

Digitization of the Algerian Banking Sector as a Mechanism to Enhance Financial Inclusion: An Applied Study of the Banking Sector in Jijel Province

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Abstract

This study assesses the current state of digitalization within the Algerian banking sector in Jijel province and its contribution to enhancing financial inclusion. Employing a descriptive methodology, the study collected data through a questionnaire administered to (200) bank clients. Data analysis was performed statistically using SPSS V.26.

The results indicate that the level of digitalization in financial and investment services, as well as digital Islamic finance, was low, while financial technology showed a moderate level. Regarding financial inclusion, access to and utilization of financial services were found to be low, with the quality of financial services being moderate. Furthermore, the study revealed a statistically significant impact ($\alpha \leq 0.05$) of banking sector digitalization on promoting financial inclusion. The study concludes that the digitalization of the banking sector in Algeria, particularly in Jijel province, requires substantial efforts to achieve the desired level of financial inclusion.

Keywords: Digitalization, Banking Sector, Financial Inclusion, Jijel Province.

Jel Classification Codes: G21, G53, O33, G28.

1. Introduction

Financial inclusion is considered one of the innovative approaches that banks strive to implement, and banks are among the most important institutions contributing to its achievement. They work to provide banking services to individuals and institutions, allowing them access to credit, current accounts, savings accounts, and other financial services. Financial inclusion refers to the provision of financial services to all segments of society, whether in urban or rural areas, including low-income individuals. Financial inclusion plays a role in improving individuals' financial lives, stimulating economic growth, achieving financial justice, and enhancing financial stability worldwide.

The digitization of the banking sector and financial inclusion are interconnected concepts that significantly contribute to achieving economic and social growth and stability. Through digitization, new technological tools and solutions are developed, making financial services more efficient and convenient, thereby facilitating access for everyone. This leads to improved financial inclusion, as underserved and marginalized groups can benefit from these services and integrate better into the financial system.

In recent years, the Algerian banking system has adopted the logic of digitization and reliance on technology to expand the scope of services and achieve comprehensive goals, including enhancing financial inclusion.

From the foregoing, we can pose the following main problem:

Is there a statistically significant effect at a significance level of ($\alpha \leq 0.05$) for the digitization of the banking sector in enhancing financial inclusion in the banking sector operating in Jijel Province, from the perspective of the study sample?

To analyze this problem, we utilize the following set of sub-questions:

- ❖ Is there a statistically significant effect at a significance level of ($\alpha \leq 0.05$) for the dimension of digitizing financing and investment services in enhancing financial inclusion in the banking sector operating in Jijel Province, from the perspective of the study sample?
- ❖ Is there a statistically significant effect at a significance level of ($\alpha \leq 0.05$) for the dimension of financial technology in enhancing financial inclusion in the banking sector operating in Jijel Province, from the perspective of the study sample?
- ❖ Is there a statistically significant effect at a significance level of ($\alpha \leq 0.05$) for the dimension of digital Islamic finance in enhancing financial inclusion in the banking sector operating in Jijel Province, from the perspective of the study sample?

Main Hypothesis: Here is a statistically significant effect at the significance level of ($\alpha \leq 0.05$) for the dimensions of banking sector digitization in enhancing financial inclusion from the perspective of the study sample.

❖ **First Sub-Hypothesis:** There is a statistically significant effect at a significance level of ($\alpha \leq 0.05$) for the dimension of digitizing financing and investment services in enhancing financial inclusion in the banking sector operating in Jijel Province, from the perspective of the study sample.

❖ **Second Sub-Hypothesis:** There is a statistically significant effect at a significance level of ($\alpha \leq 0.05$) for the dimension of financial technology in enhancing financial inclusion in the banking sector operating in Jijel Province, from the perspective of the study sample.

❖ **Third Sub-Hypothesis:** There is a statistically significant effect at a significance level of ($\alpha \leq 0.05$) for the dimension of digital Islamic finance in enhancing financial inclusion in the banking sector operating in Jijel Province, from the perspective of the study sample.

1.1. Significance of the Study

The importance of this study lies in its being one of the most crucial topics of the era. It has become essential to focus on increasing awareness about financial inclusion and highlighting the role that the digitization of the banking sector can play in achieving and enhancing financial inclusion in banks.

From a scientific perspective, the importance of this study is evident in the results we hope to achieve, as it will reveal the reality of banking sector digitization and financial inclusion in Jijel Province. Based on this reality, a set of suggestions can be adopted and presented that may contribute to improving the operations of the banking sector system in the province and Algeria, especially in the areas of digitization and financial inclusion.

1.2. Objectives of the Study

The purpose of this study focuses on the following objectives:

- Through this study, we aim to ascertain the reality of banking sector digitization in Jijel Province, as well as the reality of financial inclusion.
- Identify the extent of customer access to financial services in the banking sector operating in Jijel Province.
- Identify the extent of customer utilization of financial services in the banking sector operating in Jijel Province.
- Identify the quality of financial services provided to customers in the banking sector operating in Jijel Province.

1.3. Methodology of the Study

In this study, we adopted the descriptive approach, as it qualitatively and quantitatively expresses the phenomenon under study, bringing us closer to reality. We believe that this approach helps us clarify the basic concepts in the study and demonstrate their importance and effects on one hand, and enables us to analyze documents and information related to the practical aspect on the other hand.

2. Basic Concepts Regarding Study Variables

2.1. Concept of Digital Transformation in Banks

"Digitization of the banking sector" refers to banks managing their operations by utilizing digital technology, processing and analyzing their data, interacting with their individuals, and executing their transactions electronically in a secure digital technological environment based on protected databases (farhi & mellah, 2003, p. 364).

It is also defined as: "a process of organizational, operational, and cultural change through the assimilation of digital technologies, thereby achieving a profound transformation at every level of banking operations, from product and service innovation, digitization of funds, and financial security and data systems, in addition to improving performance and operational efficiencies" (Moussaoui & morsi, 2023, p. 525).

Digital transformation is defined as: "The process of leveraging modern technologies to become more aware, flexible, and capable of predicting and planning for the future. With these attributes, organizations can innovate and adapt more quickly to achieve desired business outcomes and move toward success" (Ali, 2025, p. 695).

From these definitions, we conclude that the digitization of the banking sector is a comprehensive strategic process aimed at integrating modern digital technologies into the organizational structure, operations, and banking services with the goal of innovating a new way of delivering services to customers and achieving operational efficiency.

2.2. Importance of Banking Sector Digitization

The importance of digital transformation in banks primarily lies in the following (Moussaoui & morsi, 2023, p. 525):

- * Its ability to complete activities with high accuracy and speed, thereby saving time and effort for banks and their customers.
- * It works to eliminate time and spatial constraints for banks.
- * Introducing support channels that allow customers anywhere to conduct banking transactions with ease from any remote access point, with the aim of improving the services provided to them.

- * It contributes to cost reduction by decreasing the number of employees and increasing opportunities for revenue growth, and consequently increasing market share.
- * Increasing opportunities for foreign investment.
- * Digital assurance through a shift towards more secure financial channels to confront cyber risks and crimes.

2.3. Reasons for Digital Transformation in Banks

The reasons for banks adopting a digital transformation strategy are as follows (Ditshego.k.j, 2018, p. 19):

- Emergence of Financial Technology (FinTech) Institutions: These institutions have revolutionized the banking sector by providing technological solutions and have become competitors to banks because they offer innovative services at a lower price and with added value.
- Digital Disruption: New technologies with the ability to change the way humans work have caused many disruptions, leading to changes in expectations and behaviors for any culture, industry, or market.
- Increased Competition: Due to increased competition among banks, they have begun to offer innovative digital services and invest in modern technologies to develop their services and products, thereby maintaining their market share.

In addition to these reasons, other factors have accelerated the implementation of digitization in the banking sector, perhaps the most important of which are: improving customer experience, increasing operational efficiency, data analysis, adapting to market changes and accessing new markets, innovation and product development, and increasing security (belgacem & Sellam, 2024, p. 121-122).

2.4. Concept of Financial Inclusion

From these definitions we find it is defined as:

- The World Bank defines financial inclusion as: "access to useful and affordable financial products and services that meet needs for transactions, payments, savings, credit, and insurance, delivered in a responsible and sustainable way" (Lamraoui, 2023, p. 361).
- The G20 group and the Alliance for Financial Inclusion (AFI) defined financial inclusion as: "enhancing access to and use of financial services and products by all segments of society, including marginalized and poor groups, that are appropriate to their needs and provided to them in a fair, transparent, and affordable manner" (chili & keddi, 2023, p. 132).

2.5. Characteristics of Financial Inclusion

Financial inclusion possesses the following set of characteristics (Elbokl & Al Sayed, 2022, p. 160-161):

- A diverse set of services (payments, savings accounts, current accounts, transfers, deposits...).
- Electronic payment methods: This includes the use of bank account cards, credit cards, etc.
- The services provided are characterized by fairness, transparency, timely delivery, low costs, and high quality.
- Targets all segments of society, including large and small companies, and individuals, whether affluent or marginalized, while attracting the financially excluded into the financial system.
- Implementation and Oversight: These services are provided through official channels of the formal financial system and are subject to supervision and monitoring by regulatory bodies.

2.6. Advantages of Financial Inclusion

The advantages are highlighted by the benefits it can bring to countries and financial institutions, in light of the social and economic services it provides to citizens, among which we mention the following: (Atil & Mosterfaoui, 2020, p. 49).

- It ensures that citizens are not exposed to fraud or charged exorbitant fees, because they use their money through legitimate channels such as banks, post offices, and non-governmental organizations.
- Financial inclusion ensures that financial institutions develop their products and compete to offer low-cost, easily accessible financial products that also consider consumer interests.
- It caters to large segments of society, especially the marginalized or those who do not find formal financial products that suit their needs, such as the poor, low-income individuals, especially women and youth, and owners of small projects.
- It plays a major role in addressing the challenges of poverty, unemployment, and development, and represents an important link for generating employment opportunities and mitigating the impact of economic and financial fluctuations.

2.7. Dimensions of Financial Inclusion

There are three agreed upon dimensions:

- **Access to Financial Services:** The dimension of access to financial services refers to the ability to use financial services from formal institutions. Determining access levels requires identifying and analyzing

potential barriers to opening and using a bank account, such as cost and proximity to banking service points. Data related to access to financial services can also be obtained through information provided by financial institutions (Rahma & ferrah, 2021, p. 650-651).

- **Usage of Financial Services:** The dimension of financial services usage, provided by institutions in the banking sector, refers to determining the extent of financial services usage, which requires collecting data on the regularity and frequency of use over a specific period (kadem, 2023, p. 148-149).

- **Quality of Financial Services:** The quality dimension of financial inclusion is not a clear and direct dimension, as there are many factors that affect the quality and nature of financial services, such as the cost of services, consumer awareness, the effectiveness of the compensation mechanism, in addition to consumer protection services and financial competencies, and market competition transparency, as well as intangible factors such as consumer trust (Ajjour, 2017, pp. 14-16).

3. Field Study Methodology

3.1. Study Sample

The study sample comprised 200 clients of banks operating in the province of Jijel. The researchers employed a purposive (judgmental) sampling method, seeking to deliver the questionnaire to the largest possible number of clients of these financial institutions.

A total of 220 questionnaires were distributed to the members of the study sample through personal contact and email. Of these, 204 questionnaires were returned. Four questionnaires were excluded as they were unsuitable for data entry due to incomplete responses to all items. This left 200 valid questionnaires suitable for data entry and analysis, representing a response rate of 92% of the distributed questionnaires, which is a commendable rate for conducting the study.

3.2. Data Collection Instrument

The researchers relied on the questionnaire as the instrument for the study, as it is the most widely used tool in scientific research and an effective means of collecting information about a specific phenomenon, situation, or problem.

3.3. Study Scale

The current study adopted the scale developed by researcher Ransis Likert in 1932, known as the "Likert Scale" This scale typically consists of five graduated options, from which the respondent selects one. To measure the respondents' attitudes, points or scores ranging from (1) to (5) are assigned

to these choices. A score of (5) is given to "Strongly Agree" for statements favorable to the attitude under study, and a score of (1) is given to "Strongly Disagree" for similarly favorable statements, while the remaining responses range between (1) and (5).

3.4. Validity of the Study Instrument (Questionnaire)

After formulating the study instrument (questionnaire) in its final form and ensuring its face validity, the next step was to confirm its internal consistency. This was done by calculating the correlation coefficients between the score of each item and the total score of the dimension to which it belongs. as shown below:

*** Pearson Correlation Coefficients Between Each Item's Score and the Total Score of its Corresponding Dimension:** The results of measuring internal consistency validity from this test are shown in the following tables:

Table (01): Measuring the Internal Consistency Validity of the First Axis Items

Dimension	Item No.	Pearson Correlation	Sig.
Digitization of Financing and Investment Services	01	0.837**	0.000
	02	0.793**	0.000
	03	0.703**	0.000
	04	0.893**	0.000
	05	0.700**	0.000
	06	0.699**	0.000
Financial Technology	07	0.801**	0.001
	08	0.901**	0.000
	09	0.824**	0.000
	10	0.925**	0.000
	11	0.758**	0.000
	12	0.698**	0.000
Digital Islamic Finance	13	0.824**	0.001
	14	0.792**	0.002
	15	0.869**	0.000
	16	0.807**	0.000
	17	0.904**	0.000
	18	0.714**	0.000

** Statistically significant at the 0.01 level

Source: Based on the outputs of SPSS v.26

The results from Table (01) show that the significance level (sig) is ≤ 0.01 for all items of the first section's dimensions, indicating that all correlation coefficients are statistically significant at a significance level of $\alpha \leq 0.01$. We also note that the correlation coefficients for the study's dimensions

were between 0.698 and 0.904, falling within the range of +0.5 to +1. This indicates a strong positive correlation between each item and the dimension to which it belongs, based on the study by (jacob, 1988). meaning that the items of the first section are valid for what they were designed to measure.

Table (02): Measurement of Internal Consistency Validity for the Items of the Second Section

Dimension	Item No.	Pearson Correlation	Sig.
Access to Financial Services	19	0.824**	0.000
	20	0.793**	0.000
	21	0.717**	0.000
	22	0.912**	0.000
	23	0.698**	0.000
	24	0.658**	0.000
Use of Financial Services	25	0.701**	0.000
	26	0.802**	0.000
	27	0.878**	0.001
	28	0.857**	0.000
	29	0.703**	0.003
	30	0.689**	0.000
Quality of Financial Services	31	0.624**	0.000
	32	0.904**	0.001
	33	0.697**	0.000
	34	0.857**	0.000
	35	0.821**	0.000
	36	0.749**	0.000

Source: Based on the outputs of the SPSS v.26

From Table (02), it is clear that the significance level (sig) is ≤ 0.01 , which indicates that all correlation coefficients are statistically significant at a significance level of $\alpha \leq 0.01$. We also note that the correlation coefficients for the items ranged between 0.624 and 0.912, indicating a strong positive correlation between each item and the dimension to which it belongs. meaning the items of the second section are valid for what they were designed to measure.

3.5. Reliability of the Study Instrument:

From a practical standpoint, the study by (saad, carter, Rothenberg, & Iaraelson, 1999) indicates that the value of Cronbach's Alpha is as follows:

- Excellent if it exceeds 0.90.
- Good between 0.80 and 0.89.
- Acceptable in the range of 0.70 to 0.79.

- However, if it is below 0.70, the instrument may have limited applicability as it is considered weak.

Table (03): Reliability Results using Cronbach's Alpha Coefficient

Section	Dimension	No. of Items	Cronbach's Alpha
Digitization of the Banking Sector	Digitization of Financing and Investment Services	06	0.912
	Financial Technology	06	0.859
	Digital Islamic Finance	06	0.801
Financial Inclusion	Access to Financial Services	06	0.901
	Use of Financial Services	06	0.829
	Quality of Financial Services	06	0.860
Overall Reliability Rate		36	0.920

Source: Based on the outputs of SPSS v.26

The reliability results of the study instrument, as shown in Table (03), indicate that the Cronbach's Alpha value for the entire instrument (study section) is high (excellent), reaching 0.920. Furthermore, the reliability coefficients for the instrument's dimensions were estimated to be between 0.801 and 0.912, meaning their values ranged from good to excellent. This demonstrates that the study instrument, across all its dimensions and sections, possesses a sufficient degree of reliability, being greater than the statistically acceptable value of 0.70. Therefore, it can be relied upon for the field study.

4. Presentation and Analysis of Field Study Data

4.1. Presentation and Analysis of Sample Responses on the First Section (Digitization of the Banking Sector): The results obtained were as follows:

Table (04): Responses of the Study Sample on the Items of the Digitization of Financing and Investment Services Dimension

No.	Statement	Mean	Standard Deviation	Agreement Level
01	The bank has a digital branch that allows for self-service access to financial services at any time, 24/7.	2.54	0.706	Low
02	The bank offers financing services for investments and projects through smart finance applications and programs.	2.31	0.538	Low
03	The bank provides digital financial products specifically for small and medium-sized enterprises and others for individuals in financing and investment.	2.02	0.496	Low

04	The bank provides a digital personal finance service via smartphone for obtaining instant financing.	2.58	0.610	Low
05	The bank offers financial advisory services in financing and investment via the internet.	2.12	0.570	Low
06	The new digital financing products meet the needs and desires of customers and investors.	2.37	0.694	Low
Overall Mean and Standard Deviation for the Digitization of Financing and Investment Services Dimension		2.32	0.602	Low

Source: Based on the outputs of SPSS v.26

The data in Table (04), according to the opinions of the study sample, indicate that the general weighted arithmetic mean for the digitization of financing and investment services dimension reached 2.32, which falls within the category [1.80-2.60], indicating a low level of agreement.

It is also clear that there is an "acceptable consensus" in the sample's opinion on this dimension, as the total standard deviation was 0.602, a deviation of less than one (1), indicating no significant variation in the respondents' attitudes towards the statements of this dimension.

Also noted from the table is that the sample's agreement level is low for all statements regarding the digitization of financing and investment services in banks operating in Jijel province, as reflected by the arithmetic means of this dimension's statements, which were between (2.02 and 2.58).

Table (05): Responses of the Study Sample on the Items of the Financial Technology Dimension

No.	Statement	Mean	Standard Deviation	Agreement Level
07	The digital applications and financial technology services offered by the bank to customers are satisfactory and easy to use.	2.74	0.270	Medium
08	The financial services provided within the framework of financial technology to customers are sufficiently secure.	2.85	0.845	Medium
09	The bank adequately conducts awareness, information, and promotion campaigns for customers in the field of modern financial technology.	3.05	0.968	Medium
10	The bank keeps pace with developments in the field of financial technology on the global banking scene.	2.95	0.605	Low

11	The bank offers a diverse range of electronic payment tools (smart cards, local and international cards, electronic checks...).	2.65	0.707	Medium
12	The bank, in collaboration with specialized companies, seeks to acquire the latest versions of payment systems available on the international scene.	3.05	0.948	Medium
Overall Mean and Standard Deviation for the Financial Technology Dimension		2.88	0.723	Medium

Source: Based on the outputs of SPSS v.26

The data in Table (05) indicate that the majority of the sample's opinions fall within a medium level of agreement towards the financial technology dimension. This is reflected by the general weighted arithmetic mean for this dimension, which was 2.88, falling within the category [2.61-3.40] that indicates a medium level of agreement.

It is also noted from the same table that there is an "acceptable consensus" in the sample's opinion on this dimension, as the total standard deviation was 0.723. A deviation of less than one (1) indicates a lack of variation in the respondents' attitudes towards the statements of this dimension.

Also noted from the table is that the sample's agreement level is medium for most statements of the financial technology dimension, as reflected by the arithmetic means of this dimension's statements, which were between (2.65 and 3.05), with the exception of statement (10), which received a low level of agreement.

Table (06): Responses of the Study Sample on the Items of the Digital Islamic Finance Dimension

No.	Statement	Mean	Standard Deviation	Agreement Level
13	The bank offers electronic financing formulas compliant with Islamic Sharia, especially for the development of small and medium-sized enterprises.	2.25	0.607	Low
14	The bank provides effective awareness via the internet about the Islamic financial industry to increase the financial literacy of the client.	2.24	0.568	Low
15	The digital Islamic financial products at the bank provide wider and more suitable financial options for the needs of clients.	2.04	0.996	Low
16	The bank's digital financial products that comply with Sharia principles and rules contribute to increasing access to financial services for a larger segment of society.	2.15	0.810	Low

17	The digital Islamic financial products offered by the bank are considered safer and more stable than traditional products.	2.45	0.970	Low
18	The bank provides electronic Murabaha financing for various products without a seriousness deposit or late payment penalty.	2.19	0.794	Low
Overall Mean and Standard Deviation for the Digital Islamic Finance Dimension		2.22	0.785	Low

Source: Based on the outputs of SPSS v.26

According to the opinions of the study sample, indicate that the general weighted arithmetic mean for the digital Islamic finance dimension reached 2.22, which falls within the category [1.80-2.60[, indicating a low level of agreement.

It is also clear that there is an "acceptable consensus" in the sample's opinion on this dimension, as the total standard deviation was 0.785, a deviation of less than one (1).

Also noted from the table is that the sample's agreement level is low for all statements regarding the digital Islamic finance dimension in the banking sector in Jijel province, as reflected by the arithmetic means of this dimension's statements, which were between (2.04 and 2.45).

4.2. Presentation and Analysis of Sample Responses on the Second Section (Financial Inclusion): The results for the financial inclusion section can be summarized in the following tables:

Table (07): Responses of the Study Sample on the Items of the Access to Financial Services Dimension

No.	Statement	Mean	Standard Deviation	Agreement Level
19	The bank's various financial services are available in remote and marginalized areas.	2.17	0.706	Low
20	Clients can communicate with the bank through its website.	2.47	0.938	Low
21	The bank offers banking services available via mobile phones.	2.59	0.996	Low
22	The bank has online applications to facilitate financial transactions.	2.18	0.810	Low
23	The bank uses social media sites to promote its new products and services.	2.59	0.770	Low
24	The bank uses artificial intelligence technology to improve its communication with clients.	2.53	0.494	Low
Overall Mean and Standard Deviation for the Access to Financial Services Dimension		2.42	0.785	Low

Source: Based on the outputs of SPSS v.26

According to the opinions of the study sample, indicate that the general weighted arithmetic mean for the access to financial services dimension reached 2.42, which falls within the category [1.80-2.60], indicating a low level of agreement.

Also noted from the table is that the sample's agreement level is low for all statements regarding access to financial services for various actors and clients with banks operating in Jijel province, as reflected by the arithmetic means of this dimension's statements, which were between (2.17 and 2.59).

Table (08): Responses of the Study Sample on the Items of the Use of Financial Services Dimension

No.	Statement	Mean	Standard Deviation	Agreement Level
25	The bank provides ATMs and automated teller services 24/7.	2.45	0.698	Low
26	Clients can conduct various financial transactions with the bank electronically.	2.01	0.614	Low
27	The range of financial services offered by the bank is suitable for all segments of society.	2.57	0.746	Low
28	Clients can make cash transfers from mobile phones without going to the bank.	2.48	0.924	Low
29	The bank provides effective awareness and encourages the use of electronic payment methods to enhance the inclusion of financially excluded groups.	2.39	0.579	Low
30	Live response services are available for any inquiries from clients on how to use financial services.	2.35	0.879	Low
Overall Mean and Standard Deviation for the Use of Financial Services Dimension		2.37	0.740	Low

Source: Based on the outputs of SPSS v.26

According to the results, indicate that the general weighted arithmetic mean for the use of financial services dimension reached 2.37, which falls within the category [1.80-2.60], indicating a low level of agreement.

It is also noted that the total standard deviation value was less than one, which indicates the absence of dispersion in the opinions of sample members regarding this dimension.

Also noted from the table is that the sample's agreement level is low for all statements regarding the use of financial services by various actors and clients with banks operating in Jijel province, as reflected by the arithmetic means of this dimension's statements, which were between (2.01 and 2.48).

Table (09): Responses of the Study Sample on the Items of the Quality of Financial Services Dimension

No.	Statement	Mean	Standard Deviation	Agreement Level
31	Clients can access financial services via the internet with ease and comfort.	2.64	0.806	Medium
32	The bank uses biometric fingerprinting and electronic authentication to verify client identity.	2.45	0.838	Low
33	The bank encrypts client data and informs them of their account activities to enhance security and privacy.	2.75	0.896	Medium
34	The bank is keen to offer innovative, higher-quality financial products and gives clients the opportunity to choose suitable financial products.	2.81	0.910	Medium
35	The bank provides voice assistance services to offer financial advice and guide clients to enhance their financial literacy.	2.65	0.570	Medium
36	The bank offers new financial services at low cost and high quality suitable for low and limited-income individuals.	2.95	0.794	Medium
Overall Mean and Standard Deviation for the Quality of Financial Services Dimension		2.70	0.802	Medium

Source: Based on the outputs of SPSS v.26

The data in Table (09) indicate that the majority of the sample's opinions fall within a medium level of agreement towards the quality of financial services dimension. This is reflected by the general weighted arithmetic mean for this dimension, which was 2.70, falling within the category [2.60-3.40] that indicates a medium level of agreement.

Also noted from the table is that the sample's agreement level is medium for most statements of the quality of financial services dimension, as reflected by the arithmetic means of this dimension's statements, which were between (2.64 and 2.95), with the exception of statement (32), which received a low level of agreement.

5. Testing the Study Hypotheses

5.1. Testing for Normal Distribution: The results of this test are as follows:

Table (10): Test of Normal Distribution for Study Variables

Section	Dimension	Skewness Coefficient	Kurtosis Coefficient
Digitization of the Banking Sector	Digitization of Financing and Investment Services	-2.098	2.644
	Financial Technology	-1.556	0.398
	Digital Islamic Finance	-1.412	1.443
Financial Inclusion	Access to Financial Services	-0.590	1.123
	Use of Financial Services	-0.569	-0.708
	Quality of Financial Services	-0.440	-0.874

Source: Based on the outputs of SPSS v.26

From Table (10), we note that the skewness coefficient values range between (-0.440 and -2.098), falling within the acceptable range for a normal distribution, which is between ± 3 . We also note that the kurtosis coefficient values are between (-0.874 and 2.644), which is well below the value of 20, reinforcing that the study data follows a normal distribution. Therefore, parametric tests can be relied upon to test the hypotheses.

5.2. Absence of Multicollinearity: The obtained results are shown in the following table:

Table (11): Variance Inflation Factor and Tolerance Test

Variables	Variance Inflation Factor (VIF)	Tolerance Test
Digitization of Financing and Investment Services	1.999	0.500
Financial Technology	1.866	0.536
Digital Islamic Finance	1.770	0.436

Source: Based on the outputs of SPSS v.26

We note from Table (11) the absence of multicollinearity among the study's independent variables, where the VIF values ranged from 1.770 to 1.999, which is well below 10. Also, the Tolerance test values for the independent variables ranged from 0.436 to 0.536, which is well above 0.1. Accordingly, according to most studies, the condition of no multicollinearity among the independent variables in this study is met.

5.3. Testing the Main Hypothesis: The test results were as follows:

Table (12): Results of Multiple Linear Regression for the Main Hypothesis

Model	Sum of Squares	Mean Square	Calculated F-value	Sig.	R	R ²	Overall Effect Size F ²
Regression	7.098	1.775	13.508	0.000	0.701	0.49	0.96
Residual	7.333	0.311	-	-	-	-	-

Source: Based on the outputs of SPSS v.26

From Table (12), it is confirmed that there is a statistically significant effect of the dimensions of the digitization of the banking sector on enhancing financial inclusion from the perspective of the study sample, as the calculated F-value reached 13.508, which is greater than the critical value and is statistically significant at a significance level of $\alpha \leq 0.05$.

It is also clear from the table that the F^2 value reached 0.96, which, according to most studies, indicates that the dimensions of the digitization of the banking sector combined have a strong effect on enhancing financial inclusion from the perspective of the study sample.

Based on this analysis and the adopted decision rule, the hypothesis H_{11} is accepted, which states: "There is a statistically significant effect at a significance level of $\alpha \leq 0.05$ of the dimensions of the digitization of the banking sector on enhancing financial inclusion from the perspective of the study sample".

5.4. Testing the Sub-hypotheses: The results of this test were as follows:

Table (13): Sub-hypothesis Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	T-value	Sig.	Decision
	B	Standard Error	Beta			
Digitization of Financing and Investment Services	0.026	0.128	0.027	11.024	0.000	H_1
Financial Technology	0.133	0.107	0.161	13.024	0.001	H_1
Digital Islamic Finance	0.298	0.104	0.412	12.036	0.006	H_1

Source: Based on the outputs of SPSS v.26

We note from Table (13) that there is a statistically significant effect at a significance level of $\alpha \leq 0.05$ for all study dimensions on enhancing financial inclusion, as the calculated T-values for all dimensions were greater than their critical values. Therefore, according to the decision rule, we accept the following H_1 hypotheses:

- **First Sub-hypothesis:** There is a statistically significant effect at a significance level of $\alpha \leq 0.05$ of the dimension of digitization of financing and investment services on enhancing financial inclusion from the perspective of the study sample.
- **Second Sub-hypothesis:** There is a statistically significant effect at a significance level of $\alpha \leq 0.05$ of the dimension of financial technology on enhancing financial inclusion from the perspective of the study sample.

- **Third Sub-hypothesis:** There is a statistically significant effect at a significance level of $\alpha \leq 0.05$ of the dimension of digital Islamic finance on enhancing financial inclusion from the perspective of the study sample.

6. Conclusion

This study has addressed the theoretical concepts and perceptions of financial inclusion and demonstrated the important role of the digitization of the banking sector in enhancing it. It has also shown an aspect of its reality at the national level in Jijel province, which revealed a significant shortcoming that requires great efforts to rectify. In general, after conducting this study, we reached a number of conclusions, the most important of which are:

- Financial inclusion is the provision and expansion of the base of formal financial services and products to various segments of society, including its institutions and individuals, at affordable prices that meet their needs.
- The responses of the study sample showed a low level of agreement on the digitization of the banking sector in Jijel province.
- The results confirmed medium level of agreement on the availability of financial technology in the banking sector operating in Jijel province.
- The results confirmed the low level on the realization and existence of financial inclusion in the banking sector operating in Jijel province.
- The study results showed that the dimensions of the digitization of the banking sector positively and significantly affect the enhancement of financial inclusion from the perspective of the study sample.

7. Recommendations

- The Algerian banking sector should improve its strategy for financing investment projects by shifting towards digital financing, enhancing online advisory services, and developing them to improve the delivery of financial services in the field of financing and investment.
- The Algerian banking sector should promote financial technology and the use of electronic payment tools for customers compared to traditional payment tools and facilitate the summarization of commercial transactions using electronic checks.

- The banking sector should further improve the Islamic financial products it offers because they are considered safer and more stable than traditional products.
- The Algerian banking sector should improve various financial services in remote and marginalized areas.

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