

	Science, Education and Innovations in the Context of Modern Problems Issue 8, Vol. 8, 2025
	Title of research article  The Impact of the Efficiency of Financial Information Systems on the Effectiveness of the Capital Structure
Hamdi Ayoub	Doctor Faculty of Economic, Commercial and Management Sciences, University of Tamanrasset Algeria E-mail: phd.hayoub11@gmail.com ; Orcid: 0009-0001-9821-2213
Taleb Abdelkrim	Doctor Faculty of Economic, Commercial and Management Sciences, University of Tamanrasset Algeria E-mail: krimotam8@gmail.com; Orcid: 0008-0000-3433-2121
Kheir Eddine	University of Ghardaia Algeria Email: ouciffaiza.kheireddine@univ-ghardaia.edu.dz; Orcid: 0009-0001-3879-3243
Cherigui Djaafar	University of Tizi Ouzou Algeria Email: djaafar.cherigui@ummto.dz; Orcid: 0009-0001-2411-8621
Issue web link	https://imcra-az.org/archive/375-science-education-and-innovations-in-the-context-of-modern-problems-issue-8-vol-8-2025.html
Keywords	Financial Information Systems, Capital Structure, Financial Planning
Abstract This study explores the impact of the efficiency of the Financial Information System (FIS) on the financial planning dimension, represented by the capital structure within Algérie Télécom. It employs the Descriptive Method, the Analytical Method, and the Case Study Method. The primary research tool used was a questionnaire, which served as the main data collection instrument. The data was analyzed using the SPSS software. The study tests the hypothesis that FIS efficiency significantly influences capital structure planning. The results revealed a statistically significant and positive correlation ($r = 0.602$), with the regression model explaining 36.2% of the variance in the capital structure. The study concludes that improving the efficiency of financial institutions plays a crucial role in enhancing financial planning, especially in public sector institutions. In our complex, data-intensive financial world, integrating modern Financial Information Systems (FIS) has become vital for improving organizational performance—particularly in the public sector. These systems provide decision-makers with accurate, reliable, and timely financial data, enabling better planning, budgeting, and capital structuring. In this context, financial planning—being a multi-dimensional concept—is crucial in promoting sustainable development and efficient resource use. One of its key components is the capital structure, which refers to the mix of a company's financial sources (equity, debt, and internal financing) and their strategic alignment with organizational goals.	
Citation. Hamdi A; Taleb A; Oucif Faiza K. E; Cherigui D. (2025). The Impact of the Efficiency of Financial Information Systems on the Effectiveness of the Capital Structure. <i>Science, Education and Innovations in the Context of Modern Problems</i>, 8(8), 1163–1175. https://doi.org/10.56334/sci/8.8.98	
Licensed © 2025 The Author(s). Published by Science, Education and Innovations in the context of modern problems (SEI) by IMCRA - International Meetings and Journals Research Association (Azerbaijan). This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).	
1163 – www.imcra.az.org Issue 8, Vol. 8, 2025 The Impact of the Efficiency of Financial Information Systems on the Effectiveness of the Capital Structure Hamdi Ayoub; Taleb Abdelkrim; Oucif Faiza Kheir Eddine; Cherigui Djaafar	

Introduction

Amid the rapid digital transformations taking place in public institutions, financial information systems have emerged as a critical element in supporting financial planning, enhancing transparency, and rationalizing financial and investment decisions. Institutional performance is no longer determined solely by financial infrastructure but also by the organization's ability to use accurate and efficient information systems to support financial operations and decision-making (DeLone, W. H. & McLean, E. R., 2003).

Numerous factors contribute to a company's value, including financial health, business risk, growth opportunities, and corporate governance. Among these, capital structure stands out as one of the most significant variables (Yeongjun Kim, Sungwook Jung, & Changhee Kim, 2023).

The efficiency of the financial structure, a dimension of financial planning, is a key determinant of both internal and external financial stability. It also reflects the suitability of financial arrangements to an institution's goals and the nature of its operations. Recent research suggests that financial planning decisions can undergo qualitative changes due to enhanced information system efficiency, particularly in terms of cost control, source selection for financing, and resource allocation (Tahir Akhtar, Ahmad Zahir, Mohammad Ali Tareq, & Fazle Rabbi, 2016).

Advanced studies have confirmed that institutions investing in highly efficient financial information systems have greater capacity to maintain balance between self-financing and external financing. This, in turn, improves the flexibility of the financial structure and enhances long-term financial stability.

Modern information systems are among the most important scientific topics due to their development, expansion, and rapid adoption over time. They help managers deal with problems requiring a high level of expertise. Financial information systems, in particular, have seen remarkable development in recent times and have become a foundational element for commercial banks. Their use enhances an institution's initiative in capital accumulation and capital asset allocation, beyond merely enforcing accounting constraints on cash transactions. One of the fundamental functions of FIS is to determine ways to collect and utilize information to maximize institutional liquidity (Abdullah Mhaimed Hawas, 2024).

The capital structure is a key indicator for assessing the source, composition, and proportion of a company's capital (equity and debt). It relates not only to a company's internal operating environment, but also to shareholder rights and obligations. It is closely linked to a firm's future growth trajectory, decision-making structures, and changes in governance models (Yiheng Luo & Chenxi Jiang, 2022).

As Algerian public institutions—such as Algérie Télécom—continue their digital transformation, the efficiency of financial information systems is increasingly seen not only as a support function but also as a driver of financial performance. This study investigates how FIS efficiency affects financial planning, using the capital structure as a representative dimension. While a substantial body of literature discusses the impact of financial planning on system adoption and performance, few studies have examined the reverse relationship—namely, how the efficiency of financial information systems affects the quality of financial planning through the capital structure and its outcomes.

Therefore, this study aims to fill this gap by addressing the following central research question:

What is the impact of financial information system efficiency on the effectiveness of financial planning, as represented by the capital structure? A case study of Algérie Télécom.

To answer this question, the Descriptive Method, the Analytical Method, and the Case Study Method were used. Data were analyzed using SPSS software, based on survey data collected from professionals in finance and information technology, as well as financial decision-makers within the institution. The significance of this research lies in its potential to offer new insights to public sector decision-makers—particularly in economic institutions—regarding the crucial role of FIS in shaping capital structure policies and improving resource allocation through effective planning.

2. Literature Review and Theoretical Framework

2.1 Literature Review

Numerous factors influence the capital structure, but company size, financial leverage, and liquidity are among the most frequently used variables in prior studies on financing structure (Yeongjun Kim, Sungwook Jung, & Changhee Kim, 2023).

Measuring the success or effectiveness of Information Systems (IS) is critical to understanding the value and effectiveness of information systems management practices and investments (WILLIAM H. DELONE & EPHRAIM R. MCLEAN, 2003). In recent years, the relationship between Financial Information Systems (FIS) and organizational performance has attracted increasing attention, particularly in the context of digital transformation and public sector reform. Several studies have discussed how implementing integrated financial systems enhances transparency, cost control, and strategic decision-making.

Capital Structure and Company Performance:

Agency cost theory is based on the misalignment between the interests of shareholders and managers. It highlights the agency costs of equity, explains their significance, and addresses the challenges posed by the separation of ownership and control. An appropriate capital structure has a positive impact on company performance. In many cases, agency conflicts arise when managers pursue personal gains at the expense of corporate objectives. According to the Free Cash Flow Theory, these issues are central to understanding capital structure decisions (Tahir Akhtar, Ahmad Zahir, Mohammad Ali Tareq, & Fazle Rabbi, *Capital Structure and Firm Efficiency: A Case of Pakistan*, 2016).

Bouchetara (2022) demonstrated a significant link between digital accounting information systems and the efficiency and quality of accounting data. This suggests that access to accounting information improves financial performance. Implementing an accounting information system within an organization provides accurate, valuable, and relevant data for effective decision-making. In other words, digital accounting information systems enhance the quality of accounting data. This study contributes to the literature by enabling comparisons between Algeria and countries such as Indonesia, Ghana, and Jordan. The study underscores the benefits of IT in improving accounting reliability and accelerating the processing of financial data in Algerian companies. Consequently, it highlights the importance of applying accounting information systems across all institutions to obtain high-quality accounting data (Mehdi BOUCHETARA, 2022).

Enhancing operational risk management for listed companies:

Due to the shortcomings in information disclosure, the lack of transparency in the capital market in Japan, and weak audit sector disclosure practices, many listed companies suffer from deficiencies in their financial systems. This situation necessitates investigations to verify the credibility of disclosed information. Measuring a company's financial risk exposure remains a challenge. Regardless of governmental perspectives, the main objective is to improve related laws and regulations, provide a legal framework for the development of listed companies, protect the interests of all stakeholders, and boost investor confidence. To strengthen risk management, companies themselves have begun improving the disclosure of financial and non-financial information, increasing transparency, which is a practical and effective step (Yiheng Luo & Chenxi Jiang, 2022).

A Financial Information System (FIS) is a system that collects and organizes monetary data related to a business or project. It is designed to help users make the most profitable financial decisions and achieve specific financial goals. FIS leverages decision support systems to ensure the most efficient use of financial resources, enabling the achievement of financial objectives at the lowest possible cost (Abdullah Mhaimed Hawas, 2024).

Despite these findings, there remains a significant research gap regarding how the efficiency of financial information systems directly influences the **financial planning process**, particularly in **developing economies** and **state-owned enterprises**. This study seeks to fill that gap by focusing on **capital structure** as a key dimension of financial planning that is affected by the efficiency of FIS.

2.2 Theoretical Framework

Section One: Financial Information Systems

(A) Concept of Financial Information Systems:

These systems also provide financial reports to non-managerial stakeholders such as shareholders, regulatory bodies, creditors, institutions, and tax authorities. A Financial Information System (FIS) is software that collects and analyzes financial data to support organizational management and decision-making. This system facilitates financial administration by recording and processing accounting transactions across various functional areas, including accounts payable, receivable, payroll, and balances.

The broader unit includes multiple supporting financial systems, such as the general ledger, which plays a key role in accounts payable and receivable, as well as cost control. It has been emphasized that financial reporting and cash management are fundamental components of the comprehensive concept of a financial information system (Ali Abdulbaqi Ameen & Kamsuriah Ahmad, 2014).

According to this model, a successful information system is one that scores high in system quality, information quality, and service quality—ultimately leading to improved user satisfaction and organizational outcomes. This model has been widely used to evaluate public sector information systems, where decision support is of critical importance (DeLone, W. H & McLean, E. R, 2003).

In the context of FIS, these quality factors directly contribute to:

- Accurate and timely financial reporting
- Support for capital budgeting
- Improvement of internal controls
- Long-term strategic planning

A financial information system is a set of interconnected components designed to achieve the institution's objectives. The information system comprises several subsystems continuously interacting with the external environment. The financial subsystem is the core of the information system. Given the massive volume of financial information—estimated by experts to represent over 40% of all economic information—this system records economic events and issues the relevant financial reports (Delia Corina Mihaltan & Radu Marginean, 2015).

Importance of Financial Information Systems:

Financial information systems play a central role in helping organizations achieve their financial goals. They facilitate data collection for financial analysis and generate detailed reports, enabling decision-makers to make more informed choices. Some of the key reasons FIS are critical include (Abdullah Mhaimed Hawas, 2024):

- **Improved decision-making:** Access to up-to-date financial data leads to better-informed decisions.
- **Enhanced efficiency and productivity:** Faster, clearer, and easier access to data and financial statements boosts productivity and reduces costs for all stakeholders.
- **Better financial management:** By effectively monitoring and allocating resources for specific purposes.
- **Regulatory compliance:** Accurate data supports compliance with financial regulations and requirements for all parties.
- **Strategic planning and forecasting:** FIS aids in achieving goals and future planning.
- **Increased trust:** By providing detailed financial information to both internal and external users, confidence in the enterprise is strengthened.

(B) Concept of Capital Structure

At its simplest, **capital structure** refers to the mix of debt and equity used to finance a company's assets. However, short-term debt is often excluded from this definition, as it falls under working capital management. Therefore, the

financial manager typically deals with long-term loans (such as long-term notes payable), leases, bonds, preferred stock, and common stock as primary tools for financing the company's profitable projects (Judith A. Laux, 2010).

Capital Structure Theory examines how companies fund their operations and investments. The Trade-Off Theory argues that firms balance the benefits of debt (such as tax shields) against the risks of financial distress. The Pecking Order Theory suggests that firms prefer internal financing first, then debt, and finally equity—based on information asymmetry and risk perception.

Efficient financial information systems enable managers to make these financing decisions more effectively by providing:

- Transparent financial data
- Real-time liquidity monitoring
- Forecasts of debt capacity and financial risk

Capital structure is a decisive factor in a company's choices regarding securities, especially the ratio of equity to long-term debt. Decisions about capital structure aim to achieve the optimal level of capital financing that enhances company profitability, thereby increasing shareholder value (Nevine Sobhy Abdel Megeid, Mohamed Hassan Abd-Elmageed, & Nouran Magdy Ahmed Hamdy Riad, 2020).

The term "capital structure" was first introduced by Weston and Copeland in 1992, who defined it as permanent financing composed of long-term obligations, preferred stock, and equity. Typically, the debt-to-equity ratio in the capital structure that maximizes stock price and market value is lower than the debt-to-equity ratio that maximizes expected earnings per share (Shinta Puteri Wulandari & Setyaningtyas Honggowati, 2023).

3. Research Methodology

This section outlines the methodology used to examine the impact of Financial Information System (FIS) efficiency on the financial planning dimension, represented by the capital structure within Algérie Télécom. This study employed the Descriptive Method, the Analytical Method, and the Case Study Method. The primary research tool was a questionnaire, which served as the main instrument for data collection. The data was analyzed using SPSS software. The study tests the hypothesis that FIS efficiency significantly influences capital structure planning.

3.1 Study Design

The study adopts a correlational design, aiming to explore a potential causal relationship between the independent variable (efficiency of the financial information system) and the dependent variable (capital structure). A survey-based questionnaire was developed and distributed to professionals in finance, accounting, auditing, and information technology across various departments of Algérie Télécom.

3.2 Hypothesis and Study Model Analysis

First: Research Hypotheses

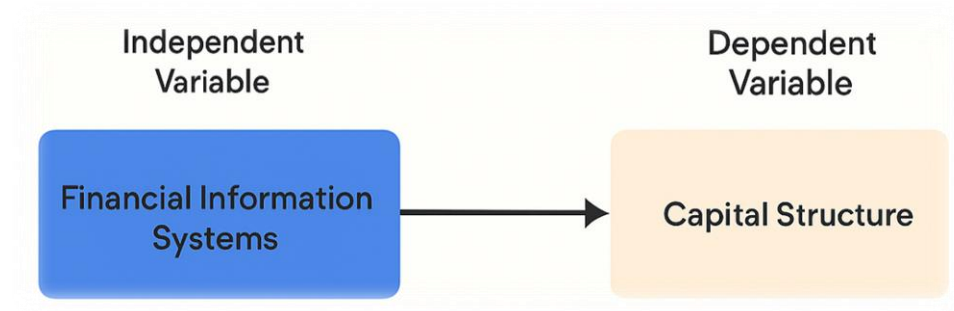
The study aims to analyze the impact of FIS efficiency on the capital structure of Algérie Télécom within the framework of effective financial planning. Accordingly, the following hypotheses were formulated:

- **Null Hypothesis (H_0):** There is no statistically significant impact of financial information system efficiency on the capital structure in Algérie Télécom.
- **Alternative Hypothesis (H_1):** There is a statistically significant impact of financial information system efficiency on the capital structure in Algérie Télécom.

Second: Study Model

The following conceptual model illustrates the relationship between the study variables:

Figure 01: Conceptual Study Model



3.3 Population and Sample

First: Target Population

The study population was defined to include all executives involved in financial planning, as well as those engaged with financial information systems within Algérie Télécom. After conducting field consultations, inquiries, and discussions with executives, the target population was identified as shown in the table below:

Table 01: Study Population

Position
Deputy Directors of Support Functions
Heads of Finance and Accounting Divisions
Heads of Accounting Departments
Heads of Budgeting and Reporting Departments
Heads of Finance and Treasury Departments

Source: Prepared by the researchers.

The study population was targeted through departments and services across all operational directorates in the different provinces. These entities are directly involved in or contribute to financial planning decision-making. Moreover, these departments are directly related to financial information systems, including their use, supervision, monitoring, and control of financial data.

3.4 Study Tool

The current study employed a questionnaire as the primary research instrument. Given the significance of the study's subject, the questionnaire was deemed a vital data collection tool, capturing the views of the selected sample. It was accepted as one of the most important scientific research techniques for conducting a survey-based study.

To assess the perspectives of executives across the operational directorates under study, the questionnaire was constructed after reviewing relevant books and prior academic literature addressing the research topic and its related issues. This process helped ensure the questionnaire aligned with the study's objectives.

The five-point Likert scale was used to measure participants' responses in the second part of the questionnaire.

Table 02: Five-Point Likert Scale

Response Option	Weight
Strongly Disagree	1
Disagree	2

Neutral	3
Agree	4
Strongly Agree	5

Source: Prepared by the researchers.

4.3 Validity and Reliability of the Research Instrument

- A pilot study involving 15 participants was conducted to improve the research instrument.
- The Cronbach's Alpha coefficient for both scales exceeded 0.80, indicating strong internal consistency.

A. Reliability of the Financial Information System (FIS) Efficiency Scale

Table 03: Case Processing Summary

	N	%
Valid Cases	112	100.0%
Excluded Cases (a)	0	0.0%
Total	112	100.0%

a. Listwise deletion based on all variables in the procedure.

Source: Prepared by the researcher using SPSS output

Interpretation: The table indicates that there were no excluded cases and no missing data among the 112 observations used in the analysis.

Table 04: Reliability of the Financial Information System Variable

Cronbach's Alpha	Number of Items
0.952	28

Source: Prepared by the researcher using SPSS output

The reliability coefficient for the independent variable *FIS Efficiency*—based on 28 items—was 0.952, reflecting a **very** high level of reliability.

B. Reliability of the Capital Structure Variable

Table 05: Reliability of the Capital Structure Variable

Cronbach's Alpha	Number of Items
0.785	4

Source: Prepared by the researcher using SPSS output

The reliability coefficient for the dependent variable *Capital Structure*—based on 4 items—was 0.785, also indicating high reliability.

5.3 Data Analysis Techniques

The data were analyzed using IBM SPSS version 25, with the following statistical methods:

- **Descriptive statistics** (mean, standard deviation)
- **Pearson correlation coefficient** to assess the strength of relationships
- **Simple linear regression** to test hypotheses and build a predictive model
- **Analysis of Variance (ANOVA Test)** to evaluate model significance
- **Regression coefficients** to measure the impact of FIS on Capital Structure

The following section presents the results of this analysis and interprets their significance in light of the research question.

4. Results and Statistical Analysis

This section presents the results derived from SPSS outputs to evaluate the impact of Financial Information Systems (FIS) efficiency on the financial planning dimension, namely the Capital Structure. The analysis includes:

- Descriptive statistics
- Correlation testing
- Simple regression modeling

The focus is to test the alternative hypothesis H_1 , which states:

There is a statistically significant impact of Financial Information System efficiency on the Capital Structure in Algeria Telecom.

1.4 Descriptive Analysis

This section assesses the means, standard deviations, and data distribution of the study variables.

Table 05: Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
Financial Information Systems	3.77	0.53	2.25	4.86
Capital Structure	3.79	0.60	2.00	5.00

Source: Prepared by the researcher using SPSS output

Interpretation: Participants moderately agree on the effectiveness of both the Working Capital Structure and Capital Structure in Algeria Telecom.

- The relatively low standard deviations indicate a high level of agreement among participants, suggesting consistent perceptions across both variables.

2.4 Pearson Correlation Analysis

This analysis was conducted to preliminarily verify the existence of a correlation between Capital Structure and the effectiveness of Financial Information Systems (FIS).

Table 06: Pearson Correlation Analysis

Correlations			
		Financial Information Systems	Capital Structure
Financial Information	Pearson Correlation	= 1	.602**
	Sig. (2-tailed)		.000

Systems	N	112	N = 112
Capital Structure	Pearson Correlation	.602**	1
	Sig. (2-tailed)	.000	—
	N	112	112

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Prepared by the researcher using SPSS output

Interpretation:

- The correlation coefficient is positive and strong ($r = 0.602$) between the effectiveness of financial information systems and the capital structure.
- The result is statistically significant at the 0.01 level, indicating a meaningful and non-random relationship between the two variables.

3.4 Simple Linear Regression

Table 07: Simple Linear Regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.602a	0.362	0.357	0.48339	0.362	62.549	1	110	0.000

a. Predictors: (Constant), Financial Information Systems

Source: Prepared by the researcher using SPSS output

- **Independent variable:** Financial Information Systems
- **Dependent variable:** Capital Structure

Interpretation:

- From the model summary table, there is a positive correlation of 60% ($R = 0.602$).
- The coefficient of determination $R^2 = 0.362$, which means that 36.2% of the variance in the capital structure can be explained by the efficiency of financial information systems.
- The model is statistically significant, indicating a strong explanatory power.

4.4 ANOVA Test

Table 08 : ANOVA Test

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	14.616	1	14.616	62.549	0.000b
Residual	25.704	110	0.234		
Total	40.319	111			

a. Dependent Variable: Capital Structure

b. Predictors: (Constant), Financial Information Systems

Source: Prepared by the researcher using SPSS output

Interpretation :

- The ANOVA test confirms the validity of the regression model, with a high F-value ($F = 62.549$) and a very significant p-value ($\text{Sig.} = 0.000$).
- Since $p < 0.05$, the result is highly statistically significant.
- The table shows that $F = 62.549$ at a significance level of 0.000, which is less than 0.05 (5%). This supports the alternative hypothesis, indicating that financial information systems efficiency has a statistically significant effect on the capital structure of Algérie Télécom.
- Therefore, it is possible to predict the dependent variable based on the independent variable.

5.4 Regression Coefficients

Table 09: Regression Coefficients

Coefficients ^a								
Model		Unstandardized Coefficients	Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.191	0.332		3.590	0.000	.533	1.849
	Financial Information Systems	0.690	0.087	0.602	7.909	0.000	.517	.863

a. Dependent Variable: Capital Structure

Source: Prepared by the researcher using SPSS output

Interpretation:

- The table shows that the independent variable (Financial Information Systems) has a significant effect on the dependent variable (Capital Structure).
- The coefficient $B = 0.690$ and $Beta = 0.602$ are statistically significant, with $p < 0.05$, indicating a meaningful impact.
- This confirms that Financial Information Systems (FIS) significantly contribute to the efficiency of the capital structure in Algérie Télécom.

5.5 Regression Equation

The study uses a simple linear regression model to test the relationship between the two variables, expressed by the general formula:

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

Where:

- **Y:** Capital Structure
- **X:** Financial Information Systems
- **β_0 :** Intercept (Constant)
- **β_1 :** Regression coefficient (Slope)
- **ε :** Error term

Accordingly, the specific regression equation becomes:

$$\text{Capital Structure} = 1.191 + 0.690 \times (\text{Financial Information Systems})$$

This means:

- For every 1-unit increase in the efficiency of Financial Information Systems, the Capital Structure improves by 0.690 units.
- The result is statistically significant, reinforcing that FIS plays a measurable and important role in shaping financial planning.

6. Discussion

The findings of this study provide strong empirical support for the hypothesis that the efficiency of Financial Information Systems (FIS) significantly influences the financial planning dimension represented by the capital structure in Algérie Télécom. The results align with theoretical expectations and reinforce arguments derived from previous literature, offering both academic insights and practical implications.

6.1 Theoretical Implications

The results strongly validate the Information Systems Success Model (DeLone & McLean, 2003), which posits that high-quality information systems lead to improved organizational outcomes. In this study, the positive impact of financial services delivered through FIS on capital structure confirms that the efficient, reliable, and timely provision of financial data empowers decision-makers to optimize debt-equity balances and internal/external financing strategies.

Moreover, the findings are consistent with Capital Structure Theory, demonstrating that effective access to financial data enhances the rational allocation of capital and reduces reliance on suboptimal financing channels. When financial managers can access real-time reports and forecasts, they are better equipped to structure capital in a cost-effective and sustainable manner.

6.2 Alignment with Previous Research

The results **confirm and extend** the scope of prior studies:

- Abdullah Mhameed Hawas (2024) demonstrated a significant impact of all dimensions of information systems on financial decisions, with effects ranging from positive to negative.
- Yiheng Luo & Chenxi Jiang (2022) showed that companies can use information tools such as big data and convolutional neural networks to monitor their financial condition in real time, improve and adjust their capital structure, and avoid financial crises.
- Mehdi Bouchetara (2022) identified a strong relationship between digital accounting information systems and the quality of accounting information, suggesting that access to accounting data enhances financial performance efficiency.

By focusing on a public-sector economic entity in North Africa, this study contributes to closing a contextual gap in the literature, which has often overlooked such institutions in discussions on information systems and capital efficiency.

7. Conclusion and Recommendations

7.1 Conclusion

This study explored the impact of Financial Information System (FIS) efficiency on financial planning, specifically focusing on the capital structure of Algérie Télécom, a leading public enterprise in Algeria. Through rigorous statistical analysis using SPSS, the study revealed the following key findings:

- There is a strong and statistically significant positive relationship between FIS efficiency and capital structure ($r = 0.602$, $p < 0.05$).
- The simple linear regression model confirmed that 36.2% of the variation in capital structure can be explained by the efficiency of the financial information system.

- An increase of one unit in FIS efficiency leads to a 0.69-point increase in the quality of capital structure planning.

These findings highlight the strategic role of digital financial systems in shaping critical financial decisions—particularly within state-owned enterprises operating in complex regulatory and economic environments.

7.2 Recommendations

Based on the results, the following practical recommendations are proposed:

1. Invest in Advanced Financial Information Systems

Public institutions should prioritize continuous upgrades and integration of their FIS platforms to ensure real-time data access and improved financial forecasting.

2. Integrate FIS into Financial Planning Processes

Outputs from FIS should be formally embedded into workflows for capital budgeting, debt planning, and equity management, ensuring that financial decisions are guided by data-driven insights.

3. Build Data Interpretation Capabilities

Finance personnel should receive targeted training to enhance their ability to interpret, analyze, and apply FIS data in structuring and managing capital resources.

4. Monitor FIS Impact Using Performance Indicators

Organizations should develop **key performance indicators (KPIs)** to assess how FIS performance influences financial outcomes such as capital cost, liquidity ratios, and investment decisions.

5. Support Policies Centered on Financial Services

Governments and regulatory bodies should adopt policy frameworks that support digital transformation in public financial management—especially in infrastructure-based entities like Algérie Télécom.

Ethical Considerations

This study adheres to academic integrity and ethical research principles. All legal texts and academic sources have been accurately cited and interpreted in accordance with scholarly standards. The analysis avoids any political bias or advocacy, focusing solely on the legal and institutional dimensions of the topic. No human participants, confidential data, or personally identifiable information were used in this research.

Acknowledgment

The authors would like to express their sincere gratitude to the Faculty of Economic, Commercial and Management Sciences, University of Tamanrasset for their academic guidance and support. Special thanks are also extended to colleagues in the Department of Commercial and Management Sciences for their insightful feedback during the conceptual development of this study.

Funding Statement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors declare no conflict of interest regarding the publication of this paper.

References:

1. Abdullah Mhaimeed Hawas. (2024). The impact of financial information systems on the effectiveness and efficiency of financial decisionmaking a sample of commercial banks in Salah al-Din and Baghdad. *International Journal of Research in Finance and Management, India*, 462-469.
2. Ali Abdulbaqi Ameen, & Kamsuriah Ahmad. (2014). A Systematic Strategy for Harnessing Financial Information Systems in Fighting Corruption Electronically. *Knowledge Management International Conference (KMICe)* , (p. 321). Malaysia.
3. Delia Corina Mihaltan, & Radu Marginean. (2015). Particularities of The Financial Information System in Nonprofit Organizations Case Study. *SEA-Practical Application of Science Volume III*.
4. DeLone, W. H, & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems*, 9–30.
5. Judith A. Laux. (2010). Topics in Finance, Part V - Capital Structure. Colorado. Retrieved from <https://ssrn.com/abstract=1703622> or <http://dx.doi.org/10.2139/ssrn.1703622>
6. Mehdi BOUCHETARA. (2022). The Impact of Digitalization on the Quality of Accounting Information. The Case of Algeria. *Audit Financier, Romania*, 295-303.
7. Nevine Sobhy Abdel Megeid, Mohamed Hassan Abd-Elmageed, & Nouran Magdy Ahmed Hamdy Riad. (2020). Impact of Operational Efficiency and Financial Performance on Capital Structure using Earnings Management as a Moderator Variable. *Journal of Accounting Thought, Volume 24, Egypt*, 1029-1059.
8. Shinta Puteri Wulandari, & Setyaningtyas Honggowati. (2023). Does Capital Structure Impact Financial Performance? (Banking Enterprise in ASEAN 2017- 2021). *Journal of Economics, Finance and Management Studies, Indonesia*, 3066-3077.
9. Tahir Akhtar, Ahmad Zahir, Mohammad Ali Tareq, & Fazle Rabbi. (2016). Capital Structure and Firm Efficiency : A Case of Pakistan. *indian Journal of Finance*, 50-66.
10. Tahir Akhtar, Ahmad Zahir, Mohammad Ali Tareq, & Fazle Rabbi. (2016). February, Capital Structure and Firm Efficiency: A Case of Pakistan.
11. WILLIAM H. DELONE, & EPHRAIM R. MCLEAN. (2003). The DeLone and McLean Model of Information Systems Success: A Ten-Year Update. *Journal of Management Information Systems / Spring*, 9–30.
12. Yeongjun Kim, Sungwook Jung, & Changhee Kim. (2023). The Impact of Capital Structure on the Profitability Performance of ICT Firms. *Processes*, 2.
13. Yiheng Luo, & Chenxi Jiang. (2022). The Impact of Corporate Capital Structure on Financial Performance Based on Convolutional Neural Network. *Computational Intelligence and Neuroscience*, 7.