrations—digital transformation can be interpreted as an adaptive organizational response to evolving environmental contingencies. Increasing fiscal complexity, heightened transparency and accountability requirements, pressure for more efficient revenue mobilization, and rising taxpayer expectations constitute significant environmental drivers that compel tax authorities to reconfigure their organizational arrangements.

From a contingency perspective, digitalization functions as an alignment mechanism. By modernizing information systems, automating processes, and integrating data infrastructures, tax administrations seek to enhance coherence between internal organizational capacities and external institutional demands. Performance improvements are therefore not solely attributable to technological investments but to the extent to which digital reforms reinforce structural fit between the organization and its environment (Donaldson, 2001).

In the case of the Moroccan General Directorate of Taxes, the progressive digitalization trajectory initiated in the early 2010s can be interpreted as a strategic response to a transforming institutional and socio-economic environment. The widespread deployment of e-tax services, increased automation of management and audit processes, and growing reliance on data analytics reflect organizational choices aimed at strengthening alignment between internal capabilities and evolving environmental expectations (Freeman et al., 1969; Lawrence & Lorsch, 1986). Digital transformation thus emerges as a contingent adaptation strategy designed to enhance administrative efficiency, fiscal performance, and governance effectiveness.

Figure 1: Illustrative Framework of Contingency Theory and Its Relationship with Digital Transformation



Prepared by the authors based on Lawrence & Lorsch (1967)

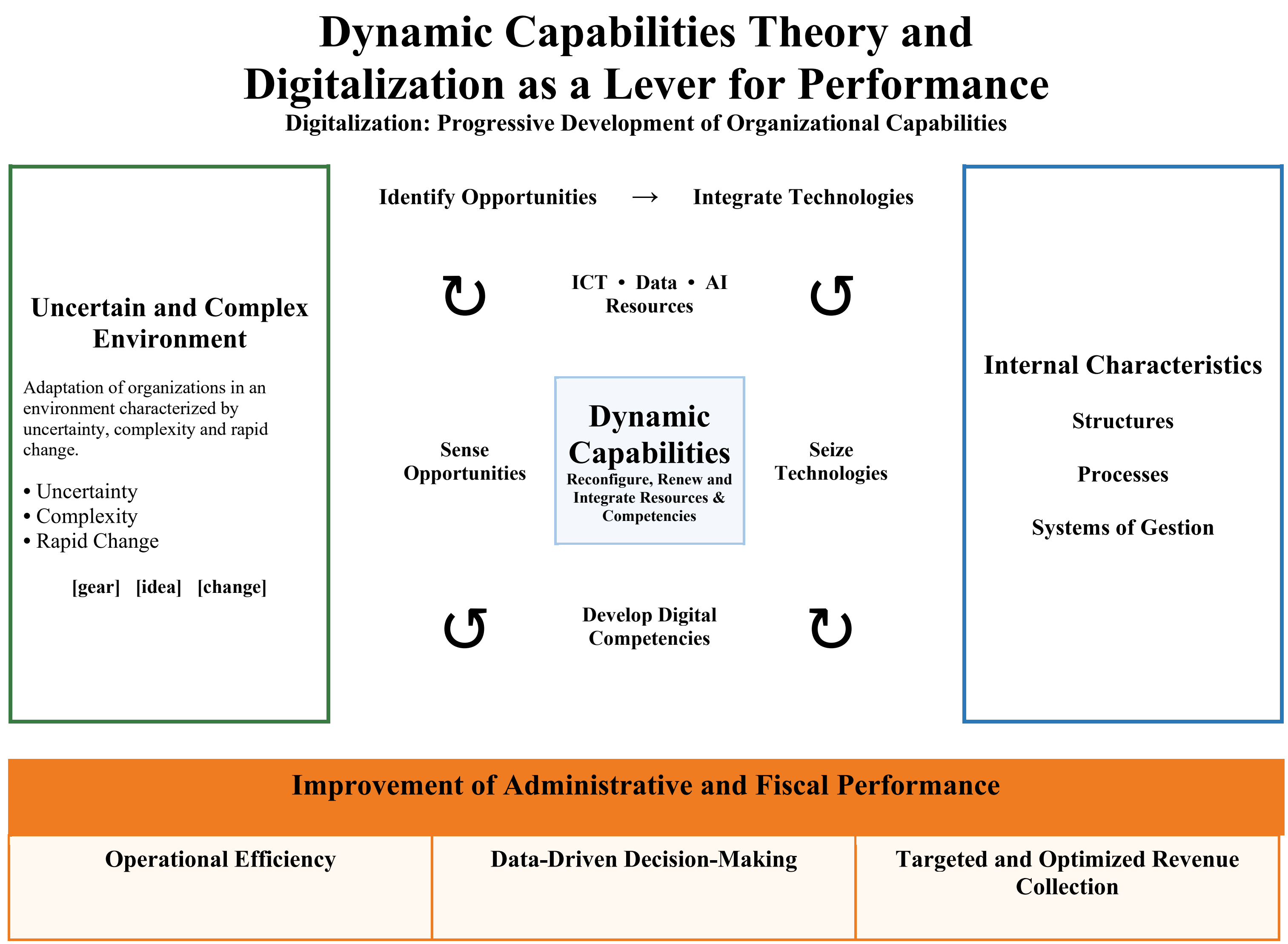
1.3.2 Dynamic Capabilities and Digitalization as a Lever of Performance

Dynamic capabilities theory provides a particularly relevant complementary framework for analyzing long-term digital transformation processes. It emphasizes the ability of organizations to integrate, reconfigure, and renew their resources and competences in response to environments characterized by uncertainty, complexity, and rapid change (Teece et al., 1997; Teece, 2007). Unlike static resource-based perspectives, the dynamic capabilities approach focuses on organizational adaptability and the continuous renewal of strategic capacities as key determinants of sustained performance.

In the context of tax administration digitalization, dynamic capabilities manifest through several interrelated dimensions. These include the ability to sense and identify opportunities created by digital technologies, to seize those opportunities through the integration of new information systems and digital tools, and to transform organizational processes accordingly. This transformation encompasses process redesign, capability development, digital skill enhancement among public servants, and the strategic exploitation of data to support evidence-based decision-making. From this perspective, digitalization is not an end in itself but rather a vehicle for developing higher-order organizational capabilities that enable sustainable improvements in administrative and fiscal performance (Helfat & Peteraf, 2003; Teece, 2007).

The trajectory observed within the Moroccan tax administration illustrates this cumulative dynamic. The progressive integration of digital technologies—followed by the emerging adoption of artificial intelligence solutions—has contributed to strengthening the dynamic capabilities of the General Directorate of Taxes. These developments have not only enhanced operational efficiency but have also improved the organization's capacity to anticipate taxpayer behavior, optimize audit targeting, and adopt a more proactive approach to fiscal policy implementation. In line with dynamic capabilities theory, sustained performance gains appear to result from the administration's ability to continuously reconfigure its technological and organizational resources rather than from technological investment alone (Teece, 2007; Teece et al., 1997).

Figure 2: Conceptual Illustration of Dynamic Capabilities Theory and Digitalization as a Performance Lever



Prepared by the authors based on Teece (2007)

1.3.3 Public Innovation and Organizational Transformation

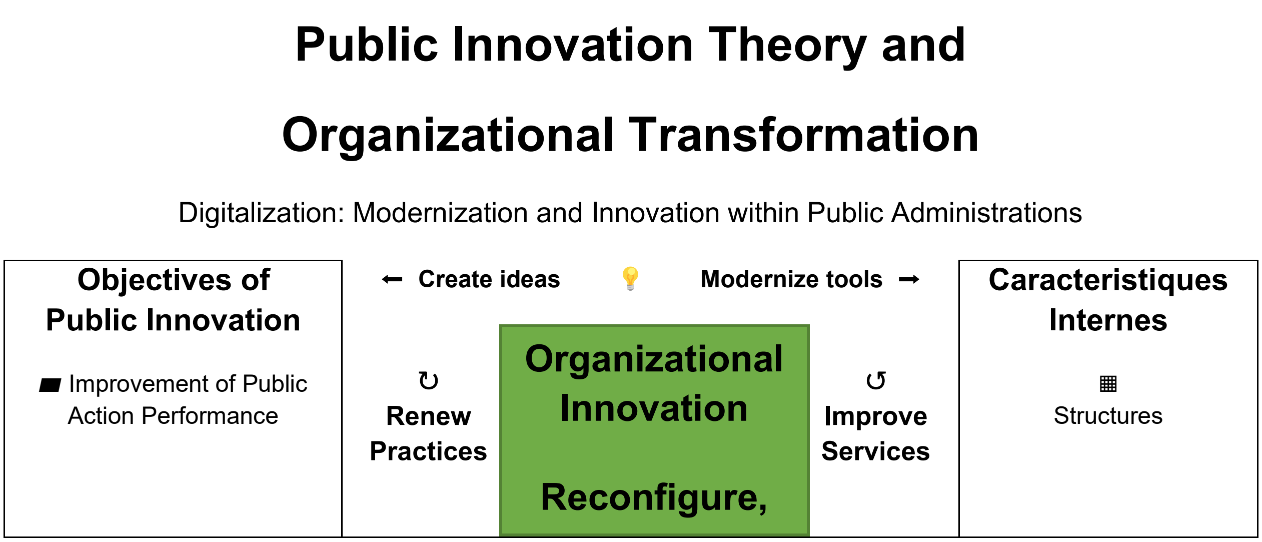
Public innovation constitutes a third essential theoretical pillar for analyzing digital transformation within tax administrations. Unlike innovation in the private sector, which is primarily oriented toward market value creation and competitive advantage, public innovation focuses on improving public sector performance, enhancing service quality for citizens, and reinforcing the institutional legitimacy of public organizations (Osborne & Brown, 2011). It is therefore intrinsically linked to governance effectiveness and public value creation rather than profit maximization.

The literature emphasizes that digitalization acts as a catalyst for organizational and managerial innovation within public administrations. Digital technologies enable procedural simplification, reduction of processing times, automation of routine functions, and reallocation of human resources toward higher value-added activities (Bekkers & Wiepking, 2011). These transformations extend beyond operational efficiency and contribute to reshaping managerial logics, professional practices, and governance mechanisms.

In tax administrations, such innovation often manifests through redesigned declaration and payment processes, enhanced digital interaction with taxpayers, automated audit systems, and data-driven risk management tools. These changes contribute to a gradual transformation of administrative culture and institutional behavior.

In the case of the Moroccan General Directorate of Taxes, digital transformation has been accompanied by significant organizational innovations, particularly through the modernization of tax declaration and payment systems, the progressive automation of control mechanisms, and the development of digital assistance platforms for taxpayers. These developments signal a shift in the role of the tax administration from a predominantly coercive enforcement-oriented model toward a more service-oriented, preventive, and compliance-promoting approach. This evolution aligns with public innovation scholarship, which emphasizes the transition from traditional bureaucratic control to collaborative and trust-based governance models (Osborne & Brown, 2011).

Figure 3: Conceptual Illustration of Public Innovation Theory and Its Relationship with Digital Transformation within Tax Administration



Prepared by the authors based on Osborne & Brown (2011)

1.3.4 Conceptual Framework of the Study

Building on the theoretical foundations mobilized in this study, the research develops a conceptual framework that articulates digitalization within tax administration, organizational innovation, and public governance performance. Within this framework, digitalization is conceptualized as a structuring variable capable of reshaping internal administrative processes and fostering the development of dynamic capabilities as well as public innovation mechanisms (Osborne & Brown, 2011; Teece et al., 1997).

These organizational and managerial transformations are assumed to generate positive effects on both administrative and fiscal performance, particularly in terms of operational efficiency, service quality, voluntary compliance, and transparency. Public governance performance is therefore conceived as an indirect outcome of digital transformation, mediated by organizational innovation and the strengthening of internal capabilities within the tax administration (Bertot et al., 2012).

This conceptual framework constitutes the analytical foundation of the empirical investigation devoted to the digital transformation of the Moroccan General Directorate of Taxes over the period 2013–2024. It enables the identification and examination of the mechanisms through which digitalization operates as a lever of innovation and sustainable organizational transformation within the tax administration.

1.4 Research Methodology

1.4.1 Research Design, Data Sources, and Documentary Corpus

This study adopts a qualitative longitudinal case study design focusing on the Moroccan General Directorate of Taxes (DGI). The case study approach is justified by the complex, context-dependent, and evolving nature of the phenomenon under investigation namely, the digital transformation of a public administration. Such a transformation requires an in-depth understanding of institutional, organizational, and temporal dynamics specific to the studied context.

The longitudinal design covers the period 2013–2024, enabling the analysis of the DGI's digitalization trajectory over more than a decade. This extended temporal perspective allows for the identification of successive phases of digital transformation, the examination of continuities and structural shifts, and the assessment of cumulative effects on administrative performance and governance quality. By capturing progressive institutional evolution, the longitudinal approach enhances the analytical depth of the study and mitigates the limitations associated with cross-sectional assessments.

The primary data sources consist of the official annual activity reports published by the General Directorate of Taxes throughout the study period. These reports constitute authoritative, consistent, and standardized institutional documents providing detailed information on strategic orientations, digital initiatives, organizational reforms, operational outcomes, and fiscal performance indicators related to digital transformation.

The documentary corpus includes information concerning the development of e-tax services, modernization of information systems, automation of management and audit processes, and the implementation of digital communication and taxpayer assistance mechanisms. To strengthen analytical robustness and ensure contextual depth, these primary sources were complemented by national strategic documents and international institutional reports. This triangulation strategy enhances the credibility of interpretations and situates the empirical findings within broader public sector digital reform dynamics.

1.4.2 Data Analysis Method

Data analysis was conducted using a qualitative thematic analysis approach aimed at identifying, structuring, and interpreting the main emerging themes related to the digital transformation of the tax administration. This method involves a systematic coding of the content of the annual activity reports in order to extract analytical categories aligned with the research objectives.

The analytical themes were defined through an iterative process combining both inductive and deductive reasoning. The inductive dimension was grounded in a detailed and comprehensive examination of the documentary corpus, allowing key transformation patterns to emerge directly from the data. The deductive dimension was guided by the theoretical framework mobilized in the study, particularly contingency theory, dynamic capabilities theory, and public innovation theory. This dual analytical logic ensured coherence between empirical observations and conceptual constructs.

The main analytical dimensions included:

- Digitalization initiatives and technological innovation mechanisms;
- Organizational and managerial transformations;
- Effects on administrative and fiscal performance;

- Governance-related issues, including transparency, accountability, and the administration–taxpayer relationship.

This analytical strategy enabled the systematic linkage between observed institutional developments and the theoretical constructs underpinning the study. It facilitated the identification of the mechanisms through which digitalization operates as a lever of organizational transformation and performance enhancement within the tax administration.

1.4.3 Reliability and Validity of the Research

Several measures were implemented to enhance the reliability and validity of the qualitative analysis. First, the use of official institutional sources published on a regular basis ensures consistency and comparability of the data throughout the study period. The standardized and continuous nature of these reports strengthens the coherence of the empirical material and reduces the risk of inconsistencies across time.

Second, the longitudinal approach helps mitigate biases associated with cross-sectional analysis and allows for a more comprehensive understanding of transformation dynamics over the long term. In addition, data triangulation through the systematic comparison of the DGI's annual activity reports with academic studies and international institutional reports reinforces the robustness of the interpretations. Finally, the explicit theoretical grounding of the analysis ensures alignment between empirical evidence, mobilized concepts, and interpreted findings, thereby enhancing the overall analytical consistency of the study.

1.4.4 Methodological Limitations

Despite its contributions, the methodological approach adopted in this study presents certain limitations. The exclusive reliance on institutional documentary sources may introduce a potential presentation bias, as these documents primarily reflect the perspectives and priorities of the administration under study. Additionally, the absence of data collected through interviews or surveys involving tax officials and taxpayers limits the possibility of cross-examining internal and external perceptions of digital transformation.

However, these limitations are partially mitigated by the richness of the documentary corpus, the extended time span covered by the study, and the rigor of the thematic analysis conducted. They also open avenues for future research based on complementary methodological approaches, including mixed-method designs and stakeholder-centered investigations, to further deepen the understanding of digital transformation processes in tax administrations.

1.5 Results and Discussion

This section presents and discusses the main findings derived from the longitudinal documentary analysis of the annual activity reports of the Moroccan General Directorate of Taxes over the period 2013–2024. The results are structured around the key dimensions of digital transformation identified in the conceptual framework, namely technological developments, organizational and managerial transformations, and their effects on administrative performance and public governance within the Moroccan tax administration.

1.5.1 Findings from the Longitudinal Analysis (2013–2024)

1.5.1.1 Progressive Evolution of Digitalization in Tax Services

The analysis of the annual activity reports reveals a continuous and progressive increase in digital maturity within the Moroccan General Directorate of Taxes (DGI) over the study period. The first phase (2013–2016) was characterized by the widespread deployment of e-tax services, particularly in the areas of electronic filing and electronic payment. This stage reflects a strategic effort to modernize interactions between the tax administration and taxpayers by facilitating remote access to fiscal services and reducing administrative burdens.

From 2017 onward, digital transformation intensified through the modernization of information systems, the progressive interconnection of databases, and increased automation of management and audit processes. This phase marked a transition from interface digitalization focused primarily on service delivery channels to deeper process digitalization targeting internal organizational operations. The objective during this stage was to enhance operational efficiency, improve fiscal oversight mechanisms, and strengthen managerial control.

The most recent period (2020–2024) is characterized by the integration of more advanced digital mechanisms, particularly in the areas of data exploitation, risk-based audit targeting, and digital assistance tools for taxpayers. This evolution signals a gradual shift toward a data-driven tax administration model, consistent with the principles of "Tax Administration 3.0," where analytics, digital ecosystems, and proactive governance play a central role in performance enhancement and compliance management.

Table 1: Progressive Evolution of Digitalization within the Moroccan General Directorate of Taxes (DGI)

Phase	Period	Key Components of Digitalization	Dominant Orientation
Phase 1: Expansion of E-Tax Services	2013–2016	- E-filing - E-payment	Modernization of interactions between the tax administration and taxpayers Interface digitalization
Phase 2: Digitalization of Internal Processes	2017–2019	- Modernization of information systems - Progressive interconnection of databases - Automation of management and control processes	Transition towards organizational and operation-nal digitalization
Phase 3: Data-Driven Tax Administration	2020–2024	- Advanced data exploitation - Targeted controls - Digital assistance tools for taxpayers	Transition towards organizational and operational digitalization
Phase 3: Data-Driven Tax Administration	2020–2024	- Advanced data exploitation - Targeted controls - Digital assistance tols for taxpayers	Evolution towards a Tax Administration 3.0 model

Prepared by the authors based on the DGI annual activity reports (2013–2024)

1.5.1.2 Organizational and Managerial Transformations Induced by Digitalization

The systematic analysis of the annual activity reports of the Moroccan General Directorate of Taxes (DGI) over the period 2013–2024 reveals a progressive yet profound reconfiguration of the administrative organization, closely associated with the expansion of digital infrastructures and tools.

The dematerialization of tax procedures such as electronic filing, electronic payment, e-certificates, and online claims has led to increasing automation of routine and repetitive tasks. This automation has, in turn, generated a functional redistribution of human resources within the administration. Tax officials have been progressively reoriented toward higher value-added activities, including:

- Targeted tax auditing,
- Data analysis and risk assessment,
- Taxpayer assistance and advisory support.

From a managerial perspective, digitalization has fostered the emergence of new data-driven management practices, strengthening the administration's capacity for monitoring, performance evaluation, and evidence-based decision-making. The reports also indicate a growing professionalization of functions related to information systems management and digital project governance, reflecting the development of new organizational capabilities within the DGI.

These transformations confirm that digitalization operates as a lever of organizational reconfiguration, reshaping internal operating models, professional practices, and governance routines within the tax administration. Rather than merely enhancing service delivery channels, digital transformation has contributed to structural adjustments that redefine the strategic and operational role of the institution.

1.5.1.3 Effects of Digitalization on Fiscal and Administrative Performance

The longitudinal analysis reveals positive and measurable effects of digitalization on the performance of the tax administration, both from an administrative and a fiscal perspective.

a) Administrative Performance: Progressive Improvement in Organizational Efficiency

Data derived from the annual activity reports indicate a substantial shift of tax operations toward digital channels, reflected in a sustained increase in the volume of dematerialized transactions. This trend highlights the progressive consolidation of digital service delivery and the growing integration of electronic platforms into routine administrative processes.

Table 2: Annual Evolution of Dematerialized Tax Operations (2020–2024)

Typology of Dematerialized Tax Operations (in millions of Moroccan Dirhams)	**2024**	**2023**	**2022**	**2021**	**2020**
E-certificates	4,64	4,07	3,56	3,08	1,93
Electronic payments (e-payments)	11,93	11,17	10,34	9,42	7,29
Electronic tax filings (e-filings)	4,91	4,55	4,46	3,84	3,36
Total operations	24,51	22,76	21,21	18,82	14,25

Prepared by the authors based on the annual activity reports of the Moroccan General Directorate of Taxes (2020–2024)

Table 2 shows a continuous increase in the volume of dematerialized tax operations between 2020 and 2024. The total number of operations rises from 14.25 million to 24.51 million, illustrating the gradual deepening of the digitalization process within the DGI. This upward trend is primarily driven by electronic payments, which represent the predominant category and reflect the widespread adoption of digital payment mechanisms in revenue collection processes.

The steady growth in e-certificates and electronic tax filings further indicates improvements in administrative efficiency and enhanced accessibility of tax services. Collectively, these findings confirm the structuring impact of digitalization on the operational performance of the tax administration.

b) Fiscal Performance: Securing and Strengthening Revenue Collection

Digitalization has also had a direct impact on tax revenue collection by promoting voluntary electronic payment and improving the traceability of financial flows. The expansion of digital payment systems enhances transparency, reduces transaction risks, and contributes to more secure and efficient revenue mobilization mechanisms.

Table 3: Share of Tax Revenues Collected through Electronic Payment (2022–2024)

Year	2022	2023	2024
Share of Revenues Collected via E-Payment	**91,5 %**	**91,1 %**	**91,2 %**

Prepared by the authors based on the annual activity reports of the Moroccan General Directorate of Taxes (2022–2024).

Table 3 highlights a consistently high and stable level of reliance on electronic payment over the period 2022–2024, with more than 91% of total tax revenues collected through digital channels. This stability reflects the institutionalization of digital payment as the dominant mode of revenue collection within the tax administration. It also indicates enhanced security and improved traceability of financial flows. Overall, these findings confirm the positive impact of digitalization on the fiscal performance of the administration.

c) Strengthening Tax Compliance and the Administration–Taxpayer Relationship

The simplification of tax procedures, combined with increased accessibility of e-services and the development of digital assistance mechanisms, has contributed to a qualitative transformation in the relationship between the tax administration and taxpayers. By reducing procedural constraints and compliance costs, these digital arrangements have facilitated the fulfillment of tax obligations and enhanced the overall taxpayer experience.

Table 4: Adoption of SIMPL E-Services (2020–2024)

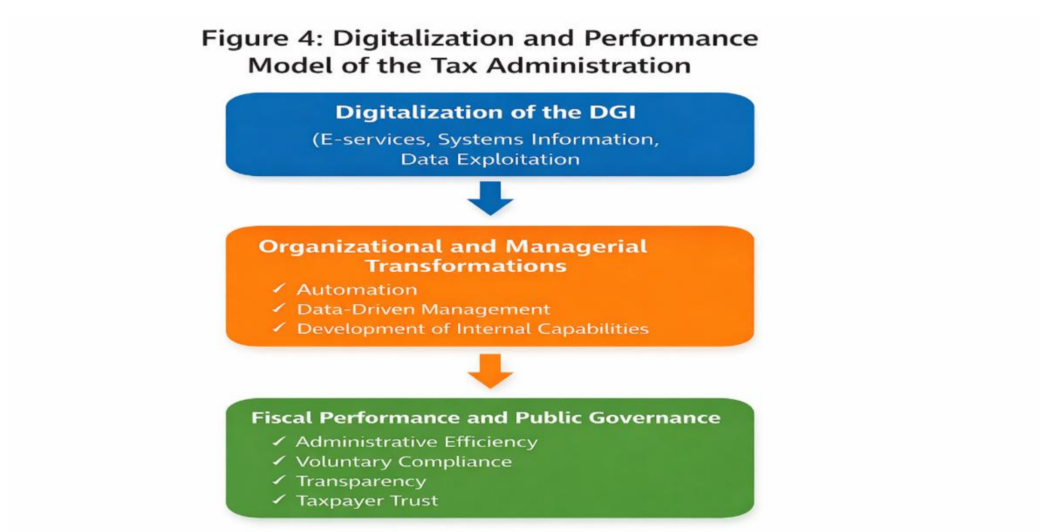
Year	Total Number of Registered Users	New Registered Users	Growth Rate
2020	1 095 089	207 989	—
2021	1 530 286	448 661	39,7 %
2022	1 882 099	338 349	23,0 %
2023	2 183 250	314 151	16,0 %
2024	2 506 181	322 779	14,8 %

Prepared by the authors based on the annual activity reports of the Moroccan General Directorate of Taxes (2020–2024)

The data presented in Table 4 reveal an adoption dynamic of e-services characterized by an initial peak, followed by a gradual deceleration in growth rates. This evolution reflects the transition from a phase of extensive expansion to a phase of consolidation in digital usage. It also indicates the progressive integration of SIMPL e-services into taxpayers' administrative routines, signaling the increasing maturity of the DGI's digital ecosystem.

1.5.2 Integrated Methodological Framework: Research Design and Analytical Logic

Figure 4: Analytical Model of Digitalization and Tax Administration Performance



Prepared by the authors

The integrated methodological framework highlights a structured and sequential research logic that coherently articulates theoretical foundations, empirical data derived from institutional reports, and interpretative analysis. It positions the digitalization of the DGI as the driving variable, generating a set of organizational and managerial transformations. This approach enables a systemic reading of the effects of digital transformation within the tax administration.

From this perspective, digitalization is not conceptualized as a purely technological end, but rather as a structuring process that induces the reconfiguration of internal processes, strengthens organizational capabilities, and fosters the emergence of new managerial practices. Organizational transformations therefore constitute a critical intermediary mechanism through which digital investments are translated into performance gains. This reasoning aligns with a dynamic conception of public innovation.

Finally, the framework demonstrates that improvements in fiscal performance and public governance are largely indirect and mediated by organizational innovation. Enhancements in administrative efficiency, voluntary compliance, and transparency result from the progressive alignment between digital tools, internal capabilities, and management practices. This analytical structuring guided the longitudinal thematic analysis of the annual activity reports over the 2013–2024 period, highlighting the organizational levers underpinning public sector performance.

1.6 Discussion of Findings in Light of the Literature

The findings derived from the longitudinal analysis of the annual activity reports of the Moroccan General Directorate of Taxes over the period 2013–2024 largely confirm the contributions of the management literature on digital transformation in public administrations. They demonstrate that digitalization cannot be reduced to mere technological modernization; rather, it constitutes a structuring lever of organizational, managerial, and institutional transformation, provided that it unfolds within a coherent and progressive trajectory. The evolution observed within the DGI thus reflects a gradual increase in digital maturity, moving from the widespread deployment of e-services toward a data-driven tax administration model, consistent with theoretical frameworks on public innovation and the Tax Administration 3.0 paradigm.

The analysis further shows that the DGI's digitalization trajectory developed through successive stages, in line with studies emphasizing the incremental and cumulative nature of digital transformation in the public sector. The initial phase of interface dematerialization modernized interactions with taxpayers, while subsequent phases were characterized by deeper integration of information systems, increased automation of internal processes, and the development of data exploitation capabilities. This evolution confirms that performance gains do not stem from the isolated adoption of technologies, but rather from their progressive institutionalization within administrative routines and professional practices.

Consistent with contingency theory, the findings suggest that the digitalization of the DGI can be interpreted as an adaptive response to evolving institutional, technological, and socio-economic constraints. The increasing complexity of tax operations, the expansion of the taxpayer base, and heightened demands for transparency and efficiency have compelled the tax administration to adjust its structures, processes, and governance mechanisms. The progressive alignment between digital infrastructures, internal organizational arrangements, and managerial practices thus emerges as a key determinant of the observed performance outcomes.

The results also corroborate the insights of dynamic capabilities theory, demonstrating that fiscal and administrative performance derives less from technological investment per se than from the administration's ability to integrate, reconfigure, and sustainably leverage these technologies. The stabilization of performance indicators at consistently high levels particularly regarding electronic payments and e-service adoption reflects the consolidation of digital practices and the increasing maturity of the digital ecosystem. This capacity to transform technological resources into organizational competencies constitutes a central determinant of sustainable public sector performance.

Furthermore, the findings highlight a qualitative transformation in the relationship between the tax administration and taxpayers. The simplification of procedures, increased accessibility of e-services, and the development of digital assistance mechanisms have contributed to reducing compliance costs and improving the overall user experience. This evolution aligns with a logic of strengthening voluntary compliance, confirming studies suggesting that fiscal performance does not rely solely on enforcement mechanisms, but also on the quality of the administration–taxpayer relationship. Digitalization thus emerges as a vector of trust, transparency, and legitimacy in public action.

Finally, within the Moroccan context, this research makes an original contribution by providing a longitudinal analysis grounded in continuous institutional sources covering more than a decade of digital transformation. It demonstrates that the effects of digitalization on fiscal performance and public governance are largely mediated by organizational innovation and the strengthening of internal capabilities within the tax administration. These findings enrich the management literature by offering an integrated understanding of the relationships between digitalization, organizational transformation, and public sector performance, while also providing practical insights for policymakers engaged in the modernization of tax administrations.

1.7 Conclusion

This article has examined digitalization as a lever of organizational transformation and performance within the Moroccan tax administration, based on a longitudinal study of the annual activity reports of the General Directorate of Taxes (DGI) over the period 2013–2024. Through qualitative thematic documentary analysis, the study identified key digitalization dynamics, the organizational and managerial transformations they induced, and their effects on fiscal performance, administrative efficiency, and public governance.

The findings reveal a progressive and structured increase in the DGI's digital maturity, marked by the widespread deployment of e-services, the digitalization of internal processes, and the emergence of a data-driven tax administration model. This trajectory confirms that digitalization constitutes an ongoing transformation process grounded in the gradual integration of digital technologies into organizational structures and professional practices.

From an organizational and managerial perspective, digitalization has led to a reconfiguration of internal operating models, characterized by task automation, the redeployment of human resources toward higher value-added activities, and the development of data-driven management practices. These transformations emerge as a central mechanism linking digital investments to the observed performance gains.

The empirical results also confirm positive and measurable effects on both fiscal and administrative performance, reflected in improved operational efficiency, strengthened revenue security, and enhanced voluntary compliance. The simplification of procedures and the development of digital assistance tools have further contributed to a qualitative evolution in the relationship between the tax administration and taxpayers.

From a theoretical standpoint, this research enriches the management literature by mobilizing contingency theory and dynamic capabilities theory to analyze digital transformation within a public administration context. From a managerial perspective, it underscores the importance of adopting a coherent and integrated digitalization strategy to ensure sustainable performance improvements.

Finally, the limitations associated with the exclusive reliance on institutional documentary sources open avenues for future research based on mixed-method approaches and international comparative analyses, with the aim of deepening understanding of the effects of digitalization on fiscal performance and public governance.

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