Assessing the Level of Digital Maturity in Tax Administration According to the OECD Model: A Case Study of the Tax Directorate of Mila Province

ACHOURI Naime [1], BOUTEKOUK Ammar [2]

[1] Abdelhafid Boussouf University Center, Mila, Algeria. Email: n.achouri@centre-univ-mila.dz
[2] Abbès Laghrour University, Khenchela, Algeria. Email: Amar.boutekouk@univ-khenchela.dz

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Abstract:
This study assesses the level of digital maturity reached by the Algerian tax administration using the OECD Digital Transformation Maturity Model. A descriptive approach was adopted in the theoretical part, while an analytical approach was used in the field study. The study first reviews the stages of digital transformation in tax administration in light of tax system reform and the modernization of tax administration. It then analyzes a questionnaire administered to officials of the Tax Directorate of Mila Province. The purpose was to determine the level of digital maturity through organizational culture and the availability of digital infrastructure capable of supporting digital transformation as a shared operational tool for taxpayers and tax officials. The study concludes that the tax administration is still at the first maturity level and may therefore be classified as an emerging administration.
Keywords: digital maturity model; digitalization of tax administration; Tax Directorate of Mila.

1. Introduction

Since the 1992 tax reform, the Algerian tax administration has undergone several developments at both the legislative and administrative levels. The tax system has become declaration-based and is organized according to several tax regimes, including the flat-rate regime, the simplified regime, the controlled regime, and the real regime. These regimes are derived from modern tax systems.

At the administrative level, the basic structures were reformed by merging direct and indirect tax services into a single inspectorate. The work of tax collection offices was also regulated, since these offices are responsible for collection operations.

As part of the modernization of tax administration, new structures were established, including the Directorate of Large Enterprises and tax centers. These structures rely on digitalization as a key instrument for improving administrative performance. They are intended to benefit both the public treasury and taxpayers.

Accordingly, the digitalization of tax administration seeks to automate all procedures related to tax assessment, tax collection, and tax control. This has been supported by the launch of the website of the General Directorate of Taxes, through which taxpayers can access electronic tax declarations and electronic payment services via the “Moussahamatic”, “Jibayatic”, and “Tabioukom” portals. A tax management system has also been introduced to accompany these new structures within the broader modernization of tax administration. This system enables the automated management of tax centers.

Research Problem

In light of the above, this study addresses the following research problem:

"To what extent is the Tax Directorate of Mila Province mature for digital transformation according to the model adopted by the Organisation for Economic Co-operation and Development?"

To address this research problem, the following sub-questions were formulated:

- What are the stages of modernizing tax administration in the context of digital transformation?
- What is the digital transformation maturity model adopted by the OECD?
- To what extent does the tax administration rely on digital transformation programs in managing tax files?
- What is the level of communication between tax officials and taxpayers through digital platforms?
- To what extent does the tax administration use advanced software to manage its various services?

Research Hypotheses

- The tax administration is gradually moving toward sectoral digitalization by establishing appropriate infrastructure.
- The tax administration relies on digital transformation programs in managing tax files.
- Communication between tax officials and taxpayers takes place through digital platforms.
- Advanced software is used to manage the tasks of tax services.

Research Objectives

- To determine the maturity level of tax administration in relation to digital transformation according to the measurement indicators adopted by the OECD.
- To analyze the extent to which the available digital infrastructure can support an effective digital system.
- To examine mechanisms for supporting and accelerating digital transformation in the Algerian tax administration.

Methodology

The descriptive approach was used for the theoretical part of the study. The analytical approach was used for the field study conducted at the Tax Directorate of Mila Province, based on a questionnaire designed for the tax officials included in the research sample.

2. Digital Transformation of Tax Administration in Algeria

The digital transformation of tax administration in Algeria has passed through several major stages. These include the modernization of tax administration structures, the digitalization of tax declarations through electronic declaration services, and the digitalization of the tax management system.

2.1. Modernization of Tax Administration Structures

The 1992 tax reform, together with the substantial amendments that followed and affected the nature of the declaration-based tax system, required the modernization of the basic structures of the tax administration. These structures had previously consisted of two separate services: the assessment service and the collection service. Since 2001, new structures have been created to keep pace with developments in the Algerian tax system. They may be summarized as follows:

2.1.1. Directorate of Large Enterprises

This directorate began operating in 2006 by managing tax files in the areas of assessment, collection, control, and disputes. It is responsible for large enterprises, including major companies operating in the hydrocarbons sector and groups of foreign or mixed companies with high turnover.

2.1.2. Tax Centers

As part of the modernization of tax administration, tax centers were established as a single body responsible for all matters related to the taxation of enterprises subject to the real regime, regardless of their legal form. Most of these enterprises are small and medium-sized businesses, in addition to professionals in private practice, such as physicians and notaries (Bouzid, Guendouzi, & Rezki, 2025).

2.1.3. Local Tax Centers

Local tax centers were created to handle the files of enterprises subject to the Single Flat-Rate Tax regime. Their functions include collection, assessment, disputes, and control. They also aim to provide better services to this category of taxpayers by ensuring appropriate digital services, such as organizing reception services and processing requests for tax documents.

2.2. Digitalization of Taxpayer Declarations

The digitalization of tax declarations was implemented by establishing taxpayers' tax identity through the creation of the Tax Identification Number. Several digital platforms were then launched and made accessible through electronic portals according to each taxpayer's tax regime.

2.2.1. Creation of the Tax Identification Number

The Tax Identification Number was created under the Finance Law of 2006. It appears on various invoices and tax declarations. It is also required for bank domiciliation and customs clearance procedures. The process of obtaining a Tax Identification Number has been simplified by allowing taxpayers to submit numbering requests by email to the tax administration.

2.2.2. Creation of Digital Platforms

As part of the digital transformation of tax administration in Algeria, several electronic platforms were created for remote declaration and payment. These platforms cover a broad category of taxpayers, including enterprises subject to the real regime, taxpayers subject to the Single Flat-Rate Tax regime, and citizens concerned with the payment of various fiscal stamps (Mahtal, 2023).

2.2.2.1. Creation of the "Moussahamatic" Portal

The "Moussahamatic" portal was created to facilitate administrative procedures and simplify tax declaration and payment at the same time. It was introduced at tax collection offices affiliated with provincial tax directorates that do not currently have a tax center. This service dematerializes manual procedures related to the monthly tax declaration, Form G50, for taxpayers subject to the real regime. It also covers the estimated declaration for the Single Flat-Rate Tax, Series G No. 12, the final declaration G No. 12 bis, and bank domiciliation requests.

2.2.2.2. Creation of the "Jibayatic" Portal

The "Jibayatic" portal aims to automate tax operations. It provides complete and automated processing of administrative procedures, from receiving the taxpayer to assessment, collection, and tax file management. It also facilitates the provision of reliable data for forward-looking studies and timely decision-making. In addition, it improves the quality of services provided to taxpayers. For this reason, "Jibayatic" is broader in scope than "Moussahamatic".

2.2.2.3. Creation of the "Tabioukom" and "Qassimatouk" Platforms

The “Tabioukom” platform facilitates the online purchase of fiscal stamps without the need to go to the tax collection office.

The “Qassimatouk” platform allows users to purchase vehicle tax vignettes online without having to travel.

2.3. Digitalization of the Tax Management System

Within the creation and generalization of tax centers across Algerian provinces, a Tax Management System was introduced to accompany the new structures created under the modernization of tax administration. This system enables the automated management of tax centers as follows (Ministry of Finance, 2021):

- Management of reception structures: This includes the automated registration of information requests submitted by taxpayers, the management of mail sent by the tax center to taxpayers, the management of appointment requests, and the scheduling of tax center officials.
- Management of taxpayers’ files: A descriptive taxpayer record is created. It contains all data related to the taxpayer’s enterprise. The record is updated automatically, and serial numbers are assigned to all tax files.
- Cash desk management: The cash desk is opened by the responsible official. Initial amounts are recorded and confirmed. All cash desk operations are then managed, including collections, refunds of overpaid amounts, settlement of tax debts, tax relief in cases of tax cancellation, full or partial acceptance of dispute claims, and value-added tax refunds. The cash desk is closed at the end of the process.
- Automated processing of tax declarations: All tax declarations are recorded, particularly the monthly G50 declaration for taxpayers subject to the real regime and the annual G12 declaration for taxpayers subject to the Single Flat-Rate Tax regime. A tax declaration control card is also issued automatically.
- Automated processing of individual tax rolls: Individual rolls are processed from their creation until they become collectible and are effectively and finally collected.
- Management of rights established by the assessment service: All stages of taxation are recorded automatically, from the adjustment notice to the final notice and the collection of the amounts payable by the taxpayer.
- Treasury management by the tax collector: The tax collector automatically settles treasury operations by carrying out the required accounting for different types of receipts, including cash, postal cheques, treasury cheques, and deposited vouchers. The collector also monitors balances and rejected cheques, carries out set-off operations between tax collectors, and manages treasury expenses from an accounting perspective.

3. The OECD Digital Maturity Model

The Organisation for Economic Co-operation and Development was among the first organizations to submit a report to the Forum on Tax Administration measuring levels of digital maturity for use as a self-assessment tool. In 2022, sixty tax administrations participated in this assessment. This made it possible to develop a map showing common strengths and weaknesses across countries. In its 2025

report, the OECD also presented data from more than 100 countries on the use of technology in tax administration, including artificial intelligence, big data, electronic payment, and digital compliance. In general, the maturity model helps administrations assess their current maturity levels and identify the processes and broad outcomes that require further analysis and improvement.

3.1. Digital Maturity Levels

The model identifies five maturity levels. The use of five levels is intended to help administrations present their current level of maturity more easily by providing clear indicative factors for each maturity level. The five levels are as follows:

- Emerging: This level applies to developing tax administrations that have reached a certain degree of progress but can still achieve further progress in digitalization. Its features are based on existing conditions and available facts, while taking possible shortcomings into account.
- Progressing: This level represents tax administrations that have undertaken, or are currently undertaking, digital transformation reforms as part of their efforts to progress toward the average level of advanced tax administrations.
- Established: This level represents a likely convergence point for many advanced tax administrations, such as those of countries participating in the Forum on Tax Administration.
- Leading: This level represents leading or innovative outcomes that can currently be achieved through measures taken by the tax administration in cooperation with relevant stakeholders.
- Aspirational: This level explores future outcomes that may be achieved in the long term in order to reach a smoother and more directly responsive tax administration system.

3.2. Structure of the Digital Transformation Maturity Model

The digital transformation maturity model consists of six main dimensions that reflect the basic building blocks of tax administration. The first dimension is digital identity, which refers to the ability of the tax administration to verify the identity of individuals and institutions easily and securely, for example through electronic signatures, unified service accounts, and two-factor authentication. The second dimension is taxpayer touchpoints, which include all digital communication channels between taxpayers and the tax administration, such as electronic portals, mobile applications, smart chat services, and text messages. The third dimension is data management and standards, which concerns the collection, organization, and interconnection of data across systems, including database standardization, information exchange between administrations, and data quality and protection. The fourth dimension is tax rule management and application, which refers to converting laws and procedures into automated digital systems, such as automated tax calculation and error detection. The fifth dimension is the new skill set, which refers to the availability of human competencies capable of leading digital transformation, including data analysis, cybersecurity, artificial intelligence use, and digital project management. The sixth dimension is governance frameworks, which include strategic leadership, governance, and monitoring, such as the existence of a clear digital strategy and the use of performance indicators (OECD, 2022).

3.3. Requirements for the Successful Use of the Digital Transformation Model

The digital transformation model was designed as a self-assessment tool. For the assessment to be effective, it should be conducted neutrally and objectively. Experience in using the model has shown that the following key considerations should be taken into account during self-assessment discussions (OECD, 2025):

- Sufficient time should be allocated to discuss the self-assessment.
- The self-assessment should involve employees who have responsibilities related to digital transformation. They should represent different ranks and functions. Sufficient care should be taken to ensure frank and open discussions and to encourage all participants to express their views.
- A person from outside the administrative hierarchy concerned with digital transformation may be appointed to facilitate the discussions. This person should be familiar with the report and should have the knowledge needed to conduct the self-assessment according to the model. The selected facilitator should also be able to examine and probe the views presented by the self-assessment group.
- Attention should be paid to how a common view can be reached when opinions differ about the maturity assessment within a given group. In such cases, the facilitator may use a tie-breaking approach.
- Employees from different tax administration functions should be involved. It is preferable to select employees from relatively senior levels, since they can help search for available data, verify it, and provide insights based on their different experiences (CIAT, 2023).

4. An Evaluative Study of the Level of Digital Maturity at the Tax Directorate of Mila Province

A questionnaire was designed and administered to tax officials affiliated with the Tax Directorate of Mila Province. It covered different structures, including inspectorates, collection offices, and services within the provincial tax directorate. The aim was to determine the level of digital maturity. The questionnaire was developed on the basis of the digital transformation maturity model designed by the OECD. The views of referees and some tax officials were also taken into account. The questionnaire was divided into four dimensions as follows:

- Dimension One: Personal information about the study sample. It included four questions: gender, age group, educational level, and rank.
- Dimension Two: The views of the study sample on the maturity of digital transformation in tax administration. It included 15 statements.
- Dimension Three: The views of the study sample on organizational culture and its role in the success of digital transformation. It included 6 statements.
- Dimension Four: The views of the study sample on the availability of digital infrastructure. It included 6 statements.

4.1. Study Population and Sample

The study population consisted of officials of the Tax Directorate of Mila Province. For the field study, a sample of 68 tax officials was selected. The questionnaire was distributed as shown in Table 1.

Table 1. Distribution of the Questionnaire among Tax Officials

Structure	Location	Number
Tax Directorate	Mila	10

Tax Collection Office	Regaas	10
Tax Collection Office	Mila	10
Tax Inspectorate	Ferdjioua	10
Tax Inspectorate	Regaas	8
Tax Inspectorate	Mila	20
Total	-	68

Source: Prepared by the authors.

4.2. Statistical Processing Methods

Statistical analysis methods differ in scope, depth, and complexity depending on their purpose. To obtain reliable and meaningful indicators that support the subject of the study and help achieve its objectives and test its hypotheses, the data were examined, coded, classified, and tabulated. They were then processed to test the study hypotheses. The Statistical Package for the Social Sciences (SPSS 22) was used. This software includes a broad range of statistical procedures, including descriptive statistics such as frequencies, arithmetic means, and standard deviations, and inferential statistics such as correlation coefficients and one-way analysis of variance. It was used to analyze the questionnaire data, obtain outputs for all items, and identify the extent to which the respondents agreed with the different questionnaire items and dimensions. To answer the research questions and test the hypotheses, the following statistical methods were used:

- Frequencies and percentages: These were used to identify the demographic characteristics of the study sample and to determine the respondents' answers to the items of the questionnaire dimensions.
- Arithmetic mean: This is one of the most widely used measures of central tendency. It was used to identify where the respondents' answers were concentrated and to assess their relative importance.
- Standard deviation: This is a measure of dispersion. It was used to determine the extent to which respondents' answers to each item deviated from their arithmetic mean. A low standard deviation indicates greater agreement among respondents on a given item.
- Simple regression analysis: This was used to test the main hypothesis of the study.
- Multiple regression analysis: This was used to test the sub-hypotheses of the study.

4.3. Testing the Data and the Measurement Scale of the Study Instrument

To test the validity and reliability of the study data, the following tests were used:

- Pearson correlation coefficient: This coefficient was used to determine the relationship between each questionnaire item and the total score of the dimension to which it belongs. This reflects the internal consistency of the study instrument.
- Cronbach's alpha: This was used to measure the reliability of the questionnaire items.

A five-point Likert scale was selected as the measurement scale for the study instrument. This choice is justified by the fact that it is one of the most commonly used scales for measuring respondents' opinions. It is also easy to understand and has balanced response categories. The respondents expressed their degree of agreement with each statement included in the proposed attitude scale. The responses were coded as shown in Table 2.

Table 2. Response Scale for the Items

Classification (Opinion)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Value	1	2	3	4	5

Source: Prepared by the authors.

To determine the intervals of the five-point Likert scale used in the study, the range was calculated as the difference between the highest and lowest scores on the scale (5 - 1 = 4). The range was then divided by the five categories of the scale to obtain the interval length (4 / 5 = 0.8). This value was added to the lowest value on the scale, namely 1, in order to determine the upper limit of the first interval. The same interval length, 0.8, was then added successively to each previous upper limit to obtain the upper limit of the next interval. Table 3 presents these intervals.

Table 3. Acceptance Levels for the Scale Intervals

Classification (Opinion)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Interval	1.00-1.80	1.81-2.60	2.61-3.40	3.41-4.20	4.21-5.00
Acceptance Level	Very Weak	Weak	Moderate	High	High

Source: Prepared by the authors.

4.4. Validity of the Study Instrument

After verifying the face validity of the study instrument, internal consistency was assessed. This refers to the degree of correlation between each item and the dimension to which it belongs. The correlation coefficient was calculated to determine the degree of association between the items and their dimensions, as shown in the following tables.

Table 4. Pearson Correlation Coefficients for the Items of the First Dimension

Item 01	Item 02	Item 03	Item 04
0.095	0.031	0.378	0.928

Source: Prepared by the authors based on SPSS 22 output (significance level $\alpha \leq 0.05$).

Table 4 shows the correlation coefficients between each item of the first dimension and the total score of that dimension. The accompanying interpretation indicates that the coefficients are positive and significant at $\alpha \leq 0.05$. Therefore, the first dimension is considered valid for measuring what it was designed to measure.

Table 5. Pearson Correlation Coefficients for the Items of the Second Dimension

Item	Coefficient
1	0.568
2	0.751
3	0.690

4	0.740
5	0.752
6	0.744
7	0.729
8	0.747
9	0.783
10	0.686
11	0.737
12	0.820
13	0.767
14	0.645
15	0.601

Source: Prepared by the authors based on SPSS 22 output (significance level $\alpha \leq 0.05$).

Table 5 shows the correlation coefficients between each item of the second dimension and the total score of that dimension. All coefficients are positive. They range from 0.568 to 0.820, and all items are significant at $\alpha \leq 0.05$. Therefore, the second dimension is considered valid for measuring what it was designed to measure.

Table 6. Pearson Correlation Coefficients for the Items of the Third Dimension

Item 01	Item 02	Item 03	Item 04	Item 05	Item 06
0.496	0.680	0.652	0.225	0.396	0.543

Source: Prepared by the authors based on SPSS 22 output (significance level $\alpha \leq 0.05$).

Table 6 shows the correlation coefficients between each item of the third dimension and the total score of that dimension. All coefficients are positive. They range from 0.225 to 0.680, and all items are significant at $\alpha \leq 0.05$. Therefore, the third dimension is considered valid for measuring what it was designed to measure.

Table 7. Pearson Correlation Coefficients for the Items of the Fourth Dimension

Item 01	Item 02	Item 03	Item 04	Item 05	Item 06
0.668	0.699	0.627	0.555	0.304	0.558

Source: Prepared by the authors based on SPSS 22 output (significance level $\alpha \leq 0.05$).

Table 7 shows the correlation coefficients between each item of the fourth dimension and the total score of that dimension. All coefficients are positive. They range from 0.304 to 0.699, and the items are significant at the adopted level. Therefore, the fourth dimension is considered valid for measuring what it was designed to measure.

4.5. Reliability of the Study Instrument

Questionnaire reliability means that the questionnaire would produce the same results if it were administered more than once under the same conditions. In other words, reliability refers to the stability of the questionnaire results and the absence of substantial change if it is redistributed to the respondents several times during a specific period. The reliability of the questionnaire was verified using Cronbach's alpha. A coefficient of 0.67 or higher indicates acceptable reliability. The reliability coefficient of the study instrument is summarized in Table 8.

Table 8. Cronbach's Alpha Reliability Coefficient

Variable Name	Reliability Coefficient (Cronbach's Alpha)
Total Score	0.791

Source: Prepared by the authors based on SPSS 22 output.

Table 8 shows that the reliability coefficient for the study variables is acceptable and exceeds 0.67. The overall reliability coefficient reached 0.791. This is a high reliability value and is well above the acceptance threshold, which supports the reliability of the results produced by the study.

4.6. Presentation and Analysis of the Study Results

This study is based on several demographic variables related to the professional and personal characteristics of the study sample, in addition to the questionnaire dimensions. This section describes the sample characteristics and analyzes the data obtained using SPSS 22. It then presents the hypothesis testing and the results obtained.

4.6.1. Analysis of the Characteristics of the Study Sample

The study sample included a number of demographic variables related to the personal characteristics of the officials working at the Tax Directorate of Mila. These variables were gender, age group, educational level, and rank. The sample is described below using the information from the first dimension of the questionnaire and the SPSS 22 results, based on frequency and percentage tables.

Table 9. Distribution of the Study Sample by Gender

Gender	Frequency	Percentage
Male	19	27.9%
Female	49	72.1%
Total	68	100%

Source: Prepared by the authors based on SPSS 22 output.

Table 9 shows that 27.9% of the study sample were male, representing 19 employees, while 72.1% were female, representing 49 employees. Thus, more than half of the employees working at the Tax Directorate of Mila Province were female. This reflects the predominance of women in the study sample.

Table 10. Distribution of the Study Sample by Age Group

Age Group	Frequency	Percentage
Under 30 years	0	0%
30-40 years	23	33.8%

41-50 years	35	51.5%
Over 50 years	10	14.7%

Source: Prepared by the authors based on SPSS 22 output.

Table 10 shows that there were no employees under the age of 30. It also shows that 23 respondents were between 30 and 40 years old, representing 33.8% of the sample. Respondents aged 41 to 50 represented the largest group, at 51.5%, followed by those over 50, at 14.7%. This indicates that the Tax Directorate gives importance to active age groups when assigning positions, as they are able to withstand the pressures and difficulties of work.

Table 11. Distribution of the Study Sample by Educational Level

Educational Level	Frequency	Percentage
Secondary	20	29.4%
University	47	69.1%
Doctorate	1	1.5%

Source: Prepared by the authors based on SPSS 22 output.

Table 11 shows that 47 respondents, representing 69.1% of the sample, had a university-level education. This category was the largest among the educational levels of the study sample. Respondents with secondary education represented 29.4% of the sample, with 20 individuals, while one respondent, representing 1.5%, held a doctorate. Therefore, more than 69.1% of employees in the studied Tax Directorate had a high level of academic and professional training. This is a positive indicator and shows that the Algerian tax administration gives considerable importance to educational level because of the nature of the work.

Table 12. Distribution of the Study Sample by Rank

Rank	Frequency	Percentage
Tax Controller	7	10.3%
Inspector	6	8.8%
Other Rank	20	29.4%
Central Inspector	12	17.6%
Assessment Agent	2	2.9%
Principal Inspector	21	30.9%

Source: Prepared by the authors based on SPSS 22 output.

Table 12 shows that 21 respondents, representing 30.9% of the sample, held the rank of principal inspector. This was the largest category in the study sample. It was followed by the “other rank” category, with 29.4%. Central inspectors represented 17.6%, tax controllers 10.3%, inspectors 8.8%, and assessment agents 2.9%. This indicates that most of the respondents were direct actors within the tax administration.

4.6.2. Descriptive Analysis of the Dimension of Digital Transformation Maturity in Tax Administration

Table 13. Responses of the Study Sample

Statement	Mean	Standard Deviation	Acceptance Level
The digitalization of tax administration contributes to performing various services faster.	4.382	0.930	High
The digitalization of tax administration helps create communication platforms among the different parties related to the tax administration.	4.426	0.816	High
Digital transformation in tax administration has contributed to achieving effectiveness.	3.911	1.061	High
There is a digital network linking all tax services.	3.308	1.416	High
The digitalization of tax administration reduces the costs borne by the tax administration in performing its functions.	4.102	1.067	High
The digitalization of tax administration contributes to linking various tax services and transferring information smoothly and quickly.	4.250	0.853	High

The tax administration relies on digital programs to manage tax files.	3.647	1.243	High
The use of digital systems has reduced the volume of paper documents.	3.705	1.270	High
The digitalization of tax administration covers all services and functions within the administration.	3.514	1.275	High
The tax administration has actually started implementing digital transformation projects.	3.852	1.123	High
Digital transformation is a strategic priority in tax administration.	4.176	0.961	High
Digitalization has reduced bureaucratic procedures within the tax administration.	3.764	1.147	High
Communication with taxpayers is carried out through digital platforms.	3.455	1.214	High
The digitalization of tax administration has helped reduce human errors in file processing.	3.867	1.118	High
Digital transformation has become a necessity and not an option	4.441	0.887	High

within the tax administration.			

Source: Prepared by the authors based on SPSS 22 output.

Table 13 shows that the arithmetic means ranged from 3.30 to 4.42. These values fall within the high level. The standard deviations ranged from 1.06 to 1.27, which indicates that there was no major dispersion in the views of the respondents around the arithmetic means. The statement "Digital transformation has become a necessity and not an option within the tax administration" recorded the highest arithmetic mean. This shows that it was the statement most supported by the respondents. The statement "There is a digital network linking all tax services" recorded the lowest arithmetic mean, which shows that it was the least supported statement in this dimension.

4.6.3. Descriptive Analysis of the Dimension of Organizational Culture and Its Role in the Success of Digital Transformation

Table 14. Responses of the Study Sample

Statement	Mean	Standard Deviation	Acceptance Level
Employees easily accept the use of new technology.	2.117	0.938	High
Does the current organizational climate contribute to facilitating digital transformation?	2.073	0.759	Moderate
Does the administration adopt modern management methods that are compatible with digital transformation?	2.132	1.214	Moderate
Does the administration provide training and qualification opportunities related to digital transformation?	2.176	0.645	Moderate
Is there awareness among employees of the importance of digital transformation?	1.808	0.950	High

Does administrative leadership encourage the use of modern digital tools?	1.779	1.051	High

Source: Prepared by the authors based on SPSS 22 output.

Table 14 shows that the arithmetic means ranged from 1.77 to 2.17. The standard deviations ranged from 0.645 to 1.214, which indicates limited dispersion in the respondents' views around the arithmetic means. Items 2 and 4 recorded the lowest standard deviations, with values of 0.759 and 0.645. This shows that they were the items on which respondents showed the greatest agreement.

4.6.4. Descriptive Analysis of the Availability of Digital Infrastructure

Table 16. Responses of the Study Sample

Statement	Mean	Standard Deviation	Acceptance Level
Does the administration have modern computers that are suitable for digital work?	2.308	0.738	High
Does the administration use advanced software to manage tax administration tasks?	2.073	0.759	Moderate
The current digital infrastructure is able to absorb the digital transformation project.	2.264	0.682	Moderate
Does the administration have advanced information systems to support the digitalization of tax administration?	2.147	0.717	Moderate
Does the tax administration use artificial intelligence or advanced tax analytics techniques in its operations?	2.014	0.404	Moderate
Does the tax administration have a clear plan to digitize its	1.955	0.854	High

administration, including digital infrastructure?			

Source: Prepared by the authors based on SPSS 22 output.

Table 16 shows that the arithmetic means ranged from 1.955 to 2.30. The standard deviations ranged from 0.404 to 0.854, which indicates limited dispersion in the respondents' views around the arithmetic means. Items 3 and 5 recorded the lowest standard deviations, with values of 0.682 and 0.404. This shows that they were the items on which respondents showed the greatest agreement.

4.7. Testing the Study Hypotheses

First hypothesis:

H0: There is no statistically significant effect indicating that digital transformation has contributed to achieving effectiveness in tax administration at $\alpha \leq 0.05$.

H1: There is a statistically significant effect indicating that digital transformation has contributed to achieving effectiveness in tax administration at $\alpha \leq 0.05$.

Table 17. Regression Analysis Results for the Effect of Digital Transformation on Effectiveness in Tax Administration

Variable	B	t	Sig.	F	R	R^2	Sig.
Digital transformation has contributed to achieving effectiveness in tax administration	8.372	9.236	0.000	85.311	0.751	0.564	0.000

Source: Prepared by the authors based on SPSS 22 output.

The results in Table 17 show a statistically significant relationship at $\alpha \leq 0.05$. According to the opinions of the study sample, digital transformation has contributed to achieving effectiveness in tax administration. This is confirmed by the calculated F value of 85.311, which is greater than its tabulated value, and by the t value of 9.236, with a significance level of 0.000, which is lower than the adopted significance level of 0.05. The correlation coefficient reached 0.751, and the coefficient of determination reached 0.564. This means that there is a relationship indicating that digital transformation maturity has contributed to achieving effectiveness in tax administration. Therefore, the null hypothesis H0, which states that there is no statistically significant effect at $\alpha \leq 0.05$, is rejected, and the alternative hypothesis H1 is accepted.

Second hypothesis:

H0: There are no statistically significant indicators showing that the tax administration relies on digital programs to manage its tax files at $\alpha \leq 0.05$.

H1: There are statistically significant indicators showing that the tax administration relies on digital programs to manage its tax files at $\alpha \leq 0.05$.

Table 18. Regression Analysis Results for the Effect of the Tax Administration's Reliance on Digital Programs to Manage Tax Files

Variable	B	t	Sig.	F	R	R^2	Sig.
Reliance of the tax administration on digital programs to manage tax files	6.939	8.650	0.000	74.824	0.729	0.531	0.000

Source: Prepared by the authors based on SPSS 22 output.

The results in Table 18 show a statistically significant relationship at $\alpha \leq 0.05$. According to the opinions of the study sample, the tax administration relies on digital programs to manage tax files. This is confirmed by the calculated F value of 74.824, which is greater than its tabulated value, and by the t value of 8.650, with a significance level of 0.000, which is lower than the adopted significance level of 0.05. The correlation coefficient reached 0.729, and the coefficient of determination reached 0.531. This means that there is a relationship indicating reliance by the tax administration on digital programs to manage tax files. Therefore, the null hypothesis H0 is rejected, and the alternative hypothesis H1 is accepted.

Third hypothesis:

H0: There is no statistically significant effect indicating the existence of communication between tax officials and taxpayers through a digital platform at $\alpha \leq 0.05$.

H1: There is a statistically significant effect indicating the existence of communication between tax officials and taxpayers through a digital platform at $\alpha \leq 0.05$.

Table 19. Regression Analysis Results for the Effect of Communication between Tax Officials and Taxpayers through a Digital Platform

Variable	B	t	Sig.	F	R	R^2	Sig.
Communication between tax officials and taxpayers through a digital platform	7.474	9.718	0.000	94.432	0.767	0.589	0.000

Source: Prepared by the authors based on SPSS 22 output.

The results in Table 19 show a statistically significant relationship at $\alpha \leq 0.05$. According to the opinions of the study sample, communication exists between tax officials and taxpayers through a digital platform.

This is confirmed by the calculated F value of 94.432, which is greater than its tabulated value, and by the t value of 9.718, with a significance level of 0.000, which is lower than the adopted significance level of 0.05. The correlation coefficient reached 0.767, and the coefficient of determination reached 0.589. This means that there is a relationship indicating the existence of communication between tax officials and taxpayers through a digital platform. Therefore, the null hypothesis H0 is rejected, and the alternative hypothesis H1 is accepted.

Fourth hypothesis:

H0: There is no statistically significant effect indicating that the administration uses advanced software to manage tax administration tasks at $\alpha \leq 0.05$.

H1: There is a statistically significant effect indicating that the administration uses advanced software to manage tax administration tasks at $\alpha \leq 0.05$.

Table 20. Regression Analysis Results for the Effect of the Administration's Use of Advanced Software to Manage Tax Tasks

Variable	B	t	Sig.	F	R	R^2	Sig.
The administration uses advanced software to manage tax administration tasks	2.257	7.948	0.000	63.175	0.699	0.489	0.000

Source: Prepared by the authors based on SPSS 22 output.

The results in Table 20 show a statistically significant relationship at $\alpha \leq 0.05$. According to the opinions of the study sample, the administration uses advanced software to manage tax administration tasks. This is confirmed by the calculated F value of 63.175, which is greater than its tabulated value, and by the t value of 7.948, with a significance level of 0.000, which is lower than the adopted significance level of 0.05. The correlation coefficient reached 0.699, and the coefficient of determination reached 0.489. This means that there is a relationship indicating that the administration uses advanced software to manage tax administration tasks. Therefore, the null hypothesis H0 is rejected, and the alternative hypothesis H1 is accepted.

5. Results and Recommendations

Although most tax officials are aware of the importance of digital transformation, the results of hypothesis testing showed that the maturity level of the Algerian tax administration is the first level. It is therefore an emerging administration. It has reached a certain degree of development, but it can still make greater progress in digitalization. This situation is reflected in the following shortcomings:

- Insufficient training of human resources: The study showed that many employees had not received sufficient training in information technology. This represents an obstacle to the efficient implementation of digital systems.

- Absence of a clear digital strategy: The results showed that most employees do not have a precise understanding of the stages of digital transformation or of an official plan adopted by the administration in this field.
- Weak digital coordination with taxpayers: The relationship between the tax administration and taxpayers still relies heavily on traditional methods, with slow adoption of digital platforms.

Based on these findings, the study proposes the following:

- Set clear and precise objectives for the gradual and effective implementation of digital transformation.
- Develop and update digital infrastructure across all directorates, especially in inland regions, in order to ensure digital equity in access to services and in the use of technical tools.
- Create interactive digital platforms that allow taxpayers to complete procedures on the one hand and allow secure and rapid integration and data exchange with other administrations, such as customs, the commercial register, and the treasury, on the other hand.
- Conduct periodic monitoring of the digital maturity model within the tax administration through measurable performance indicators. These indicators should help assess progress and identify the areas that require development.

6. Conclusion

This study concludes that digital transformation in tax administration is an urgent necessity for keeping pace with technological developments and achieving efficiency and transparency in tax management. Despite the efforts made in this direction, such as updating digital infrastructure and developing human competencies, several challenges continue to hinder this process. These include insufficient training, weak coordination among services, and the absence of a clear and comprehensive digital strategy.

Digitalization has become a decisive stage in the modernization of tax administration. It plays an important role in improving effectiveness and transparency and in facilitating public services. In this context, the present study assessed the maturity level of the Algerian tax administration in relation to digital transformation. The assessment showed that digital transformation maturity is not limited to the availability of technical tools. It also includes organizational, legal, and human dimensions. This requires a comprehensive and integrated approach. Therefore, the success of digital transformation in tax administration depends on strong political will, sufficient funding, and continuous training for tax administration officials.

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