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Digitalization and Governance of Public Services

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Abstract: Currently, and within a global context characterized by the digitalization of public institutions, the governance of public services is undergoing a profound redefinition. This transformation affects mechanisms of coordination, participation, and accountability, as highlighted by authors such as Osborne and Brown (2005). Indeed, digitalization facilitates interactions and alters the relationships between the state, citizens, and businesses. It is within this framework that this article is situated, aiming to analyze the capacity of digitalization to strengthen public governance while meeting the expectations of users and economic actors. The methodology of this study is based on a quantitative approach. It relies on a structured questionnaire administered to a sample of citizens, civil servants, and business leaders. To test the links between transparency, participation, responsiveness, institutional trust, and stakeholder satisfaction, the collected data will be analyzed using structural equation modeling (SEM). The expected results should confirm that digitalization acts as a mediator, thereby improving the quality of relationships between different stakeholders. They are also intended to demonstrate its contribution to the efficiency and legitimacy of public policies. This analysis will allow for the formulation of practical recommendations for more interactive and user-centered public governance. This article is structured around three main sections: a theoretical framework for public governance in the digital age, a presentation of the methodology and data, and finally, an analysis of the empirical results and their implications.

Keywords: *Public Governance, Digitalization, State-Citizen Relations, Public Services, Structural Equations.*

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I. INTRODUCTION

The digitalization of public administrations is now a key pillar of state modernization. It focuses on information and procedures to simplify access to public services, such as online processes and electronic payments, while simultaneously strengthening administrative transparency. This dynamic is a continuation of the New Public Management (NPM) approach proposed by Hood (1991), which seeks to make the administration more efficient and user-centric, drawing inspiration from private sector management practices. In Morocco, these efforts are part of a national modernization strategy characterized by major challenges related to governance, institutional efficiency, and citizen trust within a context of accelerated technological innovation.

This study makes three main contributions within the Moroccan context. First, it offers a quantitative empirical analysis of the impact of digitalization on public governance, a relatively unexplored area. Second, it adopts a multi-stakeholder approach by integrating the perceptions of citizens, civil servants, and business leaders, enabling a comprehensive understanding of the ongoing transformations. Finally, it employs structural equation modeling (SEM), rarely used in this field in Morocco, to analyze the links between transparency, participation, responsiveness, institutional trust, and user satisfaction. This approach provides practical recommendations based on robust data, useful for strengthening digital governance and stakeholder trust.

The study draws on several complementary theoretical frameworks: Network Governance (Kickert et al., 1997; Sørensen & Torfing, 2007), which sheds light on the interactions between the state, businesses, and civil society; public value and stakeholder theories (Freeman, 1984; Alford & Hughes, 2008; Panagiotopoulos et al., 2019), which emphasize collective goals; and Digital Governance and Contingency Theory (Alvarado, 2020; Donaldson, 2001), which explain the adaptation of public structures to new technological environments. The central question then becomes: To what extent is digitalization redefining the governance of public services and the relationships between the state, citizens, and businesses in Morocco?

To answer this, the study is structured in three parts: A theoretical framework on digital governance, a presentation of the methodology and data collected, and then an analysis of the empirical results and their implications for public policies.

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II. LITERATURE REVIEW

The digitalization of public services lies at the intersection of several complementary theoretical frameworks. New public governance New Public Management (NPM) and New Public Governance (NPG) respectively emphasize user-oriented efficiency and co-production with citizens, while network governance and digital governance shed light on the interdependencies between actors and the impact of technologies on processes. Finally, the theories of triggering parties, public value, and contingency remind us that creating collective value requires adapting governance structures and modes to institutional and technological contexts, thus providing a conceptual foundation for analyzing the digitalization of public governance.

- *New Public Governance (NPG)*

NPG is a theoretical paradigm that revitalizes the study of public administration, moving beyond the traditional state-centric and hierarchical view. It is part of a school of thought that emphasizes the complex interactions between public, private, and social actors. Authors such as Kooiman (1999) have defined "sociopolitical governance" as an encompassing theory of institutional relations, highlighting the diversity of forms of coordination within society. Similarly, Kickert (1993) and Rhodes (1997) conceive of governance as a set of "self-organizing inter-organizational networks" that collaborate to deliver public services, even in the direct absence of government intervention.

All these approaches share the conviction that governance is an autonomous conceptual framework necessary for analyzing the institutional complexity of public action. Osborne (2006) argues that NPG is an alternative paradigm to NPM, grounded in the recognition of a pluralistic and interdependent state. NPG thus aims to understand the development and implementation of public policies in a diverse environment, conceiving of public management as an interactive, collaborative, and adaptive process (Osborne, 2006).

- *New Public Management (NPM)*

NPM, which emerged in the late 1970s, proposed modernizing public administration by drawing inspiration from private sector methods in order to improve the efficiency and quality of public services (Thatcher, 1995). It emphasizes results-based management, managerial autonomy, decentralization, performance evaluation, and the increased use of market mechanisms.

However, this model is widely criticized for its effects on public action: prioritizing efficiency at the expense of equity (Hood, 1991), fragmenting services, strengthening bureaucracy through a culture of indicators (Dunleavy & Hood, 1994), and weakening democratic accountability (Aucoin, 1990). These limitations have led to the emergence of more collaborative paradigms, such as Public Governance or Public Value Management (Stoker, 2006; Osborne, 2010). Thus, despite its contributions to modernization, NPM remains a contested model, requiring a balance between performance, equity, and democratic legitimacy (Pollitt and Bouckaert, 2017).

- *Network Governance (Network Governance Theory)*

Network governance is now a central framework for analyzing the management of complex collective affairs, replacing hierarchy and market forces with forms of coordination based on cooperation, negotiation, and trust among interdependent public, private, and non-profit actors (Alvarado, 2020). These networks, often organized horizontally or vertically, allow for the pooling of resources, skills, and information to produce collective performance and public value (Ozturk & Eraydin, 2009; Alvarado, 2020). They prove particularly well-suited to addressing interdependent public problems, fostering co-production and collective learning (Hirst, 2000). From this perspective, network governance extends and surpasses NPM by prioritizing collaboration and mutual trust as drivers of more open, participatory, and adaptive public action.

Table 1 Four Theories of Governance Networks and their Characteristics

Theory	Synthetic characterization
Interdependence Theory	Networks seen as spaces for negotiation between autonomous but interdependent actors, allowing for the management of conflicts.
Governability Theory	Networks built as "games" of horizontal coordination based on the pooling of resources and shared gains.
Theory of Governmentality	Networks are viewed as mechanisms that promote the self- -mobilization of free and autonomous actors, guided by forms of indirect control.
Integration Theory	Networks designed as institutionalized platforms where integrated actors share common norms, values, and perceptions.

Source: Sorensen and Torfing (2007)

The table highlights the main approaches to network governance and their specific characteristics, offering a structured framework for understanding a complex theoretical field. It helps to distinguish the different logics of coordination, legitimacy, and interaction between public, private, and non-profit actors (Sorensen and Torfing 2007). This framework allows for a better understanding of the shift from hierarchical public action to forms of governance based on collaboration, negotiation, and interdependence.

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➢ *Digital Governance/E-Government Theory*

Digital governance theory extends contemporary approaches to public governance by placing information technologies at the heart of the transformation of decision-making, organizational structures, and relationships between the state, citizens, and private actors (Lacroix & St-Arnaud, 2012). It conceives of governance as a system of rules and processes negotiated between parties, where digitalization acts as a catalyst for coordination, transparency, and participation (Vieira & Mocquet, 2016). Far from being limited to the computerization of services, it refers to a structural reconfiguration of public action toward more interactive, networked, and deliberative forms, based on the flow of information and the co-production of policies (Castells, 2009; Bannister & Connolly, 2014).

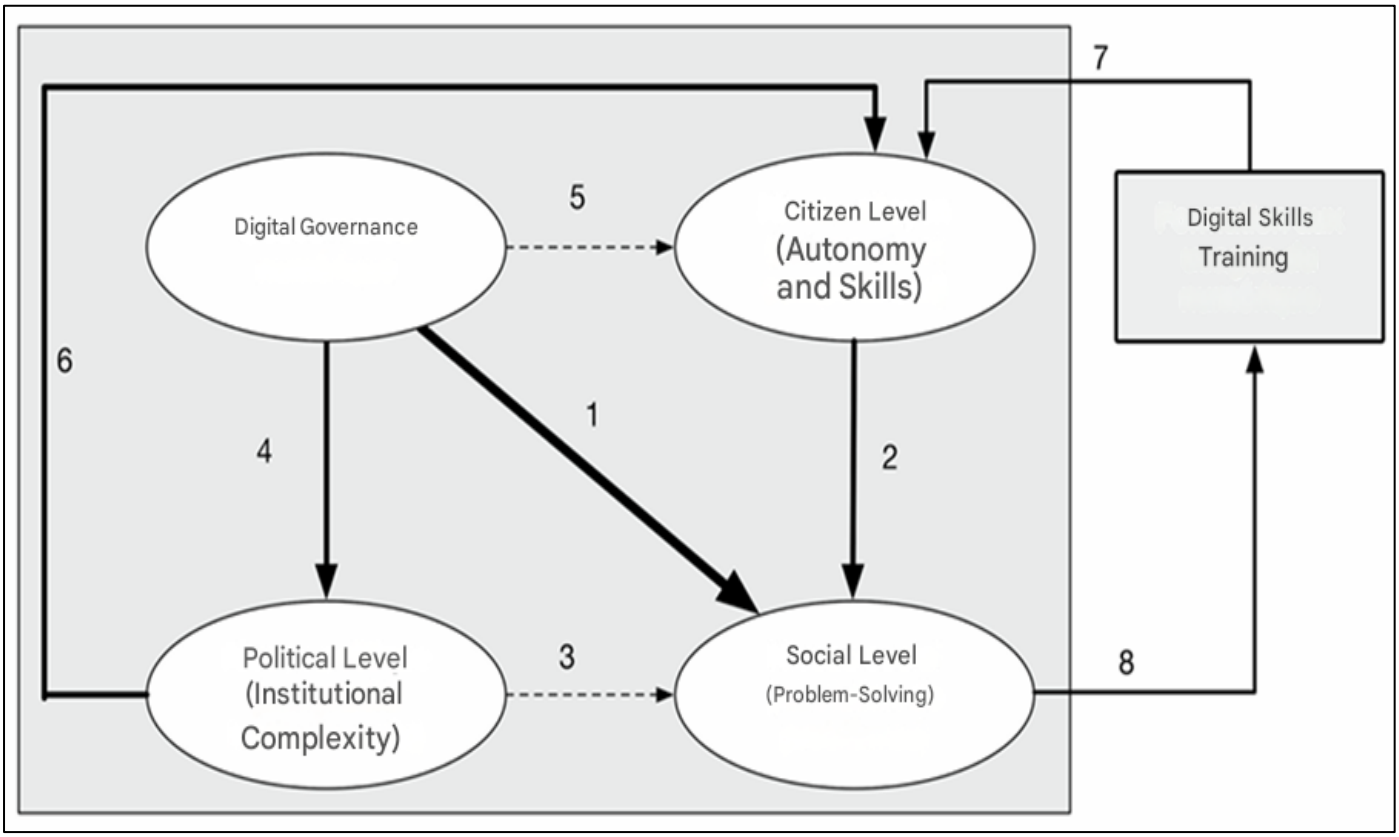

Fig 1 Effect of Training in Digital Skills, Diagram Translated and Freely
Source: Dunleavy (2006)

➢ *Stakeholder Theory*

The theory of parts views the organization as embedded in a network of groups with specific expectations, understood through three complementary dimensions – descriptive, instrumental, and, above all, normative (Donaldson & Preston, 1995). It transcends shareholder logic by asserting that the legitimacy and sustainability of an organization depend on the balanced consideration of the interests of all stakeholders (Freeman, 1984; Freeman et al., 2004). Initially developed for corporate governance, it has been extended to fields such as information systems, healthcare, and public and digital governance, where it allows for the analysis of interdependencies between governments, citizens, and organizations as a network of shared responsibility (Blair & Whitehead, 1988; Pouloudi & Whitley, 1997; Scholl, 2001). In the public sector, it finally emphasizes the moral duty of leaders to recognize citizens as legitimate parties to public action, beyond purely economic imperatives (Denhardt & Denhardt, 2007).

➢ *Public Value Theory*

Public value theory refocuses public action from internal efficiency to creating value for society and meeting citizens' expectations (Moore, 1995; Panagiotopoulos et al., 2019). From a digital perspective, it views technologies as levers for co-creation with stakeholders, going beyond simple process optimization (Cordella & Bonina, 2012; Bannister & Connolly, 2014). It requires organizational capabilities and governance geared towards legitimacy, sustainability, and social relevance (Bryson, Crosby & Bloomberg, 2014; Williams & Shearer, 2011). This framework is used to design and evaluate digital government projects, prioritizing societal impacts and participation (Pang, Lee & DeLone, 2014; Rose, Persson, Heeager & Irani, 2015).

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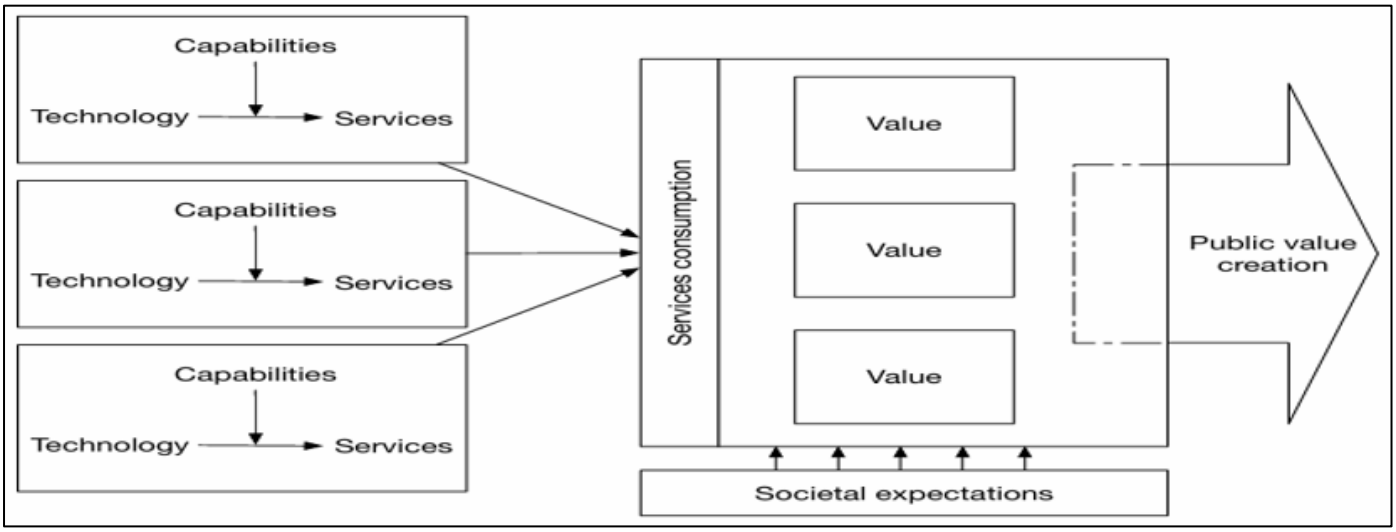

Fig 2 Conceptual Framework: The Domain of Public Value Creation
Source: Panagiotopoulos et al., (2019)

The evidence presented shows that digitalization, as a digital technology, strengthens public services by improving their efficiency, accessibility, usability, transparency, accountability, and data protection, provided it is supported by organizational capabilities able to deploy and reconfigure internal and external resources (Panagiotopoulos et al., 2019). These capabilities are central to the creation of public value but remain constrained by the institutional context and available resources, leading organizations to use co-creation with other actors or external platforms to mobilize the necessary skills and technologies in complex digital environments.

➢ *Contingency Theory*

Contingency theory argues that there is no "one best way": efficiency stems from the adjustment of the structure to contextual factors (size, technology, environment, strategy) (Donaldson, 1995; Donaldson, 2001; Pfeffer, 1982). While it addresses its static aspect (Galunic & Eisenhardt, 1994; Woodward, 1965), its dynamic adaptation is formalized by the SARFIT model, where growth creates a mismatch, and then a structural change restores adequacy (Donaldson, 1987; Donaldson, 2001; Chandler, 1962). Contributions on mechanistic/organic forms and divisionalization, according to strategy, illustrate these continuous adjustments (Burns & Stalker, 1961; Chandler, 1962). Thus, contingency is performance and structural adaptation and provides tools for the analysis of change, organizational innovation and technologies in changing contexts (Donaldson, 2001).

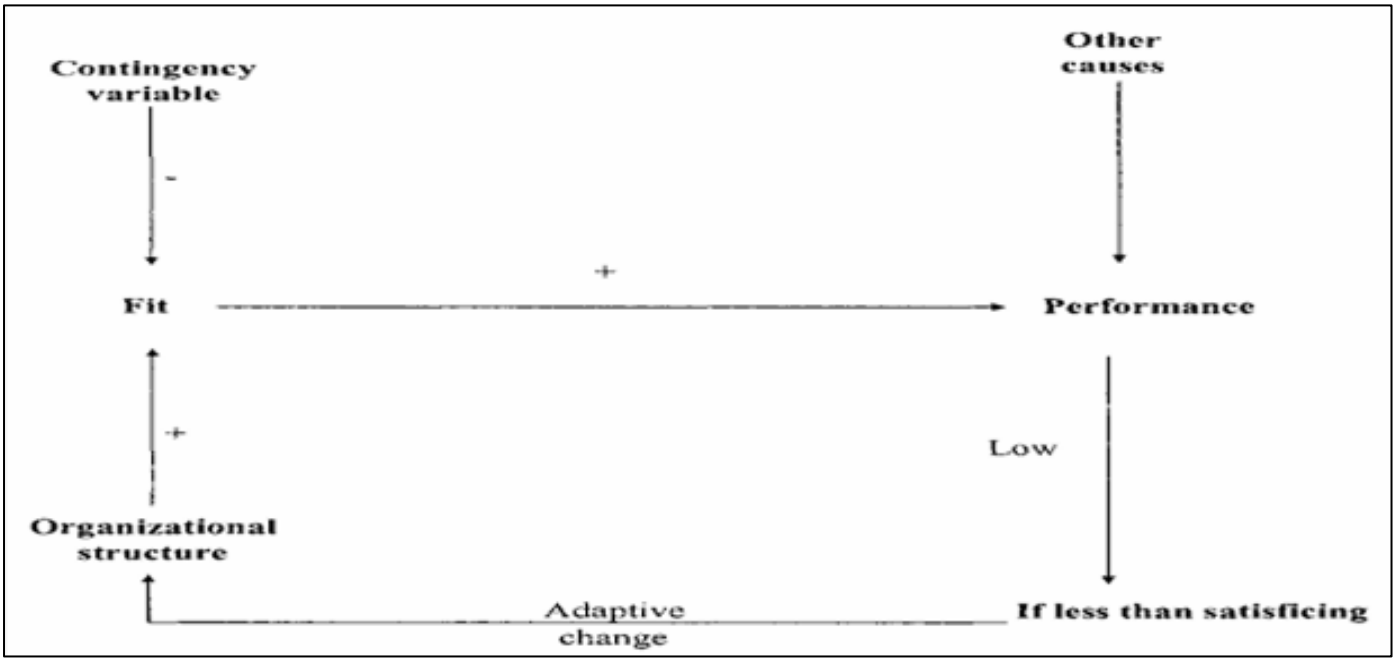

Fig 3 Contingent Theory of Structural Adaptation to Fitness (SARFIT)
Source: Donaldson, L. (2001)

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III. METHODOLOGY

This research analyzes how digitalization is reshaping state-citizen-business relationships in the governance of public services in the Souss region. It employs a hypothetico-deductive approach based on a quantitative questionnaire survey of key stakeholders (public officials, citizens, and business leaders) to understand their perceptions and behaviors regarding digitalization. The objective is to identify and empirically test the determining factors of effective digital public governance—level of digitalization, institutional trust, cooperation among stakeholders, and perceived quality of online services—and to assess their respective effects on governance performance in this specific territorial context.

➢ *Presentation of Variables and Research Hypotheses*

The hypothetico-deductive approach of this research is based on a set of explanatory variables for the performance of digitalization in public service governance, the quality of interactions between stakeholders, organizational capacities, and private sector involvement. It is part of a systemic approach to digital governance where public performance results from a balance between technological innovation, citizen participation, and institutional capacity (Meijer & Bekkers, 2015; Mergel, 2016). In the context of our Souss-Massa region, the hypotheses formulated aim to empirically test the combined effects of digitalization, inter-stakeholder cooperation, and organizational resources on the overall performance of public governance.

➢ *Adoption of Digitalization and Performance of Public Governance*

The adoption of digitalization is now a key driver of public sector transformation, improving the efficiency, transparency, and responsiveness of administrative processes (Heeks, 2001). By facilitating access to information, simplifying procedures, and opening new channels of interaction, it is redefining the relationship between the state and its citizens (Bekkers & Homburg, 2007). In Morocco, and more specifically in the Souss-Massa region, online platforms and territorial information systems are being used to strengthen ties with users, expedite the processing of files, and improve the traceability of public decisions (Benhaddou, 2022). Based on this research, this study posits that the successful integration of digitalization increases both organizational performance and citizen satisfaction, hence The following hypothesis:

- H_1: The adoption of digital technologies has a significant impact on the performance of public service governance.

➢ *Quality of Interaction and Performance of Public Governance*

The quality of digital interactions between government, citizens, and businesses is a key driver of public governance, as it influences the co-production of services, trust, and institutional legitimacy (Osborne, 2010; Meijer, Curtin & Hillebrandt, 2012; Mergel, 2016). In the Souss-Massa region, a responsive, clear, and user-friendly online relationship improves the perception of efficient and equitable service, thereby enhancing governance performance. Therefore.

- H_2: The quality of interaction has a significant impact on the performance of public service governance.

➢ *Organizational Capacities and Performance of Public Governance*

Organizational capabilities refer to the skills, resources, and internal processes that enable public institutions to effectively implement digitalization, particularly in the areas of knowledge management, coordination, training, and adaptability (Teece, Pisano & Shuen, 1997; Piening, 2013). Recent work shows that high capabilities, supported by strategic planning, a culture of innovation, and digital leadership, improve the implementation of digital public policies (Kettunen & Kallio, 2020). In the Souss region, these capabilities are essential for the success of digitalization, service continuity, and data quality. Hence.

- H_3: Organizational capabilities guarantee the performance of public service governance.

➢ *Involvement of Private Companies and Performance of Public Governance*

The involvement of private companies is a key dimension of the digitalization of governance, embedded in a network logic where public and private actors co-produce public value (Rhodes, 1996; Osborne & Gaebler, 1992). Through public-private partnerships and collaboration with technology companies, the administration benefits from skills, innovation capabilities, and digital solutions that promote performance and service quality (Bovaird, 2007). In the Souss region, this collaboration strengthens the effectiveness of digital platforms and supports the modernization of public services.

- H_4: The involvement of private companies has a major impact on the performance of public service governance.

The conceptual model below summarizes the assumed relationships between the dependent variable and the explanatory variables. It forms the basis of our research hypotheses, presented in the following figure4.

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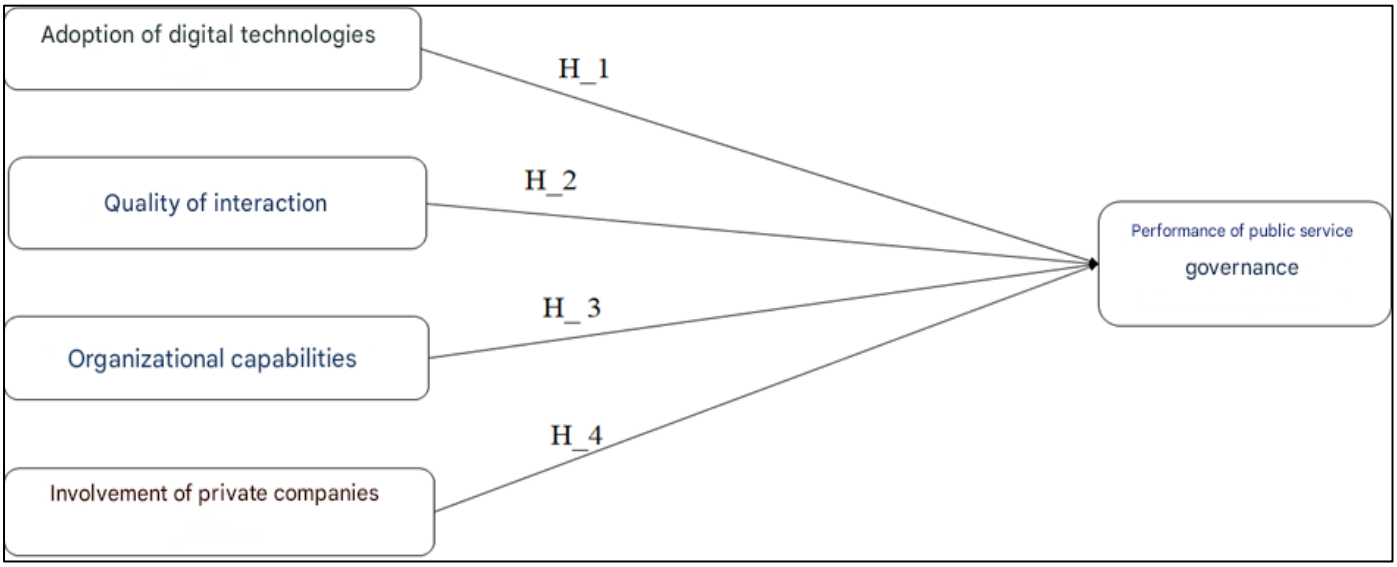

Fig 4 The Conceptual Model
Source: Designed by Ourselves

IV. RESULTS

In this section, we will present a structured approach to data analysis. First, we will introduce the statistical tools used and we will present the main results.

➢ *Descriptive Results of the Survey*

This subsection introduces the presentation of the results through a descriptive analysis of the survey data. By successively employing uni-, bi-, and multidimensional analyses based on a frequency distribution, it offers an initial interpretation of the main trends, while verifying the consistency and reliability of the responses, a prerequisite to the detailed examination of the relationships between variables.

➢ *Professional Status*

Analysis of respondents' professional status reveals a clear dominance of civil servants, who represent 80% of the sample, compared to 20% of private sector employees. This ensures good representation of those directly involved in implementing governance and the digitalization of public services. This strong presence of public sector employees reinforces the relevance of the results for understanding the internal challenges of digitalization, while the participation of private sector employees provides a complementary perspective on how businesses perceive and use digitalized public services. Together, these factors offer a more comprehensive view of the dynamics between the state, businesses, and citizens within the context of service digitalization.

Table 2 Professional Status

	Staff	Percentage	Valid Percentage	Cumulative Percentage
Official	80	80.0	80.0	80.0
Employee)	20	20.0	20.0	100.0
Total	100	100.0	100.0	

Source: SPSS V22 Release

This sample composition, primarily made up of civil servants but also including private sector employees, accurately reflects the main stakeholders in digital governance in the region studied. It shows that digitalization impacts both the internal functioning of the state and the nature of its relationships with economic and social actors.

➢ *Study Level*

Analysis of educational attainment reveals a generally qualified sample, with 63% of respondents holding a technical or higher education diploma (from a two-year post-secondary degree to a five-year post-secondary degree), facilitating the adoption of digital tools and modernized management practices. In addition, 19% hold doctorates, providing a strategic perspective on the challenges of digital transformation, and 18% have a secondary education, representing field staff whose experience is crucial for assessing the concrete impact of reforms. This diversity of profiles confirms that the success of digital governance relies on skilled human capital at all hierarchical levels.

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Table 3 Level of Study

	Staff	Percentage	Valid percentage	Cumulative percentage
Secondary	18	18.0	18.0	18.0
Bac +2 / Technical training	37	37.0	37.0	55.0
Bachelor's degree +3 to Bachelor's degree +5	26	26.0	26.0	81.0
Doctorate or equivalent	19	19.0	19.0	100.0
Total	100	100.0	100.0	

Source: SPSS V22 Release

➢ *Experience with Digital Public Services*

Analysis of experience with digital public services reveals a predominantly recent adoption rate: 51% of respondents have been using them for 1 to 3 years, while 22% have been using them for less than a year, demonstrating a gradual but effective rollout of digital tools. Only 27% have been using them for more than 3 years, confirming the relative newness of digitalization within the administration. These results show that digitalization in the Souss region is still in a phase of consolidation, but that it is already fostering a renewal of interactions between the state, citizens, and businesses, based on a more fluid, responsive, and participatory relationship.

Table 4 Experience with Digital Public Services

	Staff	Percentage	Valid percentage	Cumulative percentage
Less than a year	22	22.0	22.0	22.0
Between 1 and 3 years	51	51.0	51.0	73.0
Between 3 and 5 years	12	12.0	12.0	85.0
More than 5 years	15	15.0	15.0	100.0
Total	100	100.0	100.0	

Source: SPSS V22 Release

➢ *The Level of use of Digital Public Services*

Table 5 The Level of Use of Digital Public Services

	Staff	Percentage	Valid percentage	Cumulative percentage
Rarely	22	22.0	22.0	22.0
Sometimes	50	50.0	50.0	72.0
Often	28	28.0	28.0	100.0
Total	100	100.0	100.0	

Source: SPSS V22 Release

The table indicates an overall moderate use of digital public services, with 50% of respondents using them "sometimes," 28% "often," and only 22% "rarely." This distribution reflects a significant but still improvable adoption rate; digitalization is beginning to intensify interactions between the government, citizens, and businesses, while leaving room for growth toward more regular use.

➢ *The Gender*

Table 6 Gender

		Staff	Percentage	Valid percentage	Cumulative percentage
Valid	Man	80	80.0	80.0	80.0
	Women	20	20.0	20.0	100.0
	Total	100	100.0	100.0	

Source: SPSS V22 Release

The table highlights a strong male predominance, with 80% men compared to 20% women. This distribution reflects the socio-professional structure of the Souss region and suggests integrating the gender dimension into the analysis of digital governance, as experiences and perceptions of digitalization can differ according to gender.

➢ *Testing the Structural Equation Model*

The SEM model was highlighted by the PLS regression in three stages: first the evaluation of the measurement model, then that of the structural model, and finally the testing of the formulated hypotheses.

➢ *Measurement Model Test*

The measurement model, or external model, specifies the linear relationships between latent variables and their indicators. Its evaluation is classically based on three main criteria: the reliability of the scales, convergent validity, and discriminant validity between the constructs.

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➢ *Testing the Reliability of Measurement Scales*

A reliability test was conducted to verify the internal consistency of the measurement instruments, a key indicator of the stability and robustness of the results (Tavakol & Dennick, 2011). The calculation of Cronbach's alpha confirmed that the elements homogeneously measure the different dimensions of digitalized governance: quality of interactions, organizational capacities, and private sector involvement (Gliem & Gliem, 2003). This preliminary methodological step ensures the reliability of the interpretation of the relationships between the digitalization of public services and the evolution of relational dynamics in the region.

Table 7 Loadings Under PLS

Variables	Items	Loading	Alpha Crombach
Adoption of Digital Technologies	Adop.TD_1 <- Adoption Tech. Foxgloves	0.772	0.927
	Adop.TD_2 <- Adoption Tech. Foxgloves	0.896	
	Adop.TD_3 <- Adoption Tech. Foxgloves	0.922	
	Adop.TD_4 <- Adoption Tech. Foxgloves	0.912	
	Adop.TD_5 <- Adoption Tech. Foxgloves	0.889	
Organizational Capabilities	Cap.Org_1 <- Organizational Capabilities	0.927	0.953
	Cap.Org_2 <- Organizational Capabilities	0.937	
	Cap.Org_3 <- Organizational Capabilities	0.914	
	Cap.Org_4 <- Organizational Capabilities	0.907	
	Cap.Org_5 <- Organizational Capabilities	0.905	
Involvement of private companies	Imp.E.Priv_1<-Involvement of private companies	0.819	0.906
	Imp.E.Priv_2<-Involvement of private companies	0.841	
	Imp.E.Priv_3<-Involvement of private companies	0.832	
	Imp.E.Priv_4<-Involvement of private companies	0.892	
	Imp.E.Priv_5<-Involvement of private companies	0.874	
Perf. Governance SP	P.Go.SP_1 <- Perf. SP Governance	0.870	0.923
	P.Go.SP_2 <- Perf. SP Governance	0.873	
	P.Go.SP_3 <- Perf. SP Governance	0.906	
	P.Go.SP_4 <- Perf. SP Governance	0.850	
	P.Go.SP_5 <- Perf. SP Governance	0.873	
Quality of interaction	Q.Inter_1 <- Quality of the interaction	0.830	0.937
	Q.Inter_2 <- Quality of interaction	0.920	
	Q.Inter_3 <- Quality of interaction	0.876	
	Q.Inter_4 <- Quality of the interaction	0.916	
	Q.Inter_5 <- Quality of interaction	0.930	

Source: Smart-PLS Release

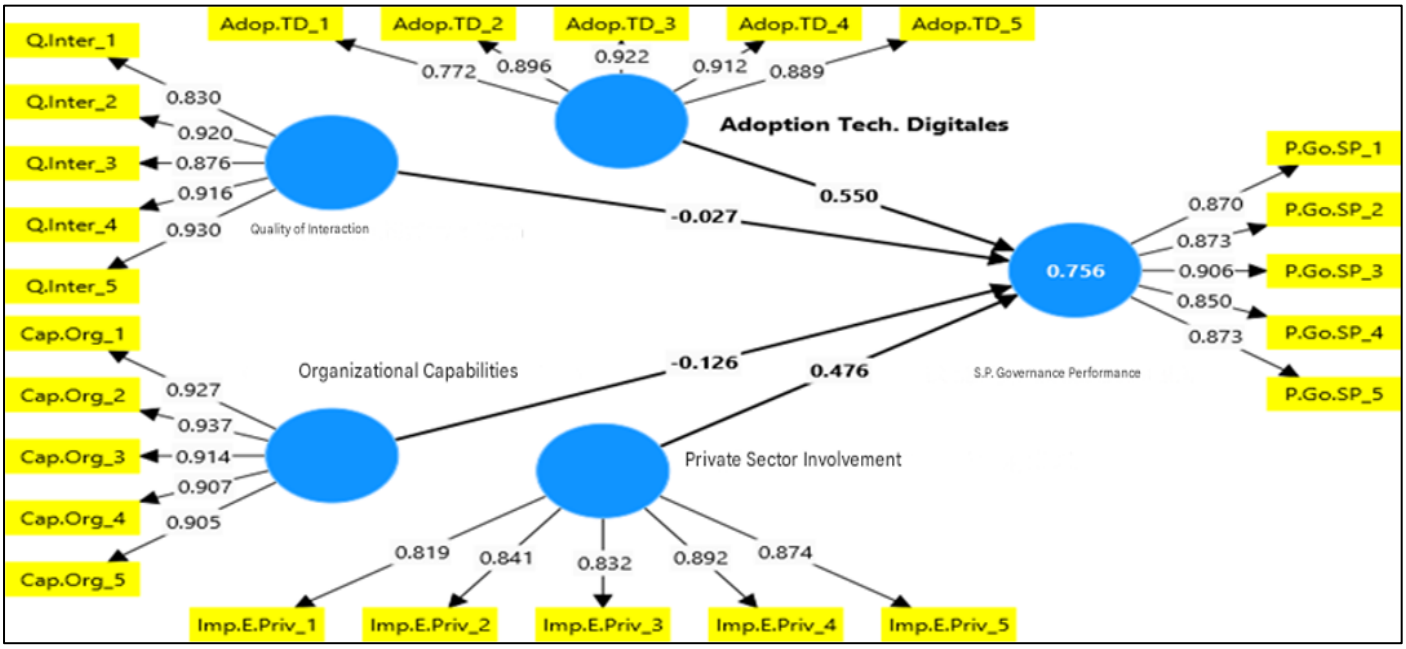

Fig 5 Measurement Model After Adjustment
Source: Smart-PLS Software Output

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The factor loadings of all items (> 0.77) indicate a strong association with their construct, and Cronbach's alphas > 0.90 confirm excellent internal consistency. The scales relating to digitalization, interaction quality, organizational capabilities, private sector involvement, and governance performance are therefore reliable and suitable for PLS analysis, ensuring the robustness of the results.

➢ *Convergent Validity Test*

All reliability and validity indicators significantly exceed the recommended thresholds: Cronbach's alphas are greater than 0.90, demonstrating excellent internal consistency, while composite reliabilities (rho_a and rho_c) exceed 0.70, confirming the stability of the constructs. The AVE (Verbal Availability Value) is greater than 0.70 for each variable, establishing convergent validity and demonstrating that the elements effectively remove their respective latent constructs. These results guarantee that the scales measuring digital adoption, interaction quality, organizational capabilities, private sector involvement, and governance performance are robust and appropriate for PLS analysis.

Table 8 Meaning and Composite Reliability (ρ) Per Construct

Built	Cronbach's Alpha	Fiab. composite	Extracted mean variance (AVE)
Adoption of Digital Technologies	0.927	0.938	0.774
Organizational capabilities	0.953	0.955	0.843
Involvement of private companies.	0.906	0.913	0.726
Perf. Governance SP	0.923	0.927	0.765
Quality of interaction	0.937	0.942	0.801

Source: Smart PLS.4.0.3 Software Output.

➢ *Discriminant Validity Test*

The diagonal values in the table (square root of the AVE) exceed all off-diagonal correlations, confirming that each construct shares more variance with its own elements than with other variables. This result established discriminant validity according to the Fornell-Larcker criterion, demonstrating that digital adoption, organizational capabilities, private sector involvement, governance performance, and interaction quality do indeed measure distinct concepts, thus ensuring the reliability of subsequent structural analyses.

Table 9 Discriminant Validity

	AVE	ATDigi.	C.Org	Imp.EP	Perf.GSP	Q.Intera.
Adoption of Digital Technologies	0.774	0.880				
Organizational capabilities	0.843	0.780	0.918			
Involvement of private companies.	0.726	0.722	0.707	0.852		
Perf. Governance SP	0.765	0.655	0.566	0.646	0.875	
Quality of interaction	0.801	0.693	0.728	0.692	0.773	0.895

Source: Smart-PLS.4.0.3 Software Output.

➢ *Structural Model Testing*

The structural model test examines the assumed causal relationships between the latent constructs, particularly the effect of the explanatory variables (digitalization adoption, quality of interaction, organizational capabilities, private sector involvement) on the performance of public service governance. It assesses both the strength and significance of the direct effects via path coefficients and the overall explanatory power of the model through R^2. Significance tests are performed using bootstrapping to verify the statistical robustness of the relationships and to validate the hypotheses derived from the literature review.

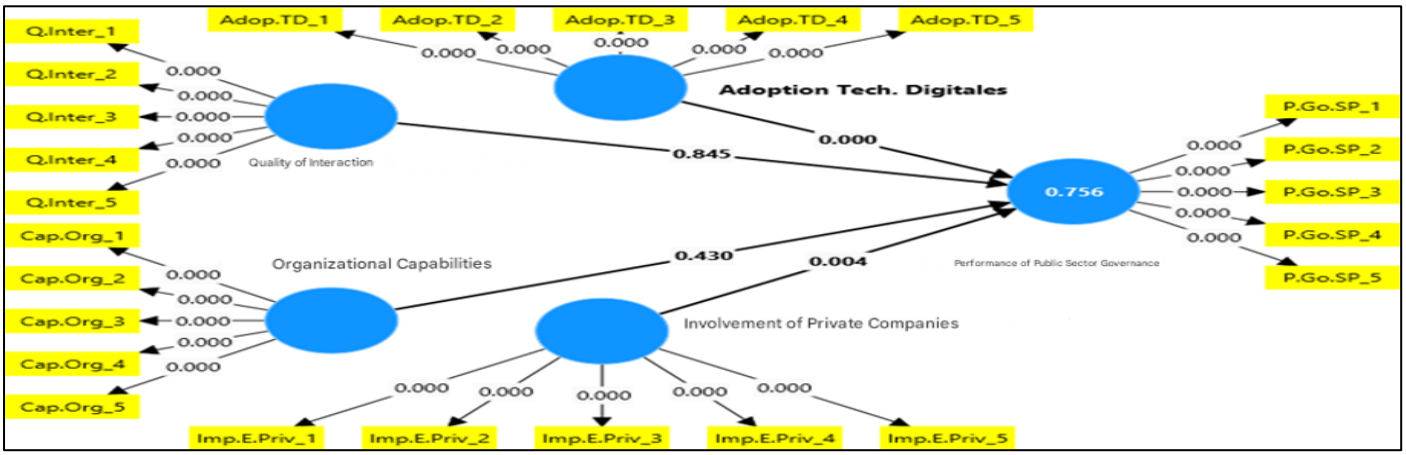

Fig 6 Structural Model After Fitting Using the Bostraping Method
Source: Smart PLS Software Output

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➢ *Examination of the Results for the Hypotheses Formulated*

This step involves testing the structural model by examining, through bootstrapping, the path coefficients, t-values, and p-values to assess the significance of the effects of the explanatory variables on the performance of public service governance. Each hypothesis (H_1 to H_4) is thus tested against the data to verify its empirical validity and compare the relative weight of each factor in explaining the impact of digitalization.

Table 10 Estimation of Causal Model Parameters Using the Bootstrap Method

Assumption	B (Co.Cor.)	T Stat. (|Z|>1.96)	P values	Signif.
H_1. Adoption of High-Performance Digital Technologies →and Governance (SP)	0.550	3,803	0.000	**Validated**
H_2. Organizational Capabilities, →Performance, Governance, SP	-0.126	0.789	0.430	**Not validated**
H_3. Involvement of private companies →. Performance. Governance SP	0.476	2,906	0.004	**Validated**
H_4. Quality of interaction →. Performance. Governance. SP	-0.027	0.195	0.845	**Not validated**

Source: Designed by us Based on Outputs from the Smart PLS Software

V. DISCUSSION

➢ *For Hypothesis H1: Adoption of Digital Technologies, →Performance, Governance, SP*

Analysis of the results shows that the first hypothesis (H1), testing the effect of digitalization adoption on public service governance performance, is validated. Indeed, the path coefficient (B = 0.550) indicates a substantial positive impact, while the t-value (3.803) significantly exceeds the critical threshold of 1.96, and the p-value (0.000) confirms the statistical significance of this relationship. These results suggest that the digitalization of public services plays a central role in improving administrative performance and optimizing interactions between the state, citizens, and businesses, thus corroborating the observations of Mergel (2016) and Meijer and Bekkers (2015) on the contribution of digitalization to the modernization of public governance.

➢ *For Hypothesis H2: Organizational Capabilities, →Performance, Governance, SP*

The results indicate that hypothesis H2, concerning the effect of organizational capabilities on public service governance performance, is not supported. The path coefficient (B = -0.126) is negative and low, the t-value (0.789) is well below the critical threshold of 1.96, and the p-value (0.430) exceeds the usual significance level of 0.05. These results suggest that, in the studied context of the Souss-Massa region, organizational capabilities as measured do not have a significant direct impact on public governance performance. This may reflect either a mismatch between available organizational resources and the demands of digitalization, or the existence of intervening or mediating factors (such as the adoption of digital technologies or the quality of interactions) that influence the effect of organizational capabilities on performance.

➢ *For Hypothesis H3: Involvement of Private Companies → Perf. Governance SP*

The results show that hypothesis H3, examining the effect of private sector involvement on public service governance performance, is validated. The path coefficient (B = 0.476) indicates a moderate positive impact, while the t-value (2.906) exceeds the critical threshold of 1.96, and the p-value (0.004) confirms the statistical significance of this relationship. These results highlight that the active participation of private companies contributes significantly to improving public service performance by strengthening collaboration between the state, citizens, and the private sector, and by promoting the optimization of digital processes and the modernization of services, in line with Cordella & Bonina's (2012) observations on the importance of cross-sectoral cooperation in digital governance.

➢ *For Hypothesis H4: Quality of Interaction →Performance, Governance, SP*

The results indicate that the fourth hypothesis (H4), testing the effect of interaction quality on public service governance performance, is not supported. The path coefficient (B = -0.027) is very low and negative, the t-value (0.195) is well below the critical threshold of 1.96, and the p-value (0.845) is well above the significance threshold of 0.05. This suggests that, in the studied context of the Souss region, interaction quality alone is not a determining factor in digital governance performance. It is possible that its impact is indirect or mediated by other variables, such as the adoption of digitalization or the involvement of private companies, which play a more central role in improving the relational dynamics between the state, citizens, and businesses.

VI. CONCLUSION

This study aimed to analyze the effect of digitalization on the performance of public governance and on the relationship dynamics between the state, citizens, and businesses, focusing on four dimensions: the adoption of digitalization, organizational capacities, the involvement of private companies, and the quality of interactions. The literature highlights the crucial role of digital technology in administrative modernization and citizen participation (Mergel, 2016; Meijer & Bekkers, 2015), as well as the importance of cooperation with the private sector to stimulate innovation (Cordella & Bonina, 2012).

The results obtained in the Souss-Massa region partially confirm these theoretical contributions. The PLS analysis shows that the adoption of digitalization and the involvement of private companies significantly strengthen the performance of public governance (validation of H_1 and H_3).

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This finding supports the idea that digitalization and public-private partnerships improve the transparency, responsiveness, and fluidity of relationships between stakeholders. However, organizational capacities and the quality of interactions (H_2 and H_4) do not show a direct measurable effect, suggesting that they influence performance indirectly or conditionally.

These results highlight that the success of digitalization depends both on technological tools and on the administration's openness to external collaborations. They call for a rethinking of traditional governance models by more fully integrating a systemic approach based on technology, intersectoral cooperation, and citizen involvement.

Ultimately, this study confirms the strategic importance of digital technology and private partnerships in improving public services and highlights the need for a more in-depth analysis of the mechanisms by which internal capabilities and interactions influence performance. It thus offers useful guidance to decision-makers in Souss-Massa and to government agencies engaged in digitalization.

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