Measuring the Impact of Digitalization on Modernization in Tax Administration: A Field Study of a Sample of Tax Administrations in the Wilaya of Constantine

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Abstract:

This study investigated the impact of digitalization on modernization within tax administration systems, Utilizing a structured questionnaire administered to a selected sample of 120 tax agents, achieving a 93.75% response rate. The results revealed a statistically significant relationship between digitalization and modernization, with digitalization shown to have a notable impact on modernization in the tax administrations of the Wilaya of Constantine. the study proposed practical recommendations, including enhancing digital infrastructure, reorganizing administrative processes, developing employee skills, fostering a culture of adaptability, and aligning with digital transformation trends to further strengthen this relationship.

Keywords: Digitalization.; Modernization.; Tax Administration.; Constantine.

Jel Classification Codes: H83, O33, O38, M15.

1. INTRODUCTION

Tax systems in the 21st century face growing challenges due to rapid technological advancements and the expanding digital economy. Traditional tax administration methods are no longer sufficient to ensure efficiency, equity, and transparency. Digitalization has become a key driver of transformation, integrating advanced technologies such as data management, automation, and intelligent solutions to enhance tax services. However, its success depends on broader modernization efforts, involving structural reforms, cultural shifts, and improved management practices to align tax administrations with the demands of the digital era.

In this context, Constantine's tax administrations provide a relevant case for examining the interplay between digitalization and modernization. This study analyzes the impact of digitalization on administrative performance, with modernization acting as a mediating factor. It also assesses institutional readiness for digital transformation and identifies challenges to achieving sustainable modernization. The findings aim to enhance tax administration efficiency within Algeria's evolving regulatory framework.

Research Significance

This study contributes on both theoretical and practical fronts. Academically, it enriches the literature by providing an integrated framework that examines how digitalization and modernization collectively improve administrative performance. Practically, it offers actionable recommendations for policymakers to optimize digital transformation strategies and enhance the operational efficiency of tax administrations. The study also highlights the importance of investing in technological infrastructure and human resource development to ensure successful and sustainable modernization in the public sector.

Research Problem

Based on the above, this study seeks to answer the following central question:

What is the impact of digitalization on modernization within the tax administrations of the Wilaya of Constantine?

Hypotheses

To address this question, the study tests the following hypotheses:

1. Digitalization has a statistically significant relationship with modernization in the tax administrations of Constantine.
2. Digitalization exerts a statistically significant impact on modernization within these administrations.

Objectives

The primary objectives of this study are as follows:

- To analyze the concepts of digitalization and modernization in the context of Algerian tax administration;
- To identify the nature of the relationship between digitalization and modernization within the tax administrations of Constantine;
- To measure the effect of digitalization on modernization in these institutions.

Methodology

The study employs a descriptive-analytical approach to achieve its objectives and address the research question. The descriptive method is used to define and contextualize digitalization and modernization through a theoretical lens, while the analytical method focuses on examining empirical data collected from tax administrations in the Wilaya of Constantine.

2. Theoretical Framework of the Study

Tax administration digitalization and modernization focus on leveraging technology and restructuring administrative processes to enhance efficiency, transparency, and tax compliance.

2.1 Digitalization in Algerian Tax Administration

The concept of digitalization tax administration (its definition, objectives, and significance) will be discussed as follows:

2.1.1 Concept and Objectives of Tax Administration Digitalization

The concept of digitalization in tax administration has been defined in

various ways. Some describe it as the process of evaluating, collecting, and managing all tax-related operations using information and communication technologies (ICT). Digitalization serves as a government strategy aimed at integrating ICT into tax administration to improve the quality of services offered to taxpayers, ensuring timely access to necessary information at minimal cost (Chijioke & Al, 2018, pp. 20, 21).

Others define digitalization as a system for tax revenue collection through an online platform that allows taxpayers to access various services. These services include requesting tax identification numbers, submitting tax declarations, and applying for tax clearance certificates (Akpubi & Igbekoyi, 2019, p. 54). Digitalization seeks to achieve several objectives, which can be summarized as follows: (Satoru , 2013, pp. 03, 04)

- **Streamlining Operations:** Optimizing the efficiency of tax administration personnel by reducing the intensity and volume of their tasks. This includes digitizing processes related to tax assessment, revenue collection, tax audits, and the imposition of penalties and fines;
- **Eliminating Physical Presence:** Minimizing the need for taxpayers to be physically present by automating processes such as front-desk services, guidance, tax base determination, revenue collection, and file management;
- **Facilitating Digital Access:** Enabling tax administration personnel to access and utilize monitored digital platforms specific to the administration;
- **Interagency Integration:** Ensuring coordination between government agencies and expediting information exchange to enhance efficiency;
- **Enhancing Operational Effectiveness:** Scheduling essential tax-related data in a timely manner and ensuring the collection of taxes based on their types and the nature of activities performed;
- **Providing Accurate Information:** Offering reliable and credible data to stakeholders, thereby supporting forward-looking analytical studies and informed decision-making processes;
- **Supporting Automated Audit Systems:** Allowing tax auditors to access taxpayers' accounting records and the national fraud database through centralized data systems, improving the execution of assigned tasks.
- **Standardizing Audit Processes:** Implementing institutional standards

that align objectively with audit programming criteria and ensuring consistency in tax audit practices;

- **Combatting Tax Evasion and Fraud:** Protecting tax revenues and addressing parallel economy activities through effective monitoring and enforcement measures;
- **Reducing Administrative Costs:** Minimizing the expenses associated with issuing tax-related documents and reducing the time required to process taxpayer complaints;
- **Monitoring Taxpayer Accounts:** Tracking taxpayer activities through secure, monitored digital access credentials;
- **Developing Digital Declaration and Payment Portals:** Establishing platforms for tax filing and payment to enhance accessibility and efficiency.

2.1.2 The Importance of Digitalizing Tax Administration

Digitalizing tax administration is crucial for both tax authorities and taxpayers, offering numerous benefits outlined as follows:

2.1.2.1 Importance of Digitalization for Taxpayers

The significance of tax administration digitalization for taxpayers includes: (Hammouri & Abu-Shanab, 2017, pp. 171-172)

- **Enhanced Satisfaction:** Providing modern tools for accessing a wide range of tax services, improving the overall user experience;
- **Improved Communication:** Establishing continuous communication channels between tax authorities and taxpayers, including reminders for tax deadlines and enabling access to services anytime and anywhere;
- **Transparency in Tax Management:** Allowing taxpayers to monitor their paid and outstanding taxes electronically;
- **Cost and Time Efficiency:** Reducing the cost of tax payments and eliminating the need for physical presence at specific locations or during office hours.

2.1.2.2 Importance of Digitalization for Tax Administration Employees

For tax administration staff, digitalization provides the following benefits: (Hammouri & Abu-Shanab, 2017, pp. 172-173)

- **Streamlined Processes:** Facilitating the reengineering of tax-related

procedures;

- **Efficiency and Speed:** Leveraging electronic systems tailored to meet taxpayer needs;
- **Combatting Tax Evasion:** Implementing strategies to reduce tax evasion and promote compliance.
- **Enhanced Oversight:** Improving tax compliance through systematic monitoring of transactions and business activities;
- **Cost Reduction:** Minimizing the expenses associated with traditional administrative tasks;
- **Automation of Daily Activities:** Transitioning from manual processes to automated operations;
- **24/7 Tax Services:** Offering round-the-clock electronic tax services.
- **Interdepartmental Integration:** Strengthening collaboration with other government agencies through electronic linkages.

2.1.3 Requirements for Digitalizing Tax Administration

Implementing digital tax administration necessitates a robust foundation of key components: (Fekrach & Raki, 2022, p. 08)

- **Management Information Systems (MIS):** Tools designed to perform specific functions, such as managing tax declarations;
- **Content Management Systems (CMS):** Applications linked to websites for efficient data management;
- **Electronic Archiving:** Techniques for digitizing paper documents into electronic formats;
- **Digital Portals:** Platforms for managing large volumes of information via integrated management systems;
- **Interactive Electronic Forms:** Templates allowing users to input detailed information efficiently;
- **Electronic Payment Systems:** Tools such as credit card payment solutions for streamlined tax payments;
- **Search Engines:** Mechanisms to quickly retrieve required information;
- **User Interfaces and Website Design:** Interactive spaces enabling seamless access to information.

2.1.4 Steps for Transitioning to Digital Tax Administration

Shifting from traditional to digital tax administration involves several key actions: (Kouadri, 2022, pp. 238, 239)

- **System Integration:** Linking various tax administration units using information and communication technology (ICT) to enhance coordination and simplify access to essential data;
- **Establishment of Tax Information Portals:** Creating a dedicated electronic portal for the General Directorate of Taxes to provide essential resources for taxpayers, including tax guides, declarations, laws, and notices, thereby improving interactions with tax officials;
- **Digital Tax Identification Number (TIN):** Enabling taxpayers to obtain TINs through email submissions to the tax authority;
- **Online Tax Declarations:** Simplifying the declaration process by introducing online portals. For example, a pilot project allowed taxpayers with turnover exceeding 100 million DZD to file declarations electronically;
- **Digital Tax Certificates:** Providing taxpayers with an online platform to request and obtain tax certificates by submitting necessary data electronically;
- **Electronic Tax Audits:** Transitioning from traditional audits to electronic ones as a strategy to modernize tax inspection mechanisms and adapt to technological advancements, such as e-commerce and digital invoicing.

2.2 Modernization in Algerian Tax Administration

The concept of modernization in tax administration (its definition, objectives, and programs) will be discussed as follows:

2.2.1 Concept and Objectives of Tax Administration Modernization

Tax administration modernization involves reforms aimed at updating the current system, improving tax base management, and controlling tax rates to establish an efficient and flexible system that reduces tax evasion and enhances tax collection. These efforts are designed to address the challenges of the 21st century, aligning the tax system with technological advancements in other sectors while simplifying administrative procedures for greater ease of implementation (Laareba & Sahnoun, 2021, p. 511)

(Qanas & Zain, 2021, p. 218). The objectives of this modernization are as follows: (Chaouadi & Silini, 2022, pp. 20, 21)

- **Simplification of Tax Administration Tasks:** Streamlining tax-related procedures for both tax assessment and collection, as well as for inspections and dispute resolution;
- **Use of Information and Communication Technology (ICT):** Implementing electronic systems for tax collection, allowing taxpayers to meet their obligations without requiring physical presence. This also facilitates accurate determination of taxable items and electronic management of tax files;
- **Updating Tax Inspection Processes:** Developing audit standards aligned with international best practices to improve objectivity and the quality of tax inspections, ultimately enhancing tax compliance;
- **Addressing the Informal Economy:** Bringing illegal activities into the formal economy by ensuring they are taxed, contributing to increased tax;
- **Facilitating Taxpayer Complaints and Disputes:** Simplifying procedures for taxpayers to lodge complaints or resolve disputes;
- **Reducing Tax Evasion and Fraud:** Mitigating negative tax practices and combating tax evasion and fraud.

2.2.2 Reasons for Tax Administration Modernization

Several factors have driven the need for modernization in Algerian tax administration, the most significant of which include: (Bouziane & Mohieddine, 2021, p. 297)

- **Lack of Skilled Personnel:** The tax sector has been historically underfunded and neglected, resulting in a workforce that lacks the necessary qualifications, leading to inefficiencies in tax administration;
- **Inadequate Administrative Resources:** Tax administration offices are often under-equipped, with some facilities rented from private entities rather than being state-owned, limiting their capacity to perform administrative tasks effectively;
- **Corruption:** Instances of administrative misconduct within public institutions, including tax administration, undermine the effectiveness of the system. Corruption is fueled by a lack of integrity and accountability, with

breaches of confidentiality and failure to adhere to professional standards, such as disclosing sensitive taxpayer information.

2.2.3 Components of the Tax Administration Modernization Program

Three tax structures have been established, which can be identified as follows:

2.2.3.1 Establishment of New Structures

- **Large Enterprise Directorate:** Created under the 2002 Finance Law, this body oversees the tax files of large enterprises with revenues exceeding 100 million DZD. It specifically handles oil companies and foreign entities not established in Algeria, ensuring proper taxation on corporate profits (Dhaifallah & Al, 2018, p. 88).
- **Tax Centers:** Tax centers, introduced under the 2003 Finance Law, manage tax files for entities subject to the real tax system. These centers classify taxpayers based on their area of specialization and are responsible for tax assessment, collection, and dispute resolution (Bouzianee & Mohieddine, 2021, p. 155).
- **Local Tax Centers:** These centers, introduced in 2006, handle tax files for businesses under the simplified tax system. They replaced traditional tax inspection units and aim to improve the quality of taxpayer services by simplifying and coordinating tax processes, ultimately increasing the efficiency of tax administration (Raki & Amari, p. 2020).

2.2.3.2 Simplification of Procedures

Public institutions have focused on eliminating obstacles within the tax system, such as complexity, limited taxable assets, and excessive tax burdens. Key initiatives include: (Ouchan & Belazouz, 2017, p. 69)

- **Reducing Tax Pressure:** Implementing strategies to alleviate excessive tax burdens;
- **Enhanced Tax Compliance:** Introducing more rigorous procedures to reclaim evaded taxes and expand the tax base;
- **Simplifying Tax Collection:** Streamlining the process from determining taxable assets to assessing and collecting taxes. Key reforms, such as the 2015 supplementary finance law, aim to broaden the tax base by including

investments from individuals under a flat tax rate, encouraging gradual integration of informal economic activities into the formal sector;

- **Encouraging Productive Activities:** Lowering tax rates on productive sectors to stimulate economic growth;
- **Streamlining Tax Documentation:** Simplifying the submission and access to tax documents for taxpayers;
- **Enhanced Tax Audits:** Introducing four categories of audits, including document review, comprehensive audits, targeted investigations, and in-depth audits of taxpayers' overall tax positions;
- **Tougher Penalties for Tax Evasion:** Imposing stricter fines and penalties for those evading taxes.

2.2.3.3 Integration of Information and Communication Technology (ICT)

The adoption of ICT is a cornerstone of tax administration reform, essential for keeping pace with global trends in digital governance. The integration of ICT into tax administration services facilitates: (Bouglia & Harraq, 2021, p. 157)

- **Efficiency Gains:** Digital systems reduce administrative burdens, enhance transparency, and streamline taxpayer interactions with the tax authorities;
- **Enhanced Taxpayer Experience:** ICT tools provide taxpayers with easier access to tax information and services, simplifying tax compliance;
- **Cost Reduction:** Digitization helps reduce operational costs and improve resource management within tax administration;
- **Transparency and Accountability:** By minimizing human intervention, ICT reduces the opportunity for corrupt practices and ensures more rigorous oversight of both employees and taxpayers;
- **Improved Tax Collection and Compliance:** Centralized digital systems enable better monitoring of tax payments, while also increasing the overall effectiveness of tax audits and compliance efforts.

3. Field Aspect of Measuring the Impact of Digitalization and Modernization in Tax Administration: A Study of Tax Administration Offices in Constantine Province

In this field section, the impact of digitalization and modernization

will be evaluated within a selection of tax administrations .

3.1 Methodological Procedures of the Study

This phase serves as a preparatory step for the field study, outline details the steps taken in this phase:

3.1.1 Preliminary Procedures

To test the hypotheses and address the research questions, the study population and sample must be defined accurately, the instrument's validity verified, and descriptive measures for the demographic variables determined, as follows:

3.1.1.1 Study Population and Sample

The study population consists of tax officials from tax administration offices in Constantine Province. For the field study, a purposive sample of 128 tax officials was selected. Questionnaires were distributed, and 120 valid responses were returned, yielding a response rate of 93.75%.

3.1.1.2 Data Collection Tools

The questionnaire was employed as the primary tool for gathering data to address the research problem and test the proposed hypotheses. The questionnaire was divided into two sections: the first section gathers demographic data from respondents, while the second focuses on evaluating their views regarding the study variables. The content of the questionnaire was developed based on a review of previous studies and the theoretical framework of the current study. To ensure accuracy and quality, the questionnaire underwent a review by a panel of experts, and the data were analyzed using advanced statistical software, including SPSS and AMOS, to enhance the reliability and objectivity of the analysis.

3.1.1.3 Validity and Reliability of the Measurement Tool

To verify the validity and reliability of the measurement tool, Cronbach's alpha coefficient was used. The results were as follows:

Table 1: Cronbach's Alpha Coefficient and Reliability

Domain	Number of Items	Cronbach's Alpha Coefficient	Reliability
Domain 1	15	0.820	0.906
Domain 2	15	0.785	0.886
Total	**30**	**0.805**	**0.897**

Source: Prepared by the researcher based on SPSS 26 results.

As shown in Table 1, the Cronbach's alpha coefficient and reliability for the tool are high.Overall, the total Cronbach's alpha coefficient is 0.805, with reliability at 0.897, confirming the tool's effectiveness and reliability in accurately measuring the study variables.

3.1.3 Descriptive Characteristics of Study Respondents

Table 2: Descriptive Characteristics of the Study Sample

Category	Subcategory	Frequency	Percentage (%)
Job	Technical Staff	72	60
	Common Staff	48	40
Age	21-30 Years	33	27.5
	31-40 Years	69	57.5
	Over 51 Years	18	15
Educational	Vocational Degree	4	3.33
	Bachelor's	35	29.17
	Master's	74	61.67
	Doctorate	7	5.83

Source: Prepared by the researcher based on SPSS 26 results.

As presented in Table 2, the study sample highlights the significance of the targeted categories in understanding the impact of digitalization and modernization in tax administration in Constantine.The technical staff category dominates at 60%, emphasizing their role in handling digital systems, while common staff represent 40%, ensuring the inclusion of administrative employees in evaluating digitalization's impact.

3.2 Descriptive Measures of Study Domains and Hypothesis Testing

To analyze the responses of the study sample members to its variables, descriptive statistics will be calculated as follows:

3.2.1 Descriptive Measures of Digitalization in Tax Administration

Table 3: Descriptive Measures of Digitalization in Tax Administration

Statement	Mean	Standard Deviation	Comment
Digitalization of tax administration enables tax officers to access tax services with	4.22	0.62	Strongly Agree

simpler procedures.			
Digitalization of tax administration aims to complete services more quickly.	4.36	0.63	Strongly Agree
Digitalization contributes to enhancing the efficiency of tax administration staff.	3.95	0.64	Strongly Agree
Digitalization helps in maintaining and archiving information in electronic files.	4.34	0.57	Strongly Agree
Digitalization facilitates the creation of communication networks between relevant stakeholders in tax administration.	4.29	0.74	Strongly Agree
Digitalization helps protect and maintain the confidentiality of taxpayer information.	4.28	0.68	Strongly Agree
Digitalization in tax administration improves the effectiveness of tax officers' performance.	3.72	0.70	Agree
The tax administration offers training and development courses to its staff on digitalization and digital tax services.	4.00	0.82	Agree
The tax administration provides various resources to support the provision of digital services to taxpayers.	3.91	0.92	Agree
Internet connectivity is available for all departments within the tax administration.	4.08	0.82	Agree
Digitalization reduces the costs borne by the tax administration in performing its functions.	3.95	0.91	Agree
Digitalization improves the relationship between the tax administration and taxpayers.	3.82	0.98	Agree
Digitalization reduces the opportunities for tax evasion in tax administration.	3.88	0.83	Agree
Digitalization is a modern strategy that has contributed to enhancing tax collection.	3.84	0.84	Agree
Digitalization in Tax Administration	**4.06**	**0.69**	**Agree**

Source: Prepared by the researcher based on SPSS 26 results.

As shown in **Table 3**, the digitalization domain in tax administration has an overall mean of 4.06 with a standard deviation of 0.69, reflecting a high level of agreement regarding the positive role of digitalization in improving performance and services. Digitalization has simplified procedures and expedited service delivery to taxpayers, enhanced the efficiency of tax officers through training on digital tools, and improved information archiving and confidentiality. It has also facilitated the creation of effective communication networks, fostered better relationships with taxpayers, reduced operational costs, and minimized opportunities for tax evasion, ultimately contributing to improved tax collection.

3.2.2 Descriptive Measures of Modernization in Tax Administration

Table 4: Descriptive Measures of Modernization in Tax Administration

Statement	**Mean**	**Standard Deviation**	**Comment**
The establishment and renewal of tax structures contribute to achieving the goals of modernizing tax administration.	4.22	0.70	Strongly Agree
Establishing new tax structures reduces confusion in tax imposition and improves tax revenue collection.	3.78	0.61	Agree
Establishing new structures provides resources and competencies for tax officers to perform their duties effectively.	4.38	0.70	Strongly Agree
The creation of a Directorate for Large Taxpayer Units helps protect tax revenue and ensures greater efficiency in tax administration.	4.12	0.70	Agree
Simplifying tax procedures enhances the performance of tax officers and reduces complexity in legal texts.	3.89	0.89	Agree
Simplifying administrative procedures in the tax system generates additional resources for the public treasury.	3.89	0.89	Agree
Taxpayer incentives encourage investment, broadening the tax base and increasing	4.22	0.86	Strongly Agree

revenues.			
Reducing tax rates on productive activities supports the national economy.	3.92	0.52	Agree
Reducing the number of tax declaration procedures improves tax compliance.	4.39	0.63	Strongly Agree
Diversifying tax audit methods and tightening penalties reduce tax evasion.	4.02	0.58	Agree
Reducing the tax burden by minimizing taxes and lowering rates enhances taxpayer compliance.	4.01	0.54	Agree
Establishing a tax center improves the accuracy of handling taxpayer situations and ensures fairer tax imposition.	4.07	0.69	Agree
The introduction of information and communication technology in tax administration improves overall system efficiency.	3.90	0.54	Agree
The use of information technology reduces errors made by tax officers during their duties.	4.25	0.68	Strongly Agree
The introduction of modern technology increases transparency and reduces corruption in tax administration.	4.10	0.79	Agree
Modernization in Tax Administration	**4.11**	**0.72**	**Agree**

Source: Prepared by the researcher based on SPSS 26 results.

As shown in **Table 4**, the modernization domain in tax administration achieves a mean of 4.11 with a standard deviation of 0.72, reflecting a deep understanding of the importance of developing the tax system to achieve efficiency and transparency. The establishment and renewal of tax structures enhance administrative performance by reducing confusion, improving tax revenue collection, and providing resources for effective tax administration. Additionally, the creation of specialized directorates helps protect tax revenue, while simplifying tax procedures improves officer performance and legal clarity. The reduction of the tax burden,

encouragement of investment, and introduction of modern technology are critical in reducing errors, boosting compliance, and promoting fairness, thereby enhancing the overall effectiveness and equity of the tax administration system.

3.2.3 Hypothesis Testing

To test the study hypotheses, a series of tests were conducted as follows:

3.2.3.1 Testing the first hypothesis

To determine the relationship between digitalization and modernization in the tax administration of Constantine, the hypothesis is as follows:

There is a statistically significant relationship between digitalization and modernization in the tax administrations of Constantine. To test this hypothesis, the null and alternative hypotheses are formulated as follows:

H0: There is no statistically significant relationship between digitalization and modernization in the tax administrations of Constantine.

H1: There is a statistically significant relationship between digitalization and modernization in the tax administrations of Constantine.

Table 5: Regression Analysis, Correlation Coefficients to Examine the Relationship between Digitalization and Modernization in Tax Administrations

Source	Sum of Squares	Degrees of Freedom	Mean Square	F	sig	r	R-Squared
Regression	29.80	1	29.80	271.44	0.000	0.690	0.582
Residual	18.19	119	0.08				
Total	47.99	120					

Source: Prepared by the researcher based on SPSS V.26 results.

As shown in **Table 5**, the computed F-value is 271.44, which exceeds the critical value of 3.84, and the corresponding p-value is 0.000, which is below the accepted significance level of 0.05. Therefore, the model is valid for testing the proposed hypothesis. Furthermore, the table reveals a strong positive correlation between digitalization and modernization in the tax administrations of Constantine, with a correlation coefficient of 0.690, indicating a significant relationship between the two variables. The R-

squared value of 0.582 suggests that 58.2% of the variation in modernization (dependent variable) can be explained by changes in digitalization (independent variable), with the remaining variation attributed to other factors not covered by the study. This leads to the rejection of the null hypothesis and the acceptance of the alternative hypothesis: There is a statistically significant relationship between digitalization and modernization in the tax administrations of Constantine.

3.2.3.2 Testing the second hypothesis

To assess the effect of digitalization on modernization in the tax administrations of Constantine, the hypothesis is as follows: There is a statistically significant effect of digitalization on modernization in the tax administrations of Constantine. The null and alternative hypotheses are formulated as:

H0: There is no statistically significant effect of digitalization on modernization in the tax administrations of Constantine.

H1: There is a statistically significant effect of digitalization on modernization in the tax administrations of Constantine.

Table 6: Significance of the Simple Linear Regression Coefficients for the Effect of Digitalization on Modernization in the Tax Administrations

Model	**Coefficient**	**Standard Error**	**Beta**	**T-Value**	**(Sig)**
Intercept (A)	0.820	0.177		3.182	0.000
Regression Coefficient (B1)	0.684	0.043	0.641	20.100	0.000
Regression Model:	Modernization = 0.820 + 0.684 * Digitalization				

Source: Prepared by the researcher based on SPSS V.26 results.

Table 6 shows that the coefficients of the simple linear regression model are statistically significant, with a p-value of 0.000 for both the intercept and the regression coefficient, which are well below the significance level of 0.05. The regression coefficient (B) of 0.684 implies that for each unit increase in the level of digitalization, there is an associated increase of 68.4% in the development of new structures. This leads to the rejection of the null hypothesis and the acceptance of the

alternative hypothesis: There is a statistically significant effect of digitalization on modernization in the tax administrations of Constantine.

4. CONCLUSION

In the digital era, the interaction between digitalization and modernization plays a crucial role in enhancing tax administration efficiency and service quality. This study highlights that successful digital transformation requires not only the adoption of advanced technologies but also comprehensive modernization of organizational structures, processes, and cultures. The findings from Constantine's tax administrations emphasize the need for aligning digitalization efforts with institutional readiness, advocating for a balanced approach that integrates technological innovation with structural reforms.

For policymakers and stakeholders, the impact of digitalization is maximized when combined with modernization efforts that promote adaptability, transparency, and citizen engagement. Investing in digital infrastructure, workforce development, and a holistic transformation strategy is essential for achieving sustainable administrative excellence. These insights offer a scalable model for tax administrations worldwide, guiding their transition in the era of digital governance. Future research could extend this analysis through cross-regional studies to refine strategies and enhance global applicability.

Study Recommendations:

This study has reached a set of recommendations, as follows:

- Strengthen digital infrastructure and enhance technological systems to ensure operational efficiency and improve tax data management;
- Develop the human skills of staff through specialized training programs focused on modern technologies and digital transformation;
- Foster a culture of change and adaptability to digital shifts across all levels of tax administrations;
- Conduct regular assessments of the effectiveness of digitalization and modernization using precise performance indicators to measure service quality improvements;
- Encourage collaboration with the private sector and technology firms to

adopt innovative solutions that support digital transformation;

- Increase focus on scientific research to explore further aspects of the relationship between digitalization and modernization and their impact on administrative performance.

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