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The role of tax system modernization in enhancing the adoption of takaful insurance institutions and windows in Algeria: An empirical study

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Abstract--Purpose: This study examines the relationship between tax system modernization and Takaful adoption, focusing on how digital transformation and tax reforms influence Islamic finance. It explores how streamlined tax procedures, enhanced regulations, and ICT integration foster a conducive environment for Takaful. **Importance/Value:** This research highlights tax system modernization as a key driver of financial innovation in Islamic insurance. It demonstrates how tax reforms align with Islamic finance to enhance market stability, regulatory efficiency, and stakeholder trust. It also explores the broader impact of tax policy on sustainable economic growth. **Methodology/Approach:** This study employs an empirical analytical approach, using statistical modeling to assess the impact of tax modernization on Takaful adoption. Regression analysis and correlation tests were conducted on data from 108 Takaful employees out of a total population of 112 to quantify the relationship between tax policy enhancements and Takaful expansion. **Findings:** The study reveals a strong positive correlation between tax modernization and Takaful adoption. Simplified tax procedures, specialized fiscal structures, and digital technology boost participation. However, administrative and technological barriers may

hinder full integration, highlighting the need for targeted policy interventions. **Conclusion:** Tax modernization catalyzes Islamic finance growth, particularly in expanding Takaful. A transparent, efficient, and technology-driven tax environment enhances financial inclusion and promotes broader acceptance of Islamic insurance. **Recommendations:** The study suggests simplifying tax procedures, investing in digital tax infrastructure, tax incentives for Takaful providers, and enhancing collaboration between regulators and Islamic financial institutions to support sector growth.

Keywords---Tax System Modernization, Takaful Insurance, Islamic Finance, Digital Taxation, Financial Inclusion.

Introduction

The tax system is a fundamental pillar in regulating economic activity, playing a crucial role in mobilizing financial resources to meet the needs of both the state and society. In response to rapid economic and technological advancements, many countries have embarked on modernizing their tax systems by integrating information and communication technologies into tax operations. This modernization aims to enhance efficiency, promote transparency, and reduce bureaucratic complexities. Beyond simplifying tax procedures, these reforms have also fostered the development of new regulatory frameworks that create a more business-friendly environment, particularly in innovative financial sectors such as Takaful insurance.

Takaful insurance, which operates on the principles of Islamic finance, has witnessed significant expansion across various Islamic and Arab countries. As a financial model rooted in cooperation, solidarity, and fairness, it fundamentally differs from conventional insurance in both its structure and objectives. However, its growth remains contingent on the ability of economic and tax systems to provide a conducive environment that supports its adoption and development.

In this context, the tax system plays a pivotal role in determining the success or failure of Takaful insurance adoption, especially amid the growing global interest in innovative Islamic finance strategies. By modernizing tax procedures, restructuring regulatory frameworks, and integrating advanced technologies into the tax system, a more supportive environment can be created—one that fosters the growth and competitiveness of this sector.

This study aims to analyze the Role of tax system modernization on the adoption of Takaful insurance, focusing on Algeria as a case study within the framework of innovative Islamic finance strategies. Employing an analytical approach, the research explores the relationship between contemporary tax transformations and the incentives for adopting such insurance models. Additionally, it highlights how these developments can encourage the financial sector to embrace innovative business models that contribute to financial sustainability and social justice.

Research Problem:

The core research question addressed in this study is: **To what extent does tax system modernization influence the adoption of Takaful insurance in Algeria, considering the latest trends in innovative Islamic finance strategies?**

To further investigate this issue, the study seeks to answer the following sub-questions:

- How does tax system modernization contribute to improving the regulatory environment for Takaful insurance adoption in Algeria?
- In what ways do modern approaches in innovative Islamic finance strategies enhance the adoption of Takaful insurance?
- How can the business environment in this sector be optimized to align with Islamic economic principles?
- What challenges does the current tax system face in supporting Takaful insurance products?

Hypotheses

To address the main research question and its sub-questions, the study formulates the following hypotheses:

First Hypothesis: There is a positive relationship between the simplification of tax procedures and the adoption of Takaful insurance by both insurance institutions and individuals in Algeria.

Second Hypothesis: There is a positive relationship between the establishment of new regulatory structures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria.

Third Hypothesis: There is a positive relationship between the integration of information and communication technology and the adoption of Takaful insurance by insurance institutions and individuals in Algeria.

Significance of the Study

This study derives its significance from its analysis of the Role of tax system modernization on the Takaful insurance sector in Algeria, particularly in light of the ongoing shift towards Islamic finance. It enhances the scientific understanding of the relationship between tax modernization and the expansion of Takaful insurance, thereby guiding economic and fiscal policies to ensure the sustainability of this sector and promote the adoption of innovative financial strategies. Furthermore, the study contributes to advancing knowledge on the role of the tax system in fostering collaboration among Islamic financial institutions and promoting financial equity within society.

Research Objectives

This study aims to achieve the following objectives:

- Analyze the Role of tax system modernization on the development of the Takaful insurance sector in Algeria;
- Examine the relationship between tax procedure simplification and the increasing adoption of Takaful insurance by individuals and institutions;

- Assess the role of newly established tax structures in facilitating the expansion of Takaful insurance;
- Explore the role of information and communication technology in supporting the growth of the Takaful insurance sector in Algeria;
- Evaluate the role of innovative Islamic finance strategies in creating a regulatory environment conducive to Takaful insurance.

Research Methodology

The study adopts a descriptive-analytical approach, utilizing survey questionnaires distributed to employees in both conventional and Takaful insurance institutions, as well as selected Islamic financial institutions. Statistical methods will be employed to analyze the collected data and test the proposed hypotheses. Additionally, a thorough review of prior literature on Algeria's tax system and its impact on non-traditional financial sectors, such as Takaful insurance, will be conducted. The study will also incorporate both quantitative and qualitative analyses to develop a comprehensive understanding of the investigated phenomena.

Theoretical Framework of the Study

First: Modernization of the Algerian Tax System

1 .Concept and Objectives of Tax System Modernization

Tax system modernization refers to fiscal measures aimed at updating the existing system by optimizing tax rates and improving the tax base (Laareba & Sahnoun, 2021). This modernization seeks to establish an efficient and flexible tax framework that minimizes tax evasion and enhances revenue collection (Ghenass & Zine, 2021). It aligns taxation with 21st-century challenges, ensuring compatibility with technological advancements across various sectors while simplifying administrative procedures. The primary objectives of tax system modernization can be summarized as follows :(Chaouadi & Sellini, 2022)

- Reducing the administrative burden on tax officials by simplifying all procedures related to tax assessment, collection, audits, and dispute resolution;
- Leveraging information and communication technologies (ICT) to enhance tax collection, allowing taxpayers to fulfill their obligations remotely, thus facilitating tax base determination, revenue collection, and digital tax file management;
- Updating tax audit procedures by adopting international tax compliance standards, thereby ensuring objectivity, quality, and improved revenue collection;
- Combating informal economic activities by integrating them into the formal economy, subjecting them to taxation, and thereby generating additional tax revenues;
- Facilitating taxpayer complaints and dispute resolution by streamlining administrative procedures;
- Reducing harmful tax practices and curbing various forms of tax evasion and fraud.

2 .Drivers of Tax Administration Modernization

Several factors have necessitated the modernization of the Algerian tax system, with the most significant being :(Bouziane & Mohieddine, 2021)

A. Lack of Human Resource Efficiency and Capacity:

One of the key drivers behind the Ministry of Finance's efforts to modernize the tax system is the underrepresentation of highly qualified university graduates in the tax administration. As a result, tax authorities employ personnel with limited expertise, negatively affecting administrative performance;

B. Inadequate Administrative Infrastructure and Deteriorating Facilities:

Tax administration offices suffer from structural deficiencies and poor conditions, lacking the necessary equipment to perform administrative tasks effectively. Moreover, some tax offices operate in rented properties owned by private entities, the Public Housing and Property Management Agency, or other government institutions, rather than state-owned buildings;

C. Administrative Corruption:

Public institutions, including tax administrations, are often affected by certain unethical administrative practices that violate professional and legal standards. Such corruption poses significant challenges beyond issues related to staff qualifications and training. The lack of integrity and ethical commitment among some tax officers facilitates corrupt practices, with one of the most critical issues being the unauthorized disclosure of confidential taxpayer information. This includes sensitive data such as business activities, income, and turnover, compromising the integrity of the tax system.

3. Content of the Tax System Modernization Program

A. Establishment of New Structures

- **Large Taxpayer Directorate (DGE):** The Large Taxpayer Directorate is one of the newly established fiscal structures in the Algerian tax system, introduced under Article 32 of the 2002 Finance Law as part of scientific and regulatory efforts to modernize and enhance tax administration. Operational since January 2006, this directorate manages the tax files of major corporations with an annual turnover exceeding 100 million DZD. These companies include petroleum firms and foreign enterprises without a permanent establishment in Algeria, as specified in the Algerian tax code. The directorate ensures compliance with corporate tax regulations (Daifallah & Al, 2018).

- **Tax Center:** The Tax Center was created as part of the fiscal reform program to modernize the tax system, specifically to manage taxpayers under the real tax regime. Articles 31 and 32 of the 2003 Finance Law define its role. It classifies taxpayers based on their business sectors and performs key functions such as determining taxable income, tax collection, dispute resolution, and providing taxpayer assistance and information services (Bouzianee & Mohieddine, 2021).

- **Local Tax Center:** The Local Tax Center was established to oversee tax files for taxpayers subject to the forfaitaire unique tax. Its operations commenced alongside the Large Taxpayer Directorate in 2006. This center replaced tax inspectorates and tax collection offices, aiming to improve taxpayer services by modernizing, streamlining, and simplifying tax procedures. By reducing the number of tax offices, it enhances the efficiency and effectiveness of tax administration personnel.

B. Simplification of Tax Procedures

Public authorities have sought to eliminate tax system inefficiencies, including complex tax regulations, limited taxable material, heavy tax burdens, and

widespread tax evasion and fraud. To address these challenges, a strategic plan was developed, incorporating the following measures:

- Reducing tax pressure and mitigating its impact;
- Implementing stricter and more effective tax enforcement measures to recover evaded tax revenues;
- Enhancing tax collection through streamlined procedures, from identifying taxable material to assessing and collecting taxes. Notable initiatives include:
 - **Tax Compliance Program (introduced in the 2015 Supplementary Finance Law):** This initiative broadened the tax base by subjecting investments made by individuals to a flat tax rate of 7%. The objective was to generate additional revenue while gradually integrating economic actors into the formal sector and supporting investment financing;
 - **Incentives for Productive Activities:** Lower tax rates were introduced to encourage industrial and productive enterprises;
 - **Reducing administrative burdens for taxpayers:** Simplifying tax filing requirements and facilitating access to necessary tax documents;
 - **Enhanced Tax Audit Mechanisms:** A strategic focus was placed on tax audits, with four distinct audit types introduced: document review, comprehensive audit, targeted accounting investigation, and in-depth assessment of the taxpayer's overall fiscal position;
 - **Stricter Penalties for Tax Evasion:** Tougher fines and legal sanctions were imposed on tax evaders to deter fraudulent practices.

C. Integration of Information and Communication Technology (ICT)

The adoption of ICT and digitalization of tax administration is a key component of fiscal reform, aligning with global advancements in technology-driven public services. Digital transformation facilitates tax compliance by simplifying interactions with tax authorities and providing seamless access to tax-related information.

To enhance transparency and minimize legal violations by both tax officials and taxpayers, the tax administration relies on modern digital tools. The digitization of tax administration also contributes to cost reduction by optimizing operational efficiency and resource allocation. Furthermore, it strengthens tax governance by improving fraud detection, lowering administrative costs, and enabling centralized monitoring of both tax officials and taxpayers to ensure compliance with legal provisions (Boukallea & Harrak , 2021).

Secondly: Takaful Insurance as an Innovative Strategy in the Shift Towards Islamic Finance

1. Concept and Objectives of Takaful Insurance

Takaful insurance is defined as a mutual agreement among a group of participants who contribute financially to a collective fund designed to provide protection against potential risks. This system mitigates financial burdens by ensuring adequate compensation in case of loss or damage. Unlike conventional insurance, Takaful operates on a donation-based structure, where participants commit to contributing fixed amounts to compensate for potential losses incurred by any member. A specialized entity oversees fund management under an agency model, receiving a predetermined fee for its services (Hael, 2010).

From this perspective, Takaful represents a cooperative financial framework that distributes risks among individuals or institutions through a shared pool. Contributions are structured as donations, reinforcing the principles of solidarity and mutual assistance. The fund is managed transparently by a designated entity that ensures compliance with ethical and Shariah guidelines while charging a fixed administrative fee .(Boujemaa & Allam, 2024)

2. Objectives of Takaful Insurance

Takaful institutions strive to achieve several key objectives, including: (Dawaba, 2016)

- **Ensuring financial security and risk mitigation:** Takaful is designed to protect participants from unforeseen financial risks by fostering mutual support and equitable risk-sharing;
- **Adhering to Islamic financial principles:** All financial activities within Takaful are strictly aligned with Shariah principles, ensuring investments are directed into permissible sectors that uphold ethical and religious standards;
- **Expanding market reach and participant base:** Takaful institutions aim to attract a broader segment of individuals and businesses by offering insurance solutions that comply with Islamic finance regulations;
- **Contributing to economic growth:** By investing participant contributions in Shariah-compliant ventures, Takaful supports sustainable economic development and enhances national financial stability;
- **Facilitating the growth of Islamic financial institutions:** Surplus funds generated within Takaful models are reinvested in Islamic financial markets, providing capital for institutions operating under Islamic banking principles;
- **Promoting solidarity and collective responsibility:** Unlike conventional insurance, Takaful fosters a cooperative environment where participants collectively bear financial risks, ensuring a more ethical and equitable distribution of resources.

3. Core Principles of Takaful Insurance

Takaful is distinguished from conventional insurance by a set of foundational principles that govern its operations: (Ben Naoum & Bouhafis, 2024)

- **The principle of donation-based compensation:** Contributions are made voluntarily to a shared fund with no expectation of personal gain, ensuring that compensation is available for members who experience losses. This mechanism strengthens the ethical foundation of mutual financial support;
- **Segregation of accounts:** A clear distinction is maintained between participants' funds and shareholders' funds, ensuring that policyholder contributions are solely dedicated to covering risks, while shareholder accounts operate separately under defined financial structures;
- **Shariah supervisory governance:** A dedicated Shariah board oversees all financial and operational aspects to ensure full compliance with Islamic laws. This includes regular audits, financial reporting reviews, and ethical investment assessments;
- **Distribution of surplus funds:** Any financial surplus remaining after covering claims and administrative costs is equitably distributed among participants based on predefined rules, reinforcing fairness and financial sustainability;

- **The role of the Takaful operator as an agent:** The managing entity functions as an agent responsible for administering the Takaful fund and executing investment strategies. Compensation for these services is determined through a fixed fee or a profit-sharing arrangement, ensuring transparency and operational efficiency.

Third: Characteristics and Forms of Takaful Insurance and Its Relationship with the Modernization of the Tax System in Algeria

1. Characteristics of Takaful Insurance

Takaful insurance is distinguished by several key characteristics: (Abdebach & Bounaaia, 2024)

- **Dual Role of Participants as Insurer and Insured:** One of the defining features of Takaful is that participants simultaneously assume the roles of both insurer and insured. Since the risks being covered can affect any member, they collectively contribute to and benefit from the system;

- **Absence of Profit Motive:** Contributions made by participants are considered donations intended to support those among them who experience losses. Unlike conventional insurance, Takaful does not aim to generate profits for policyholders, as it is based on a donation-based rather than a commercial contract model;

- **No Initial Capital Requirement:** Unlike conventional insurers that require substantial startup capital, Takaful institutions rely on participants' contributions as the primary source of funds. This reinforces the cooperative nature of the system;

- **Surplus Distribution to Participants:** Any financial surplus remaining after deducting all operational expenses and claims is redistributed among participants. This surplus is considered their legitimate right. In cases of financial shortfall, participants may be required to make additional contributions proportional to the deficit, ensuring continued risk coverage.

2. Forms of Takaful Insurance

A. Simple Takaful Insurance

Simple Takaful is a system where a group of individuals mutually agree to provide financial protection against a specific risk affecting one of them within a defined period. Participants contribute fixed amounts, which are pooled to compensate those who suffer losses. Its key features include: (Al-Awady, 2022)

- The system does not aim to generate profits or financial gains;
- Losses are collectively borne by participants based on a pre-agreed framework;
- Contributions are limited to the actual cost of covering incurred losses;
- Funds remain under participants' ownership and are utilized only when a loss occurs;
- Participants must share similar risk exposure to ensure fair distribution;
- Participants act as both insurers and insured parties, managing the system without requiring professional administrative oversight.

B. Composite Takaful Insurance

Composite Takaful represents an advanced form of simple Takaful, involving a specialized entity that manages the fund on behalf of participants. In this model, all participants collectively own the managing company, forming its general assembly and board of directors (Al-Awady, 2022).

3. The Relationship Between Tax System Modernization and Takaful Institutions in Algeria

- **Promoting Takaful Through Supportive Tax Policies:** Modernizing the tax system can foster the growth of the Takaful sector by introducing tax incentives, such as exemptions or reductions on corporate profits and individual contributions. These incentives could encourage greater participation in Takaful, enhancing the Islamic finance ecosystem in Algeria;
- **Enhancing Transparency and Financial Efficiency:** The integration of digital tax administration systems can improve oversight of Takaful transactions, ensuring transparency in tracking contributions and claims disbursement. Establishing links between electronic tax systems and Takaful institutions can facilitate tax compliance while aligning with Shariah principles;
- **Supporting Economic and Social Development:** A modernized tax system can allocate revenues to support investments in Shariah-compliant sectors, allowing Takaful institutions to optimize their investment strategies. Additionally, expanding Takaful coverage contributes to social justice by offering cooperative risk protection for individuals and businesses;
- **Improving Tax Awareness Among Takaful Institutions:** Streamlined tax procedures encourage compliance while reducing administrative burdens. The adoption of digital platforms minimizes costs and processing time, enabling Takaful operators to focus on service expansion;
- **Addressing Tax Challenges Specific to Takaful:** Unlike conventional insurance, Takaful operates on a donation-based model, complicating profit determination and tax liabilities. Modernizing tax regulations could involve introducing specific legal frameworks that differentiate Takaful from conventional insurance, ensuring fair and compliant taxation practices.

The Second Axis: The Empirical Aspect of the Relationship Between Tax System Modernization and the Adoption of Takaful Insurance within the Framework of Innovative Islamic Financing Strategies—A Case Study of Algerian Takaful Insurance Institutions

Empirical studies serve as a fundamental applied tool for exploring the intricate relationship between study variables. This study primarily employs a questionnaire to collect data from the target sample, aiming to assess respondents' perspectives on each variable independently. The collected data is analyzed using SPSS, incorporating a set of appropriate statistical tests to examine the relationships between variables.

This section focuses on analyzing the Role of tax system modernization on the adoption of Takaful insurance in the context of innovative Islamic financing strategies, through a case study of Algerian Takaful insurance institutions and windows. To achieve this, a structured scientific methodology is followed, which includes outlining the methodological procedures, analyzing descriptive statistics of respondents' answers, and testing research hypotheses with precision. These aspects are presented in detail according to the following structure:

First: Methodological Procedures of the Study

This section provides a comprehensive overview of the study population and sample, along with an examination of the data collection tools used. The validity and reliability of the measurement instrument are also assessed to ensure data quality and accuracy. Lastly, a descriptive analysis of the demographic

characteristics of the study sample is conducted to extract relevant initial indicators.

1 .Study Population and Sample

The study population consists of employees working in Algerian Takaful insurance institutions and windows, representing the target group for achieving the research objectives. For the empirical analysis, a random sample of 112 employees was selected, and questionnaires were distributed accordingly. A total of 108 valid questionnaires were retrieved, reflecting a high response rate of 96.45%, which strengthens the reliability of the study findings derived from this sample.

2 .Data Collection Tools

The study relies on a structured questionnaire as the primary tool for data collection and achieving the research objectives. The questionnaire is divided into two main sections:

The first section gathers demographic information about employees working in Algerian Takaful insurance institutions and windows.

The second section captures respondents' perceptions regarding the study variables, namely, the dimensions of tax system modernization and Takaful insurance.

The questionnaire is a critical instrument within the quantitative research framework, which employs advanced statistical techniques and software for precise data analysis. It is designed using a five-point Likert scale, ranging from "1: Strongly Disagree" to "5: Strongly Agree," to ensure accurate measurement of respondents' views on the study's key themes.

The questionnaire content underwent a thorough and meticulous review of relevant previous studies and was subject to rigorous evaluation by academic experts to ensure its validity and reliability.

3. Validity of the Measurement Instrument and Descriptive Analysis of the Study Sample Responses

3.1 Reliability of the Measurement Instrument (Cronbach's Alpha Coefficient)

To assess the reliability of the study instrument (the questionnaire), Cronbach's Alpha coefficient was employed. The results are presented in the following table:

Table 1: Reliability and Validity Coefficients

Dimensions	Number of Items	Cronbach's Alpha	Reliability
First Dimension: Simplification of Procedures	10	0.842	0.918
Second Dimension: Establishment of New Structures	10	0.784	0.885
Third Dimension: Integration of Information and Communication Technology	10	0.808	0.899
First Axis: Tax System Modernization	30	0.810	0.900

Dimensions	Number of Items	Cronbach's Alpha	Reliability
Second Axis: Takaful Insurance	10	0.768	0.876
Overall	40	0.789	0.888

Source: Compiled by the researchers based on SPSS 26 results.

The results in Table 1 indicate that the questionnaire used in this study demonstrates a high level of reliability and consistency, as reflected by the strong Cronbach's Alpha values and reliability coefficients across all dimensions.

For instance, the first dimension, "Simplification of Procedures," recorded a Cronbach's Alpha of 0.842 and a reliability coefficient of 0.918, indicating a high level of reliability. Similarly, the second dimension, "Establishment of New Structures," achieved a Cronbach's Alpha of 0.784 with a reliability coefficient of 0.885. The third dimension, "Integration of Information and Communication Technology," showed a Cronbach's Alpha of 0.808 and a reliability coefficient of 0.899, further reinforcing the instrument's reliability.

At the broader level, the first axis, "Tax System Modernization," recorded a Cronbach's Alpha of 0.810 and a reliability coefficient of 0.900, whereas the second axis, "Takaful Insurance," achieved a Cronbach's Alpha of 0.768 with a reliability coefficient of 0.876.

Overall, the questionnaire exhibited a Cronbach's Alpha value of 0.789 and an overall reliability coefficient of 0.888, confirming the internal consistency and accuracy of the statements used to measure the study variables.

2.3 Descriptive Analysis of the Study Sample Characteristics

The characteristics of the study sample are presented in the following table:

Table 2: Descriptive Characteristics of the Study Sample

Demographic Variable	Category	Frequency	Percentage
Gender	Male	78	72.22%
	Female	30	27.78%
Educational	Professional Certificate	6	5.55%
	Bachelor's Degree	50	46.30%
	Master's Degree	38	35.19%
	Doctorate	14	12.96%
Job	Bank Manager	5	4.63%
	Department Head	22	20.37%
	Auditor or Accountant	33	30.56%
	Teller	48	44.44%
Age	21 to less than 31 years	18	16.67%
	31 to less than 41 years	52	48.15%
	41 to less than 51 years	24	22.22%
	51 years and above	14	12.96%

Source: Compiled by the researchers based on SPSS 26 results.

The results in Table 2 highlight the demographic distribution of the study sample, reflecting the structure of the Algerian banking environment. Males constitute the

majority of the sample, accounting for 72.22% (78 individuals), indicating a predominant male presence in banking positions.

Regarding educational qualifications, the bachelor's degree was the most common, representing 46.30% (50 individuals), aligning with the minimum employment requirements in Takaful insurance institutions. The master's degree holders accounted for 35.19% (38 individuals), emphasizing the importance of advanced academic qualifications in this sector.

For job positions, tellers represented the largest group, making up 44.44% (48 individuals), highlighting their pivotal role in customer interactions and the implementation of new policies such as Takaful insurance. They were followed by auditors and accountants (30.56% - 33 individuals), reflecting their role in financial management. Meanwhile, department heads and Takaful insurance managers combined accounted for 25.92% (27 individuals), underlining the significance of leadership roles in strategic decision-making.

In terms of age distribution, the 31 to less than 41 age group ranked highest at 48.15% (52 individuals), demonstrating the active role of this segment in adapting to modern transformations. The 41 to less than 51 age group followed at 22.22% (24 individuals), reflecting experience and stability. Notably, older generations had a lower representation, suggesting a weaker involvement in adopting financial innovations.

Overall, these findings underscore the diversity and inclusiveness of the sample, providing a comprehensive perspective on the impact of tax system modernization on the adoption of Takaful insurance.

Secondly: Descriptive Measures of Study Sample Responses and Hypothesis Testing

To test the study hypotheses, descriptive analysis will be employed to assess respondents' evaluations using statistical indicators such as the arithmetic mean and standard deviation to determine data trends and variability. Additionally, a T-test will be applied to measure statistically significant differences, while the correlation coefficient (R) will be calculated to analyze the strength and direction of relationships between variables, ensuring precise and objective hypothesis validation.

1. Descriptive Measures of Study Sample Responses

The descriptive analysis focuses on assessing the degree of agreement of the study sample with each item in the study dimensions. This aims to explore the impact of tax system modernization on the adoption of takaful insurance, within the framework of innovative Islamic finance strategies, by examining a sample of Algerian takaful insurance institutions. Since the study questionnaire was designed using a five-point Likert scale, five ranges of the arithmetic mean were adopted to systematically interpret respondents' answers, providing an in-depth understanding of their perspectives on the various study dimensions:

- **[1–1.80]:** Strongly Disagree
- **]1.80–2.60]:** Disagree
- **]2.60–3.40]:** Neutral
- **]3.40–4.20]:** Agree

- **[4.20–5]:** Strongly Agree

1.1 Descriptive Measures of Tax System Modernization

The descriptive analysis of the tax system modernization dimension is presented in the following table:

Table 03: Study Sample Responses Regarding Tax System Modernization

Statement	Mean	Standard Deviation	Evaluation
Modernization aims to provide simpler and more accessible tax procedures for stakeholders.	4.12	0.71	Agree
Simplifying administrative processes supports takaful insurance institutions in fulfilling their tax obligations.	4.08	0.74	Agree
Reducing the time required for tax declaration enhances compliance with tax regulations.	4.18	0.69	Agree
Clarity in tax laws facilitates tax compliance procedures.	3.98	0.77	Agree
Reducing tax-related documentation lowers administrative burdens on takaful insurance institutions.	4.22	0.67	Strongly Agree
The tax system provides clear guidelines on tax compliance for takaful insurance institutions.	4.02	0.80	Agree
The tax system ensures prompt processing of tax declarations for takaful insurance institutions.	3.87	0.81	Agree
Simplifying tax procedures encourages investors to enter the takaful insurance sector.	4.27	0.73	Strongly Agree
Transparency in tax payment processes enhances trust in the tax system.	4.11	0.68	Agree
Recent improvements in tax procedures have made the system more adaptable to the Islamic financial sector.	3.92	0.79	Agree
First Dimension: Simplification of Tax Procedures	4.09	0.67	Agree
Establishing specialized structures supports various economic sectors, including takaful insurance.	4.02	0.75	Agree
New tax structures enhance service efficiency for takaful insurance institutions.	4.12	0.71	Agree
The establishment of dedicated units for Islamic finance adoption strengthens the takaful insurance sector.	4.22	0.73	Strongly Agree
New structures facilitate tax data monitoring	4.07	0.72	Agree

for takaful insurance institutions.			
Modern tax structures offer greater flexibility in task execution compared to previous systems.	4.17	0.70	Agree
Creating specialized offices for the takaful insurance sector enhances tax system efficiency.	4.12	0.69	Agree
The new system provides clear support pathways for takaful insurance institutions.	4.07	0.74	Agree
New structures improve communication between takaful insurance institutions and tax authorities.	4.02	0.77	Agree
Tax structures focus on fostering innovation within the tax sector.	4.12	0.71	Agree
The new tax structures provide tailored solutions to support Islamic finance strategies.	4.22	0.69	Strongly Agree
Second Dimension: Establishment of New Structures	4.12	0.73	Agree
Implementing information and communication technologies enhances user experience within the tax system.	4.07	0.76	Agree
Electronic systems have reduced errors in tax data recording for takaful insurance institutions.	4.17	0.71	Agree
The availability of digital platforms simplifies tax declaration for takaful insurance institutions.	4.12	0.73	Agree
Takaful insurance institutions benefit from the e-services provided by the tax system.	4.07	0.77	Agree
Using artificial intelligence enhances the accuracy of tax data analysis.	4.22	0.69	Strongly Agree
Digital transformation makes the tax system more transparent and reliable.	4.12	0.75	Agree
Information and communication technologies reduce waiting times for tax-related services.	4.02	0.80	Agree
Digital systems improve tax processes' efficiency for takaful insurance institutions.	4.07	0.74	Agree
Technological advancements help curb tax evasion and promote system fairness.	4.17	0.72	Agree
Digitization enhances integration between the tax system and takaful insurance institutions.	4.12	0.73	Agree
Third Dimension: Integration of Information and Communication Technologies	4.02	0.76	Agree
Overall Dimension: Tax System Modernization	4.05	0.718	Agree

Source: Compiled by researchers based on SPSS 26 results.

The results in Table 03 indicate a positive assessment of the tax system modernization dimension, with an overall arithmetic mean of 4.05 and a standard deviation of 0.718, reflecting respondents' satisfaction with efforts to enhance the tax system. Among the three dimensions, the Establishment of New Structures received the highest rating ($M = 4.12$, $SD = 0.73$), highlighting the effectiveness of new structures in improving tax services and supporting economic sectors, particularly Islamic finance. The statement "Providing tailored solutions to support Islamic finance strategies" received the highest rating within this dimension ($M = 4.22$).

The Simplification of Tax Procedures dimension recorded an arithmetic mean of 4.09 and a standard deviation of 0.67. The highest-rated statement ($M = 4.27$) emphasized "Simplified tax procedures encourage investors to enter the takaful insurance sector," illustrating the significant role of procedural simplification in fostering investment in takaful insurance institutions.

The Integration of Information and Communication Technologies dimension achieved an arithmetic mean of 4.02 and a standard deviation of 0.76. The most impactful statement ($M = 4.22$) noted that "Using artificial intelligence enhances the accuracy of tax data analysis," highlighting the critical role of digitalization in improving tax system efficiency and transparency.

These findings confirm that tax system modernization significantly enhances the overall efficiency of the tax system, bolsters stakeholder confidence, and supports the takaful insurance sector through streamlined procedures, innovative structures, and digital technologies. However, further refinements are necessary to sustain the progress in tax system development.

1.2 Descriptive Analysis of the Takaful Insurance Dimension

This section presents the descriptive analysis of the Takaful insurance dimension, as outlined in the following table:

Table 04: Study Sample Responses on Takaful Insurance

Statement	Mean	Standard Deviation	Evaluation
Takaful insurance institutions represent an innovative and attractive alternative to conventional insurance companies.	4.28	0.69	Strongly Agree
The adoption of Takaful insurance reflects a commitment to Islamic financial values.	3.89	0.74	Agree
The tax system supports the expansion of Takaful insurance in local markets.	4.16	0.77	Agree
Tax incentives increase individuals' and institutions' interest in Takaful insurance.	4.05	0.72	Agree
Takaful insurance institutions face challenges due to complex tax procedures.	3.68	0.69	Agree
The current tax framework provides opportunities for expanding Takaful	4.22	0.73	Strongly Agree

Statement	Mean	Standard Deviation	Evaluation
insurance services.			
Clients have greater confidence in Takaful insurance institutions when clear tax incentives are in place.	4.20	0.77	Strongly Agree
Takaful insurance contributes to sustainable development by adhering to ethical financial principles.	4.08	0.70	Agree
Favorable tax policies enhance the competitiveness of Takaful insurance products.	4.10	0.89	Agree
Collaboration between Takaful insurance institutions and tax authorities fosters sectoral growth.	4.04	0.66	Agree
Takaful Insurance Dimension (Overall Score)	4.09	0.73	Agree

Source: Compiled by researchers based on SPSS 26 results

The results presented in Table 04 indicate a generally positive assessment of the Takaful insurance dimension, with an overall arithmetic mean of 4.09 and a standard deviation of 0.73. These findings suggest that respondents recognize the pivotal role of Takaful insurance in supporting financial and economic development.

Among the individual statements, the highest-rated item was "Takaful insurance institutions represent an innovative and attractive alternative to conventional insurance companies" (M = 4.28). This result highlights the growing appeal of Takaful insurance as a viable and ethically compliant financial solution. Additionally, the statement "Clients have greater confidence in Takaful insurance institutions when clear tax incentives are in place" received a high mean score of 4.20, underscoring the significance of tax incentives in fostering customer trust and driving market expansion.

Conversely, the lowest-rated statement was "Takaful insurance institutions face challenges due to complex tax procedures", with a mean of 3.68. This finding reflects the administrative and regulatory obstacles that could hinder the development of the sector, emphasizing the need for tax reforms to ease compliance burdens.

Overall, the results underscore the critical role of the tax system in shaping the trajectory of Takaful insurance. While tax incentives and supportive policies contribute to sectoral growth, streamlining tax procedures remains essential to mitigating operational challenges. Furthermore, the ethical foundation of Takaful insurance positions it as a key player in promoting sustainable financial practices and enhancing market competitiveness.

2. Hypothesis Testing

2.1 Testing the First Hypothesis

The first hypothesis posits a **positive relationship between the simplification of procedures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \leq 0.05$** . The hypotheses are formulated as follows:

H_0 : There is no positive relationship between the simplification of procedures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \leq 0.05$.

H_1 : There is a positive relationship between the simplification of procedures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \leq 0.05$.

Table 5: Regression Variance Analysis, Correlation, and Determination Coefficients

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level	Correlation Coefficient R	Coefficient of Determination R^2
Regression	30.752	1	30.752	275.486	0.000	0.735	0.621
Residuals	18.725	107	0.075				
Total	49.477	108					

Source: Compiled by researchers based on SPSS 26 results.

The table shows that the computed F-value is 275.486, which is significantly greater than the critical table value at $\alpha = 0.05$. This indicates statistical significance for the model. Additionally, the corresponding p-value (0.000) is less than 0.05, confirming the model's validity in testing the proposed hypothesis.

Moreover, the correlation coefficient $R = 0.735$ suggests a strong positive relationship between the simplification of procedures and Takaful insurance adoption in Algeria. Since this value lies within the [0.50 - 1] range, it reinforces the hypothesis of a significant positive effect.

The determination coefficient $R^2 = 0.621$ implies that 62.1% of the variation in Takaful insurance adoption is explained by changes in procedure simplification, while the remaining 37.9% is attributed to other unexamined factors.

Based on these findings, we reject the null hypothesis and accept the alternative hypothesis, confirming the existence of a positive relationship between simplifying procedures and adopting Takaful insurance in Algeria at a significance level of $\alpha \leq 0.05$.

2.2 Testing the Second Hypothesis

The second hypothesis posits a **positive relationship between the establishment of new structures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$** . It is formulated as follows:

H_0 : There is no positive relationship between the establishment of new structures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$.

H₁: There is a positive relationship between the establishment of new structures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$.

Table 6: Regression Variance Analysis, Correlation, and Determination Coefficients

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level	Correlation Coefficient R	Coefficient of Determination R ²
Regression	28.953	1	28.953	263.721	0.000	0.761	0.579
Residuals	21.134	107	0.089				
Total	50.087	108					

Source: Compiled by researchers based on SPSS 26 results.

The table above shows that the computed F-value is 263.721, which is greater than the critical value of 3.84, indicating the statistical significance of the model at $\alpha = 0.05$. Furthermore, the significance level of 0.000 is less than 0.05, confirming the model's validity in testing the proposed hypothesis.

Additionally, the correlation coefficient $R = 0.761$ indicates a strong positive correlation between the establishment of new structures and the adoption of Takaful insurance in Algeria. This value falls within the range [0.50 - 1], supporting the hypothesis of a positive relationship between the variables. The coefficient of determination $R^2 = 0.579$ suggests that 57.9% of the variance in the dependent variable (Takaful insurance adoption) is explained by changes in the independent variable (establishment of new structures), while the remaining 42.1% is attributed to other factors not included in the model.

Based on these results, we reject the null hypothesis H_0 , which assumes no significant relationship between the variables, and accept the alternative hypothesis H_1 , which states that there is a positive relationship between the establishment of new structures and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$.

2.3 Testing the Third Hypothesis

The third hypothesis posits a **positive relationship between the introduction of information and communication technology (ICT) and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$** . It is formulated as follows:

H_0 : There is no positive relationship between the introduction of ICT and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$.

H_1 : There is a positive relationship between the introduction of ICT and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$.

Table 7: Regression Variance Analysis, Correlation, and Determination Coefficients

Source	Sum of Squares	Degrees of Freedom	Mean Square	F-Value	Significance Level	Correlation Coefficient R	Coefficient of Determination R ²
Regression	30.512	1	30.512	275.893	0.000	0.745	0.555
Residuals	19.875	107	0.093				
Total	50.387	108					

Source: Compiled by researchers based on SPSS 26 results.

The table above shows that the computed F-value is 275.893, which is greater than the critical value of 3.84, indicating the statistical significance of the model at $\alpha=0.05$. Furthermore, the significance level of 0.000 is less than 0.05, confirming the model's validity in testing the proposed hypothesis.

Additionally, the correlation coefficient $R=0.745$ indicates a strong positive correlation between the introduction of ICT and the adoption of Takaful insurance in Algeria. This value falls within the range $[0.50 - 1]$, supporting the hypothesis of a positive relationship between the variables. The coefficient of determination $R^2=0.555$ suggests that 55.5% of the variance in the dependent variable (Takaful insurance adoption) is explained by changes in the independent variable (introduction of ICT), while the remaining 44.5% is attributed to other factors not included in the model.

Based on these results, we reject the null hypothesis H_0 , which assumes no significant relationship between the variables, and accept the alternative hypothesis H_1 , which states that there is a positive relationship between the introduction of ICT and the adoption of Takaful insurance by insurance institutions and individuals in Algeria at a significance level of $\alpha \geq 0.05$.

Conclusion and Recommendations

This study has examined the relationship between tax system modernization and the adoption of Takaful insurance within the framework of innovative Islamic finance strategies. The findings highlight that tax system reforms, including streamlining tax procedures, establishing new regulatory structures, and leveraging information and communication technologies, play a crucial role in fostering an enabling environment for Takaful adoption. These reforms contribute to the integration of Takaful insurance with sustainable economic growth, particularly in countries that adhere to Islamic finance principles.

Furthermore, the study underscores that modernizing the tax system can serve as a cornerstone in developing a robust regulatory framework for the Islamic financial sector, aligning tax policies with innovative Islamic finance strategies. The study also reveals that tax reforms enhance the quality of financial services available to the private sector, fostering a more equitable and transparent investment climate. Nevertheless, certain challenges may hinder this adoption, including limited awareness among insurance institutions and individuals about

Takaful benefits, as well as administrative and technical constraints within the tax system.

Recommendations

Based on the study's findings, the following recommendations are proposed to strengthen the relationship between tax system modernization and Takaful insurance adoption:

- **Simplifying tax procedures:** Tax authorities in Algeria should continue their efforts to streamline tax processes and enhance digital tax services, thereby promoting tax compliance and encouraging Takaful insurance adoption;
- **Developing specialized tax structures:** Establishing tax frameworks tailored to support the Takaful sector is essential. Dedicated advisory units should be created to provide tax consultancy services to firms offering Takaful insurance;
- **Enhancing investment in financial technology:** Greater investment in digital systems and artificial intelligence is required to improve the accuracy and efficiency of tax operations, facilitating seamless interaction between tax institutions and Takaful providers;
- **Fostering collaboration among Islamic financial institutions:** Strengthening partnerships between tax authorities and Takaful institutions can lead to the development of joint support programs that promote Takaful adoption within the scope of innovative Islamic finance;
- **Raising awareness of Takaful benefits:** Extensive awareness campaigns targeting individuals and insurance companies should be launched to enhance understanding of Takaful benefits and its role in improving financial sustainability and social equity;
- **Implementing tax incentives:** Establishing favorable tax policies, such as offering tax deductions or procedural benefits for companies providing Takaful services, can enhance the sector's attractiveness;
- **Conducting regular tax system evaluations:** Periodic assessments of tax policies are necessary to ensure their effectiveness in supporting Islamic finance and alternative financial sectors, including Takaful insurance, aligning them with the evolving needs of the national economy.

Références

- Abdebach, O., & Bounaia, S. (2024). The Reality of Takaful Insurance in Algeria Under Executive Decree 21-81 – An Analytical Study of Algeria Takaful Company. *Chouaa Journal of Economic Studies*, 08(01).
- Al-Awady, E.-S. (2022). Shariah and Legal Regulations of Takaful Insurance in Egypt. *Journal of Research in Contracts and Business Law*, 07(03).
- Allahverdi, M., & al. (2017, September 18-20). (The Effect of E-taxation System on Tax Revenues and Costs: Turkey Case. Malaysia., Putrajaya.
- Ben Naoum, H., & Bouhaf, H. (2024). Challenges of the Takaful Insurance Industry – A Case Study of Algeria. *Journal of Economic Integration*, 12(01).
- Boujemaa, R., & Allam, O. (2024). An Analytical Study of the Performance of the Takaful Insurance Market in the Kingdom of Saudi Arabia for the Period 2018–2022. , Vol. 09, No. 01, p. 58. *Journal of Development and Foresight for Research and Studies*, 09(01).

- Boukallea, W., & Harrak , M. (2021). Strengthening Tax Reform in Algeria Through the Reform and Modernization of the Tax Administration. *Journal of Finance and Business Economics*, 05(03).
- Bouziane, F., & Mohieddine, M. (2021). The Modernization of Tax Administration in Algeria and Its Role in Enhancing Relations with Taxpayers. *Al-Mi'yar Journal*, 12(01).
- Bouziane, F., & Mohieddine, M. (2021). The Modernization of Tax Administration as a Mechanism for Enhancing Trust and Improving Services Provided to Taxpayers. *Journal of Economic Studies*, 21(01).
- Chaouadi, S., & Sellini, D. (2022). Challenges of Tax Administration Modernization in the Context of Tax Reforms. *The First International Conference on the Reality of Accounting, Taxation, and Management Control in Economic Institutions*. Batna: Batna 01 University.
- Daifallah , M., & Al. (2018). The Importance of Modernizing the Structures of the Algerian Tax System – An Analytical Study of Tax Developments up to 2017. , Vol. 02, No. 02, p. *Journal of Advanced Accounting Studies*, 02(02).
- Dawaba, A. (2016). A Strategic Vision to Address the Challenges of Islamic Takaful Insurance. *Islam Ekonomisi ve Finansi Dergisi*(02).
- Hael, D. (2010). Investment in Takaful (Cooperative Insurance). *The Jordanian Journal of Islamic Studies*, 03(01).
- Laareba, M., & Sahnoun, F. (2021). The Role of Modernization in Enhancing the Performance of the Tax Administration and Improving Tax Compliance Among Taxpayers – A Case Study of the Tax Center in Sétif Province. *Journal of Economic Studies*, 15(03).