
	<p>Science, Education and Innovations in the Context of Modern Problems Issue 2, Vol. 9, 2026</p>
	<p>RESEARCH ARTICLE </p>
	<h2 style="text-align: center;">The Impact of Strategic financial planning on the Financial Performance of Commercial Banks: Evidence from Algerian Banks Using Structural Equation Modeling (SEM)</h2>
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<p><b>Issue web link</b></p>	<p><a href="https://imcra-az.org/archive/392-science-education-and-innovations-in-the-context-of-modern-problems-issue-2-vol-9-2026.html">https://imcra-az.org/archive/392-science-education-and-innovations-in-the-context-of-modern-problems-issue-2-vol-9-2026.html</a></p>
<p><b>Keywords</b></p>	<p>Strategic financial planning; Financial Performance; Commercial Banks; Algeria; Structural Equation Modeling (SEM). JEL Classification: G21; G30; C38.</p>
<p><b>Abstract</b> This study examines the impact of Strategic financial planning on the financial performance of commercial banks in Algeria. Data collected from bank employees were analyzed using exploratory and confirmatory factor analyses within a structural equation modeling (SEM) framework. The results reveal a strong and positive relationship between strategic financial planning and financial performance, highlighting the importance of effective planning in enhancing profitability, liquidity, and operational efficiency. The study underscores the role of Strategic financial planning as a key management tool and provides evidence for its integration into banking practices to support financial stability and sustainable performance. The banking system has undergone profound transformations that have significantly expanded the scope of banking activities and increased the complexity of financial operations. Banks are no longer confined to the traditional roles of deposit mobilization and credit provision ; rather, they have evolved into comprehensive financial institutions that play a vital role in supporting economic growth, enhancing financial intermediation, and providing diversified banking and financial services within highly competitive environments.</p>	
<p><b>Citation</b> Amina Bendjeddou; Faouzi Elhadjahmed; Assma Boudounet. (2026). The Impact of Strategic financial planning on the Financial Performance of Commercial Banks: Evidence from Algerian Banks Using Structural Equation Modeling (SEM). <i>Science, Education and Innovations in the Context of Modern Problems</i>, 9(2), 1-14. <a href="https://doi.org/10.56334/sei/9.2.67">https://doi.org/10.56334/sei/9.2.67</a></p>	
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## Introduction

In this context banks are increasingly exposed to various financial and operational risks that may lead to deviations from expected returns and, in some cases, to substantial financial losses. These challenges are further intensified by rapid economic changes, technological advancements, regulatory pressures, and intense competition at both the domestic and international levels. Such conditions necessitate the adoption of advanced managerial and financial practices that enable banks to anticipate future conditions, allocate resources efficiently, and sustain their financial stability and competitiveness.

Strategic financial planning has therefore become a central pillar of modern financial management in banking institutions. It represents a systematic and forward-looking process aimed at analyzing financial resources, forecasting future financial needs, and aligning long-term financial objectives with available capabilities. Through strategic financial planning, banks can enhance their ability to optimize resource utilization, manage risks effectively, and respond proactively to environmental uncertainties, thereby supporting sound decision-making and long-term sustainability.

Financial performance, on the other hand, constitutes a fundamental measure of banks' success and efficiency, as it reflects the outcomes of managerial and strategic decisions in financial terms. It provides an integrated framework for evaluating banks' ability to achieve their strategic objectives through a set of financial indicators related to profitability, liquidity, efficiency, and overall financial soundness. Accordingly, financial performance serves as an objective and comprehensive tool for assessing the effectiveness of strategic financial planning practices within banks.

Based on the above, this study seeks to examine the impact of strategic financial planning on financial performance in commercial banks by employing a structural equation modeling approach. By developing and testing a structural model, the study aims to provide empirical evidence on the nature and strength of the relationship between these two dimensions, thereby contributing to a deeper understanding of how Strategic financial planning can enhance financial performance and support the sustainable competitiveness of commercial banks.

## 1- Research Problem:

In light of the foregoing discussion, the research problem is centered on the need to understand the role of Strategic financial planning in enhancing banks' financial performance. Specifically, the study seeks to address the following main research question:

**How can a structural model be developed to measure the impact of Strategic financial planning on the financial performance of banks?**

To analyze this problem more comprehensively and clarify its dimensions, the study attempts to answer the following sub-questions:

- How can the optimal set of measurement items be identified to accurately represent Strategic financial planning and financial performance in the banks under study?
- Is there a statistically significant relationship between strategic financial planning and financial performance in the banks under study?
- To what extent does the adoption of strategic financial planning contribute to improving financial performance in the banks under study?

## 2- Study Hypotheses:

To address the research questions and examine the study problem, the following hypotheses are proposed:

- **H1:** Exploratory and confirmatory factor analyses provide a valid and reliable measurement model for the Strategic financial planning and financial performance constructs in the banks under study.
- **H2:** There is a direct and statistically significant relationship between strategic financial planning and financial performance in the banks under study.
- **H3:** Strategic financial planning has a positive and statistically significant effect on the improvement of financial performance in the banks under study.

## 3- Previous Studies Related to Strategic financial planning and Financial Performance:

Bouzlouf and Sahraoui (2020) examined the role of Strategic financial planning in improving the financial performance of economic institutions through a case study of the Katmia Cork Company in Jijel during the period 2018-2020.

The study focused on clarifying the concept of Strategic financial planning, its types, preparation stages, and tools, particularly estimated budgets. The findings revealed that the institution relied mainly on traditional methods in preparing estimated budgets and experienced significant financial losses during the study period. The results also indicated that the effectiveness of Strategic financial planning depends largely on the accuracy of financial forecasts, the quality of financial data, and the degree of coordination among information sources.

However, the study was limited to a single industrial institution and relied on conventional analytical approaches. Similarly, Qarmida and Rahmouni (2024) investigated the role of Strategic financial planning in improving the financial performance of Algerian economic institutions through a case study of the National Electricity and Gas Distribution

Company (Urban Unit of Ouargla) during the period 2022–2023. The study highlighted the importance of estimated budgets as a key Strategic financial planning tool in supporting decision-making processes. The results confirmed that Strategic financial planning contributes positively to improving financial performance, even within a centralized management structure, by reducing deviations between planned and actual performance. Nevertheless, the study focused on non-banking institutions and relied primarily on traditional performance indicators.

## II- Theoretical Framework of the Study:

### 1- The Nature of Strategic financial planning in the Banking Environment:

Strategic financial planning is a conceptual and organizational process that aims to predict the bank's future financial needs and determine the best ways to raise and invest funds. It goes beyond mere budgeting to include Strategic financial planning, which focuses on the long term and aims to:

- **Liquidity management:** achieving a balance between return, risk, and liquidity (the triangular relationship). (Haddad, 2021, pp. 112-115)

- **Proactive hedging:** using forecasting models to reduce the impact of financial shocks. (Saunders, A. & Cornett, 2019, p. 125)

- **Control:** providing quantitative criteria for measuring performance deviations and taking corrective actions.

- **Credit risk management:** integrating Strategic financial planning with International Financial Reporting Standards on Financial Instruments (IFRS 9) to reduce provisions and increase net profit.

Strategic financial planning in banks goes beyond the concept of short-term budgets; it is an integrated process that aims to balance profitability, liquidity, and risk. Under Basel III standards, Strategic financial planning requires the use of advanced predictive models to ensure capital adequacy and enhance banks' ability to withstand financial shocks. (Matar, 2020)

In our study, Strategic financial planning is not viewed as a purely mathematical process, but rather as a latent variable measured by:

- **Financial Foresight:** The ability to formulate stress-testing scenarios that go beyond traditional budgets.

- **Strategic Fit:** The extent to which financing decisions align with the bank's long-term vision.

### 2- Banking Financial Performance ( An SEM Perspective):

Financial performance is traditionally measured using profitability ratios (e.g., ROA, ROE). However, in this study, performance is treated as a latent construct influenced by the quality of planning processes. Structural equation modeling (SEM) allows us to account for measurement errors in performance indicators, providing greater accuracy in assessing the extent to which planning contributes to financial stability. (Saunders, A. & Cornett, 2019, p. 125)

Financial performance is considered a reflection of the success of the strategies adopted by the bank and represents the ultimate outcome of its operational, investment, and financing activities. It is typically measured using a combination of traditional and modern indicators, the most important of which include: (Abu Nassar, 2021)

- **Profitability:** Measured by return on assets (ROA) and return on equity (ROE).
- **Solvency:** The bank's ability to meet its long-term obligations.
- **Market Value:** Reflects investor confidence in the bank's future.

The literature indicates that good financial performance is not a matter of chance, but rather the result of sound financial decisions based on careful planning. In structural modeling, performance is treated as an integrated construct that encompasses:

- **Effectiveness:** The ability to achieve objectives.
- **Efficiency:** The optimal use of resources to maximize output at minimum cost. (Bendjeddou & Mihoub, 2021, p. 323)

Financial performance is also considered a structural construct formed at the intersection of several financial dimensions profitability, liquidity, and activity which justifies the use of structural equation modeling (SEM). SEM is particularly suitable for this purpose because it can handle latent variables and reduce measurement errors commonly associated with traditional financial ratios. (Bendjeddou & mihoub, 2021, pp. 323-324)

The gap in previous studies lies in their reliance on financial ratios as individual indicators, whereas in this research, financial performance is treated as a structural construct.

- **Overcoming Measurement Error:** SEM allows us to isolate measurement errors associated with accounting data, providing a more accurate estimate of the impact of Strategic financial planning.
- **Integrated Dimensions:** Profitability (ROA, ROE) is combined with market-based performance (Tobin's Q) and operational efficiency within a unified model. This integrated approach is referred to in recent literature as comprehensive financial performance. (Mugure & Mose, 2024, p. 935)

In the context of this study, an "efficient Strategic financial planning system" and "financial forecasting ability" are considered intangible resources. A bank with a rigorous strategic planning system has a greater ability to anticipate future developments and allocate resources effectively—an advantage that competitors who rely on reactive responses do not possess. This advantage is reflected positively in financial performance indicators.

Combining resource-based theory (RBV) with dynamic capabilities provides a robust explanation for the expected SEM results:

- **Resources (RBV):** Strategic financial planning is a scarce resource because it relies on specialized algorithms and human expertise that are difficult to imitate (inimitability).
- **Dynamic Capabilities:** This represents the bank's ability to reconfigure its asset portfolio in response to the outcomes of Strategic financial planning, explaining why some banks succeed in maximizing profits while others fail despite having similar liquidity.

**III-Applied Framework of the Study:**

**1- Methodological Framework:**

**1-1- Study Methodology:**

This study adopts an inductive approach, based on surveying a sample of employees from banking agencies in the state of Bordj Bou Arreridj. Data will be collected using a structured questionnaire, followed by statistical analysis and the construction of a structural model to examine the relationship between the Strategic financial planning and financial performance dimensions. The analysis will be conducted using SPSS and AMOS statistical software.

**1-2- Study Population:**

The study population consists of employees from commercial bank agencies located in Bordj Bou Arreridj. The selected banks were all commercial banks operating in the region.

**1-3- Study Sample:**

The study sample included 69 respondents from the banks under investigation.

**Table 1:** Distribution of Study Sample Members

Bank Name	Questionnaires Retrieved	Questionnaires Distributed
BEA	9	10
AGB	7	10
BNP	3	3
R Bank	10	11
Bank of Algeria	5	5
Bank	7	20
ABC	7	7
FRANCE BANK	9	9
SOCIETE GENERALE	2	5
NTEXIS BANK	10	10
Total	69	90

Source: Prepared by the authors

**1-4- Questionnaire Structure:**

The questionnaire used in this study was divided into two parts:

- **Part One:** Captures the characteristics of the study sample, including educational level and work experience.
- **Part Two:** Focuses on questions related to the variables under investigation, and is further divided into two sections:
  - ✓ **Section One:** Questions on Strategic financial planning in the banks under study.
  - ✓ **Section Two:** Questions on financial performance of the banks under study.

**2- General Results of the Sample Questionnaire:**

**2-1- Cronbach's Alpha Coefficient:**

The reliability of the questionnaire was assessed using Cronbach's alpha coefficient. The results are presented in the following table:

**Table 2:** Results of the Questionnaire Reliability Test

Dimension	cronbach's Alpha	Number of Items
-----------	------------------	-----------------

Financial Planning	0.902	08
Financial Performance	0.745	03
Total Questionnaire Paragraphs	0.913	11

Source: Prepared by the authors

As shown in the table, the consistency of the questionnaire sections is high, exceeding the commonly accepted threshold of 0.60. Since Cronbach's alpha for all questionnaire items is 0.913, this indicates that the study instrument demonstrates excellent reliability.

**2-2- Characteristics of the Study Sample:**

Before proceeding with the statistical analysis of the questionnaire, it was necessary to describe the study sample using personal data. In this regard, we focused on the respondents' years of experience and educational qualifications, as we believe these factors are important for ensuring the quality of the responses provided by the target sample. Based on this perspective, the sample data can be summarized as follows:

**Table 3: Results of the Study Sample**

Statement	characteristics	Percentages	Frequency
Educational Level	Non- University	%8,7	06
	University	%91,3	63
Experience	Less than 5 years	%14,5	10
	5 to 15 years	%60,9	42
	More than 15 years	%24,6	17

Source: Prepared by the authors

We observe that the distribution of the study sample by educational level shows that the majority of respondents, 91.3%, hold a university degree, while the remaining 8.7% have a non-university level of education. This indicates the efforts of the banks under study to attract highly educated personnel. These percentages also suggest the credibility of the respondents' answers, given their level of educational and professional culture.

Regarding work experience, the largest group of respondents falls within the 5 to 15 years category, accounting for 60.9%, followed by those with more than 15 years of experience at 24.6%, and finally the less than 5 years category at 14.5%. This distribution indicates that the banks under study aim to recruit new staff while also retaining experienced employees to benefit from their expertise.

**3-The Use of Exploratory Factor Analysis in Extracting the Study Factors of the Banks Under Study:**

In this part we aim to use the tools of exploratory factor analysis (EFA) to extract the underlying factors explaining the changes in Strategic financial planning indicators and financial performance. We adopt the principal component method as a means of integrating items with acceptable correlations into factors with sufficient explanatory power, thereby providing a theoretical basis for testing these relationships in the next stage using confirmatory factor analysis (CFA).

**3-1- Extracting the Underlying Factors for the Strategic financial planning Index:**

As previously discussed, the Strategic Financial Planning Index consisted of eight items, as shown in Appendix 1, designed to measure the extent to which strategic financial planning is applied in the banks under study. These items assess aspects such as resource optimization, departmental coordination, reliance on financial analysis, clarity of objectives, market competitiveness, use of advanced accounting systems, stakeholder relationships, and the measurement of plan success. Using exploratory factor analysis, the following results were obtained:

**Table 4: Correlation Matrix of the Strategic financial planning Index**

		A1	A2	A3	A4	A5	A6	A7	A8
Correlation	A1	1,000	,462	,539	,504	,495	,614	,595	,586
	A2	,462	1,000	,509	,570	,539	,509	,587	,528
	A3	,539	,509	1,000	,659	,635	,532	,521	,557
	A4	,504	,570	,659	1,000	,512	,560	,630	,540
	A5	,495	,539	,635	,512	1,000	,436	,608	,549
	A6	,614	,509	,532	,560	,436	1,000	,631	,579
	A7	,595	,587	,521	,630	,608	,631	1,000	,611
	A8	,586	,528	,557	,540	,549	,579	,611	1,000
Meaning (one-sided)	A1		,000	,000	,000	,000	,000	,000	,000
	A2	,000		,000	,000	,000	,000	,000	,000
	A3	,000	,000		,000	,000	,000	,000	,000
	A4	,000	,000	,000		,000	,000	,000	,000
	A5	,000	,000	,000	,000		,000	,000	,000
	A6	,000	,000	,000	,000	,000		,000	,000

A7	,000	,000	,000	,000	,000	,000	,000	,000
A8	,000	,000	,000	,000	,000	,000	,000	,000

has. Determinant = .012

Source: Prepared by the authors using SPSS 23

The determinant of the correlation matrix is 0.012, a value substantially different from 0 (above 0.00001), indicating the absence of multicollinearity (i.e., no linear dependence between rows or columns).

From the correlation matrix, it can be observed that there is a moderate and significant correlation (at the 1% significance level) between the items of the Strategic financial planning Index, exceeding the threshold of 0.436. This allows for the possibility of combining the aforementioned items into a factor that explains the behavior of the Strategic financial planning Index.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicates that the correlations are strong, with a value of 0.905, showing that the sample size is sufficient to perform factor analysis.

Bartlett's test of sphericity also indicates that the correlation matrix differs significantly from the identity matrix, as summarized in the following table:

**Table 5: KMO and Bartlett's Test for the Strategic financial planning Index**

Kaiser-Meyer-Olkin index for measuring sampling quality.	,905
Bartlett sphericity test	287,984
Khi-deux approx.	
Ddl	28
Meaning	,000

Source: Prepared by the authors using SPSS 23

The MSA scale shows that the correlation of each variable with other variables is sufficient for the analysis, as shown by the anti-image diagonal cells exceeding the threshold of 0.862, as shown in the following table:

**Table 6: Anti-Image Matrix of Correlation and Variance for the Strategic financial planning Index**

		A1	A2	A3	A4	A5	A6	A7	A8
Covariance anti-image	A1	,494	-,001	-,061	,003	-,027	-,129	-,071	-,094
	A2	-,001	,537	-,013	-,092	-,085	-,049	-,068	-,057
	A3	-,061	-,013	,409	-,162	-,164	-,055	,059	-,048
	A4	,003	-,092	-,162	,426	,028	-,042	-,106	-,020
	A5	-,027	-,085	-,164	,028	,460	,059	-,121	-,060
	A6	-,129	-,049	-,055	-,042	,059	,461	-,104	-,072
	A7	-,071	-,068	,059	-,106	-,121	-,104	,377	-,063
	A8	-,094	-,057	-,048	-,020	-,060	-,072	-,063	,478
Anti-image correlation	A1	,929a	-,001	-,135	,006	-,056	-,270	-,165	-,194
	A2	-,001	,946a	-,028	-,192	-,172	-,099	-,151	-,112
	A3	-,135	-,028	,862a	-,387	-,377	-,126	,151	-,108
	A4	,006	-,192	-,387	,893a	,064	-,095	-,265	-,045
	A5	-,056	-,172	-,377	,064	,874a	,128	-,290	-,127
	A6	-,270	-,099	-,126	-,095	,128	,911a	-,250	-,154
	A7	-,165	-,151	,151	-,265	-,290	-,250	,890a	-,148
	A8	-,194	-,112	-,108	-,045	-,127	-,154	-,148	,947 a

Source: Prepared by the authors using SPSS 23

The communality values indicate that there is sufficient factor saturation for analysis, as all values exceed 0.560. Therefore, the selected items are well represented by the extracted factors, as presented in the following table:

**Table 7: Communalities Values of the Strategic financial planning Index**

	Initials	Extraction
A1	1,000	,585
A2	1,000	,560
A3	1,000	,626
A4	1,000	,634
A5	1,000	,579
A6	1,000	,603
A7	1,000	,691
A8	1,000	,626

Source: Prepared by the authors using SPSS 23

Referring to Table 8, which presents the explained variance of the extracted factors from the items used, and applying the Kaiser criterion (which requires eigenvalues to exceed 1), it can be concluded that for the Strategic financial planning Index, one factor (latent variable) was extracted. This factor accounts for 61.301% of the common variance among the items, with an eigenvalue of 4.904, indicating that the extracted factor explains approximately five times more variance than a single item could explain on its own.

**Table 8:** Explained Variance of the Extracted Factors of the Banks Studied Based on the Strategic financial planning Index

Component	Initial eigenvalues			Amounts extracted from the load square		
	Total	% Variance	Cumulative %	Total	% Variance	Cumulative %
1	4,904	61,301	61,301	4,904	61,301	61,301
2	,662	8,270	69,572			
3	,543	6,788	76,360			
4	,514	6,423	82,783			
5	,407	5,086	87,869			
6	,393	4,916	92,785			
7	,351	4,386	97,171			
8	,226	2,829	100,000			

Source: Prepared by the authors using SPSS 23

**3-2- Extracting the Underlying Factors to Interpret the Financial Performance Index:**

As previously discussed, the Financial Performance Index (FPI) consisted of three items, as shown in Appendix 1, through which the financial performance of the banks under study can be measured. These items assess aspects such as the balance between liquidity and profitability, improvement of asset quality.

**Table 9:** Correlation Matrix of the Financial Performance Index

		B1	B2	B3
Correlation	B1	1,000	,545	,452
	B2	,545	1,000	,502
	B3	,452	,502	1,000
Meaning (one-sided)	B1		,000	,000
	B2	,000		,000
	B3	,000	,000	

has. Determinant = .494

Source: Prepared by the authors using SPSS 23

From the correlation matrix, it can be observed that there is a moderate and significant correlation (at the 1% significance level) between the items of the Financial Performance Index (FPI), exceeding the threshold of 0.45. This allows the aforementioned items to be combined into a single extracted factor that explains the behavior of the financial performance indicator.

The determinant of the correlation matrix is 0.494, a value substantially different from 0 (greater than 0.00001), indicating the absence of multicollinearity (i.e., no linear dependence between rows or columns).

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy indicates that the correlations are acceptable, with a value of 0.684, showing that the sample size is sufficient to perform factor analysis.

Bartlett's test of sphericity also indicates that the correlation matrix differs significantly from the identity matrix, as shown in the following table:

**Table 10:** KMO and Bartlett's Tests for the Financial Performance Index

Kaiser-Meyer-Olkin index for measuring sampling quality.		,684
Bartlett sphericity test	Khi-deux approx.	46,666
	Ddl	3
	Meaning	,000

Source: Prepared by the authors using SPSS 23

The MSA (Measure of Sampling Adequacy) scale indicates that the correlation of each variable with the others is sufficient for factor analysis, as reflected by the anti-image diagonal values, all exceeding the threshold of 0.657, as presented in the following table:

**Table 11:** Anti-Image Matrix of Correlation and Variance for the Financial Performance Index

	B1	B2	B3
--	----	----	----

Covariance anti-image	B1	,660	-,264	-,168
	B2	-,264	,621	-,226
	B3	-,168	-,226	,703
Anti-image correlation	B1	,685a	-,412	-,246
	B2	-,412	,657a	-,342
	B3	-,246	-,342	,720a

Source: Prepared by the authors using SPSS 23

As shown in Table 12, there is sufficient factor saturation for analysis, with all values exceeding 0.626. Therefore, the selected items are well represented by the extracted factors.

Table 12: Community Values of the Financial Performance Index

	Initials	Extraction
B1	1,000	,666
B2	1,000	,708
B3	1,000	,626

Source: Prepared by the authors using SPSS 23

Using the Kaiser criterion (which requires eigenvalues to exceed 1), it can be concluded that for the Financial Performance Index (FPI), one factor (latent variable) was extracted. This factor accounts for 66.679% of the common variance among the items, with an eigenvalue of 2.000, indicating that the extracted factor explains approximately twice as much variance as a single item could explain on its own.

Table 13: Explained Variance of the Extracted Factors of the Banks under Study Based on the Financial Performance Index

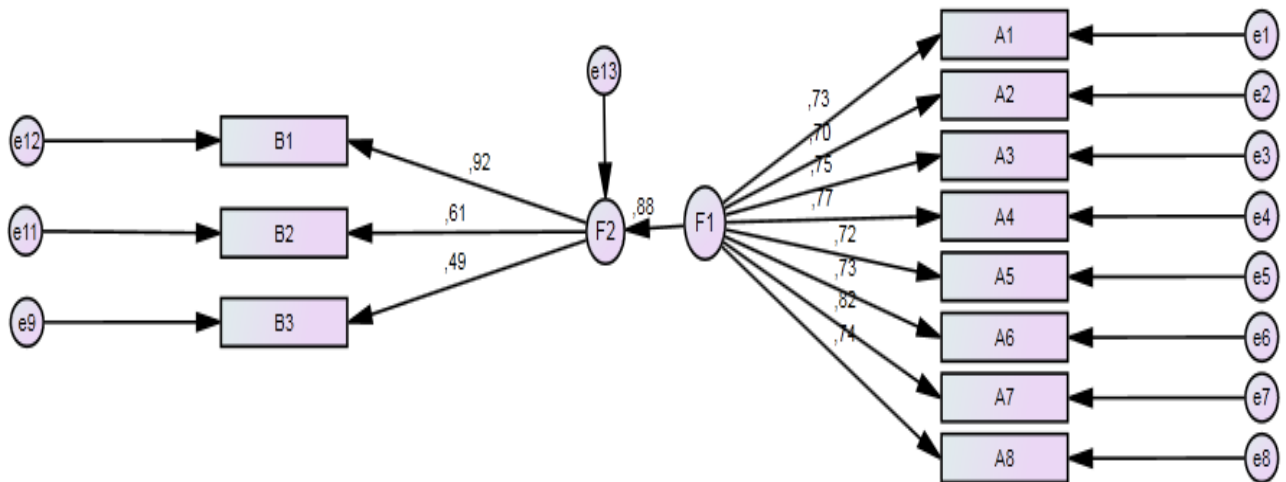
Component	Initial eigenvalues			Amounts extracted from the load square		
	Total	% Variance	Cumulative %	Total	% Variance	Cumulative %
1	2,000	66,679	66,679	2,000	66,679	66,679
2	,553	18,446	85,126			
3	,446	14,874	100,000			

Source: Prepared by the authors using SPSS 23

**4- Using Confirmatory Factor Analysis to Extract the Study Factors of the Banks Under Study:**

Confirmatory Factor Analysis (CFA) represents the final stage of factor analysis, in which the results obtained from exploratory factor analysis (EFA) are validated. Modifications may be applied as necessary to develop the final model that explains the relationships between the extracted indicators, using AMOS 23 software.

Figure 1: Proposed Structural Model of the Relationship between the Strategic financial planning Index and the Financial Performance Index of the Banks under Study



Source: Prepared by the authors based on AMOS 23 results

4-1- Estimating the Structural Model of the Study Indicators:

Table 14: Estimation of the Structural Model of the Relationship between the Strategic financial planning Index and the Financial Performance Index of the Banks under Study

	Estimate	S.E.	C.R.	P	Label
F2 <--- F1	,566	,153	3,691	***	
A1 <--- F1	1,000				
A2 <--- F1	1,530	,268	5,702	***	
A3 <--- F1	1,464	,238	6,147	***	
A4 <--- F1	1,304	,206	6,337	***	
A5 <--- F1	1,182	,201	5,875	***	
A6 <--- F1	1,618	,271	5,976	***	
A7 <--- F1	1,183	,174	6,796	***	
A8 <--- F1	1,162	,190	6,101	***	
B3 <--- F2	1,000				
B2 <--- F2	1,556	,437	3,561	***	
B1 <--- F2	2,476	,598	4,143	***	

Source: Prepared by the authors based on AMOS 23 results

From Table 14, it can be observed that the statistical significance of the various estimates in the structural model meets the 1% significance threshold, which necessitates, at the next stage, subjecting this model to fit indices evaluation.

Table 15: Calculated (Empirical) and Standard Fit Indices of the Model of the Relationship between the Strategic financial planning Index and the Financial Performance Index of the Banks under Study

Index Value Indicating a Fit (Typical Index Values)	Index Value	index	Pointer
Absolute Fit indice			

The Chi-square test is not statistically significant, and the degrees of freedom (df) are greater than zero	Chi-square ( $\chi^2$ ) = 56.856 Degrees of Freedom (df) = 43 Significance (p) = 0.077	Chi-square	$X^2$
The index value of the current model should be lower than the index value of the baseline (standalone) model, indicating an improvement in model fit	Current Model= 102.856 Saturated Model = 132.000 Independent (Baseline) Model= 468.781	Akaike Information Criterion	AIC
The index value of the current model is lower than that of the independent (baseline) model, which indicates a better fit of the proposed model.	CurrentModel=112.713 Saturated model =160.286 Independent Model=473.495	Brown-Caddick Criterion	BCC
The index value of the current model is lower than that of the independent (baseline) model, which confirms the adequacy of the proposed model.	Current Model=154.241 Saturated model = 279.451 Independent model = 493.356	Bayesian Information Criterion	BIC
The index value of the current model is lower than that of the independent (baseline) model, which confirms the adequacy of the proposed model.	Current Pattern=177.241 Saturated model = 345.451 Independent Model=504.356	Consistent Akaike Information Criterion	CAIC
The index value of the current model is lower than that of the independent (baseline) model, confirming the adequacy of the proposed model.	Current Pattern=1.513 Saturated model = 1.941 Independent Model=6.894	Expected Cross-Validation Index	ECVI
<b>Fit Indexes Comparative</b>			
The model fit index value of 0.966 is equal to or greater than 0.95, indicating an acceptable fit between the proposed model and the data.	0.966	Incremental Fit Index	IFI
<b>Economic Indicators Parsimonious Fit</b>			
The value must exceed 0.5 to be considered acceptable	0,682	Parsimonious Normed Fit Index	PNFI
The value must exceed 0.5 to be considered acceptable	0,754	Parsimonious Comparative Fit Index	PCFI
The value must exceed 0.5 to be considered acceptable	0,575	Parsimonious Goodness-of-Fit Index	PGFI
<b>Other indicators</b>			
Less than 0.1	0,031	Root Mean Square Residual	RMR
Less than 0.08	0,069	Root Mean Square Error of Approximation	RMSEA

**Source:** Prepared by the authors based on AMOS 23 results

As shown in Table 15, the model fit indices indicate that the proposed model demonstrates an adequate fit to the sample data, as none of the fit statistics exceeded their acceptable thresholds. The Chi-square value was 56.856 with 43 degrees of freedom, and the associated p-value (0.077) was not statistically significant, suggesting the absence of significant differences between the proposed theoretical model and the observed sample data.

These results indicate that the proposed model for measuring the relationship between Strategic financial planning and financial performance is consistent with the empirical data. Furthermore, the information-based fit indices for the current model are lower than those of the independent (baseline) model, which confirms the existence of meaningful relationships among the observed items as well as significant correlations among the underlying latent factors.

Overall, these findings support the conclusion that there is a strong correspondence between the theoretical structural model and the collected data, validating the adequacy of the proposed model.

#### 4-2- Interpretation of the Results in Light of the Estimated Structural Model of the Banks under Study:

The achievement of statistically significant relationships within the structural model both between the observed indicators and their underlying latent factors, as well as among the latent factors themselves together with the fulfillment of acceptable model fit criteria, supports the acceptance of the proposed model as an explanatory framework for the relationship between the Strategic financial planning Index and the Financial Performance Index in the banks under study.

The results of the estimated structural model indicate the existence of a strong, direct, and statistically significant causal relationship between strategic financial planning (F1) and financial performance (F2). The findings reveal that Strategic financial planning exerts a positive and significant effect on financial performance at a significance level of less than 1%. This confirms that improvements in the level of Strategic financial planning are associated with corresponding improvements in banks' financial performance, as evidenced in Table 14.

This result highlights the critical role of strategic financial planning as a core managerial and strategic tool for enhancing both the efficiency and effectiveness of banks' financial performance. A well-structured and coherent strategic financial planning system contributes to improving financial predictability, rationalizing expenditures, optimizing the allocation of resources, and achieving a balanced alignment between sources and uses of funds. These outcomes are directly reflected in key financial performance indicators such as profitability, liquidity, return on investment, and overall financial stability. Furthermore, the model demonstrates that the observed indicators used to measure each latent construct provide a strong representation of their respective theoretical concepts. With regard to Strategic financial planning, all indicators (A1–A8) exhibit positive and statistically significant regression coefficients. Among these, indicator A6 records the highest coefficient, suggesting that this dimension—potentially reflecting aspects such as long-term strategic financial planning or flexibility in financial forecasting—plays a particularly influential role in shaping the overall concept of strategic financial planning within banks. The relatively high coefficients of the remaining indicators, especially A2 and A3, further indicate that the various dimensions of Strategic financial planning jointly contribute to forming a comprehensive and coherent latent construct.

As for the financial performance construct, the indicators B1, B2, and B3 all show statistically significant factor loadings. Indicator B1 emerges as the most representative of financial performance, followed by B2 and B3, respectively. This finding suggests that these indicators—potentially capturing dimensions such as return on assets, profitability, and liquidity management efficiency—are central to assessing the overall financial performance of banks.

Regarding the overall adequacy of the model, the goodness-of-fit indices reveal an excellent level of compatibility between the proposed theoretical model and the empirical data. The Chi-square test is not statistically significant ( $p = 0.077$ ), indicating the absence of significant differences between the hypothesized model and the observed data. In addition, the remaining fit indices fall within internationally accepted thresholds: RMSEA = 0.069, RMR = 0.031, and IFI = 0.966, all of which confirm the robustness and validity of the model.

Moreover, the parsimony-related indices, including AIC, BIC, and ECVI, exhibit lower values for the current model compared to the independent (baseline) model. This indicates that the proposed model achieves a favorable balance between explanatory power and simplicity, reflecting an efficient and non-overly complex structural specification.

Based on these findings, it can be concluded that the proposed structural model possesses strong explanatory and empirical validity and provides an appropriate analytical framework for understanding the relationship between Strategic financial planning and financial performance in banks. The results underscore the importance of investing in advanced strategic financial planning tools and practices—such as accurate budgeting, scenario analysis, strategic goal setting, and financing planning—as a means of enhancing financial competitiveness, sustainability, and long-term performance. Consequently, bank management is encouraged to treat Strategic financial planning not merely as an operational management function, but as a strategic capability that directly and tangibly contributes to superior financial performance.

#### IV- Conclusion:

In the following section, the most important findings of the study are presented, the validity of the research hypotheses is assessed, and a set of practical recommendations is proposed.

#### 1-Results of the Study:

Based on the analysis conducted to address the research problem and test the study hypotheses, the following results were obtained:

##### 1-1- Exploratory Factor Analysis of the Strategic financial planning Index:

The exploratory factor analysis revealed the extraction of a single latent factor that explains 61.301% of the total common variance of the items related to the Strategic financial planning Index.

The results indicated that all items associated with Strategic financial planning are strongly and positively correlated, with correlation coefficients exceeding 0.436, reflecting a high degree of internal consistency and coherence among the items measuring this construct.

The Kaiser–Meyer–Olkin (KMO) measure reached a value of 0.905, confirming the adequacy of the sample for factor analysis. In addition, Bartlett's test of sphericity was statistically significant, indicating that the correlation matrix differs significantly from the identity matrix and further supporting the suitability of the data for factor analysis.

The communalities analysis showed that all items were well represented by the extracted factor, with communality values exceeding 0.560, confirming the explanatory power of the factor.

### 1-2- Exploratory Factor Analysis of the Financial Performance Index:

The results of the exploratory factor analysis showed that a single factor was extracted, explaining 66.679% of the common variance of the items related to the Financial Performance Index.

High correlation values among the items indicated a strong internal relationship and a coherent interpretation of financial performance within the studied banks.

The KMO value reached 0.684, indicating that the sample size is acceptable for conducting factor analysis. Moreover, Bartlett's test was statistically significant, supporting the assumption that the variables are meaningfully correlated rather than randomly distributed.

The communality values exceeded 0.626, demonstrating that the selected items adequately represent the financial performance construct.

### 1-3- Structural Model Using Confirmatory Factor Analysis:

The structural model estimated using AMOS 23 revealed that the Strategic financial planning Index (F1) has a strong, positive, and statistically significant effect on the Financial Performance Index (F2). All estimated paths exhibited critical ratio (C.R.) values greater than 2, indicating statistical significance.

In addition, the relationships between the observed items and their respective latent constructs were statistically significant, reinforcing the validity of the proposed model and confirming the existence of a meaningful relationship between strategic financial planning and financial performance in the banks under study.

### 2- Recommendations:

Based on the findings of the study, the following recommendations are proposed:

- Strengthening strategic financial planning in banks. Banks operating in the state of Bordj Bou Arreridj are encouraged to enhance the effectiveness of their Strategic financial planning systems. This can be achieved by improving long-term financial forecasting, estimating future cash flows more accurately, and periodically analyzing costs and returns to support informed decision-making.
- Review and integration of financial performance indicators. Given the strong interrelationships among financial performance indicators, banks should adopt comprehensive performance measurement frameworks that integrate financial returns with operational efficiency and service quality. These indicators should be supported by advanced analytical techniques to ensure accurate and timely performance evaluation.
- Continued application of confirmatory factor analysis. Banks are advised to continue employing confirmatory factor analysis to periodically update and validate their structural models. This will allow institutions to monitor the stability of the relationship between Strategic financial planning and financial performance and to adjust models in response to changing economic and financial conditions.
- Enhancing specialized training in financial analysis. It is recommended to provide specialized training programs for financial staff in banks, focusing on the use of statistical and analytical tools such as SPSS and AMOS. This will contribute to improving the quality of strategic financial planning and financial performance assessment practices.
- Continuous review of financial standards and practices. Banks should regularly review and update their financial standards and policies to ensure alignment with international best practices and responsiveness to the requirements of the local banking environment.

### Author Contributions

All authors contributed substantially to the conception, design, and execution of this study. **Amina Bendjeddou** conceptualized the research framework, developed the theoretical model, and supervised the overall study. **Faouzi Elhadjahmed** was responsible for data collection, empirical analysis, and the application of Structural Equation Modeling (SEM). **Assma Boudounet** contributed to the literature review, interpretation of results, and drafting and revising the manuscript. All authors reviewed and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

### Ethical Considerations

This study was conducted in accordance with generally accepted ethical standards for academic research. Data were collected through voluntary participation, and all respondents were informed of the purpose of the study. Anonymity and confidentiality of participants were strictly maintained, and no personally identifiable information was collected or

disclosed. The study did not involve experiments on human subjects or animals and therefore did not require formal ethical committee approval.

### Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

### Acknowledgements

The authors would like to express their sincere gratitude to the bank employees and managers who participated in the survey and provided valuable insights for this research. The authors also acknowledge the academic support provided by their respective universities and research laboratories, which contributed to the successful completion of this study.

### Conflict of Interest

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

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### VI- Appendices:

**Appendix1: Study Questionnaire**

Characteristic	Categories
Educational Level	University Non-University
Experience	Less than 5 Years 5 To 15 Years More than 15 Years

Questionnaire Items						
No	Item	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Strategic Financial Planning</b>						
A1	Strategic financial planning helps achieve the optimal use of the bank's financial resources					
A2	There is coordination between departments to ensure the effective implementation of the bank's financial plans.					
A3	The bank's financial management relies on financial analysis to develop future plans.					
A4	The bank's financial objectives are determined based on clear and well-thought-out criteria.					
A5	Strategic financial planning contributes to improving the bank's competitiveness in the market.					
A6	Advanced accounting software and systems are used to support the financial planning process.					
A7	Strategic financial planning contributes to improving the relationship between the bank, shareholders, and investors.					
A8	The success of financial plans is measured based on the achievement of planned financial goals.					
<b>Financial Performance</b>						
B1	Strategic financial planning contributes to balancing liquidity and profitability.					
B2	Strategic financial planning contributes to improving asset quality and reducing bad debt.					
B3	Effective strategic financial planning improves a bank's credit rating.					