



The Impact of Accounting and Financial Data Quality on Investment Decision-Making in the Economic Institution, with a Focus on Small and Medium-sized Enterprises (SMEs): A Field Study Using Statistical Methods

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Abstract:

This study aims to measure the effect of the quality of accounting and financial data and of financial analysis on investment decision-making in the Algerian economic institution. To achieve the study's objectives, the descriptive-analytical approach was adopted, whereby a questionnaire was designed as the main data-collection instrument and distributed to a sample of 45 Algerian economic institutions, predominantly small and medium-sized enterprises (SMEs) (public and private economic institutions). A set of statistical and analytical methods was used to test the study's hypotheses. Descriptive statistics showed that the level of agreement on the items of the three axes was moderate, without reaching a high level in any of them, while the correlation test revealed a positive and statistically significant relationship between financial data quality and the investment decision ($r = 0.467$), and a stronger relationship between financial analysis quality and the investment decision ($r = 0.603$). The multiple linear regression model also demonstrated its explanatory power, explaining 38% of the variance in investment-decision efficiency ($F = 13.01$, $p < 0.05$), and it was found that the quality of financial analysis is the strongest-effect variable in this model, surpassing the quality of the financial data itself.



Keywords: Financial statements, Accounting information quality, Financial analysis, Investment decision-making, Small and Medium-sized Enterprises (SMEs).

JEL Codes: M41; M41; G17; G31; L26.

I. General Framework of the Study

1.1 Introduction

The contemporary economic environment has witnessed radical transformations influenced by the wave of financial globalization and the development of capital markets, which has made the quality of accounting and financial information a decisive pivot in rationalizing economic decision-making. Financial data are no longer merely accounting documents prepared for tax or regulatory purposes; they have become a fundamental pillar for anyone seeking to allocate economic resources rationally and effectively, particularly in the field of investment decision-making, which is closely tied to the quality and reliability of the information available.

However, the reality of institutions reveals structural gaps in the level of financial disclosure and the quality of analysis, which negatively affects the efficiency of their investment decisions. It is from this standpoint that the present study was conceived, to measure the extent to which the quality of accounting and financial data affects the rationalization of investment decision-making, drawing on statistical tools in order to arrive at generalizable and practically applicable results.

1.2 Problem Statement

The problem of this study revolves around the following core question:

To what extent does the quality of accounting and financial data affect the efficiency of investment decision-making in the Algerian economic institution?

The following sub-questions branch out from this problem:

1. Do the financial data of the institutions under study possess the required quality characteristics (relevance, reliability, comparability)?
2. What is the level of financial-analysis practice applied to financial data in these institutions?
3. Is there a statistically significant correlational relationship between financial data quality and the efficiency of the investment decision?
4. What is the magnitude of the effect of both financial data quality and financial analysis quality on the investment decision?

1.3 Study Hypothesis

Based on the problem raised, the study proceeds from the following hypotheses:

Main hypothesis: There is a statistically significant effect of the quality of accounting and financial data on investment decision-making in the economic institution.



Hypothesis One (H1): There is a positive and statistically significant correlational relationship between financial data quality and the efficiency of the investment decision.

Hypothesis Two (H2): There is a positive and statistically significant correlational relationship between financial analysis quality and the efficiency of the investment decision.

Hypothesis Three (H3): The multiple regression model incorporating financial data quality and financial analysis quality contributes to explaining the variance in investment-decision efficiency, as judged by the F-test at a significance level of 0.05.

1.4 Study Objectives

This study seeks to achieve the following objectives:

1. Measuring the level of financial data quality in Algerian economic institutions.
2. Assessing the level of financial analysis practiced in these institutions.
3. Revealing the nature of the correlational relationship between the variables.
4. Measuring the predictive effect size of each independent variable on the dependent variable through the multiple linear regression model.
5. Providing practical recommendations for improving the quality of financial information and rationalizing the investment decision.

1.5 Significance of the Study

This study derives its significance from several aspects: on the theoretical level, it adds to the academic literature a contribution to understanding the relationship between the quality of accounting information and investor behavior in the Algerian context, which is characterized by institutional and regulatory specificity. On the applied level, the study provides empirical evidence based on real data that can be used by economic institutions, decision-makers, and the stock-exchange oversight body (COSOB) to improve the disclosure and financial-transparency system.

II. Theoretical Framework of the Study

2.1 Quality of Accounting and Financial Information

Quality is represented in the extent to which the five financial statements (the balance sheet, the income statement, the cash-flow statement, the statement of changes in equity, and the notes) are able to provide a true picture of the institution's financial position during a given period, in addition to the statutory auditor's report, which lends credibility and transparency to these data, embodying the independent assurance relied upon by the various users in assessing the reliability of the published financial information.



2.1.1 Concept of Financial Data and Their Objectives

Financial data form part of the process of preparing and issuing financial reports, and include the complete set of financial statements represented by the balance sheet, the income statement, the treasury cash-flow statement, the statement of changes in equity, and the notes, which constitute a complementary part of the financial data; they may also include additional schedules and information shown in or derived from those data (Teifour, 2017, pp. 110–111). The objectives of financial data are as follows (Teifour, 2017, p. 110):

1. Providing information on the financial position, performance, and changes in the financial position of the institution;
2. Supporting investment decisions and the granting of financial loans;
3. Studying and assessing the institution's degree of liquidity and its ability to meet its obligations, whether short- or long-term;
4. Assessing the economic resources available to the institution and evaluating the sources of these resources.

2.1.2 Qualitative Characteristics of Financial Data

In order for the financial data contained in financial reports to be reliable, they must possess the qualities and characteristics that make them useful and trustworthy for sound investment decision-making. These characteristics are divided into fundamental qualitative characteristics and secondary characteristics.

a. Fundamental Qualitative Characteristics

Relevance: Relevance expresses the ability of accounting information to change and influence the decision of the information user, and in order to remain useful and relevant for timely decision-making, this quality entails that the information possess predictive ability and reliability, i.e., that the appropriate timing of the financial data is an important matter for the attribute of relevance (Khasawneh, 2011, pp. 33–34).

Reliability (Dependability): This is the degree to which accounting information is free of material errors and bias, while at the same time representing a faithful and honest depiction of the information. The reliability of information is necessary for users in order to make sound decisions (Khasawneh, 2011, p. 34). For accounting information to be reliable and dependable, it must possess the following qualities:

1. Verifiability and validity;
2. Neutrality.



Dependability: The user of accounting information can rely on it in making decisions if it is free from errors and bias, i.e., if it was measured and presented in accordance with sound accounting bases and standards.

b. Secondary Qualitative Characteristics

The secondary characteristics that financial data must possess are comparability and consistency (Tarek, 2015, p. 67).

Comparability: This characteristic is one of the most important characteristics that enable users of financial reports to carry out comparisons in order to evaluate available alternatives and make a rational decision. This process requires following the same measurement and presentation methods across financial statements in order to identify the institution's strengths and weaknesses, and comparison is carried out at two levels.

Consistency: The characteristic of consistency requires following the same methods and techniques in measurement and presentation operations, which enables the user of financial data to carry out and facilitate the comparison process and make a sound decision.

2.2 Financial Analysis

Financial analysis represents the link between raw financial data and the requirements of decision-making, relying on an integrated system of tools including: liquidity ratios, profitability ratios, financial-balance indicators, financial leverage, and cash-flow-statement analysis, in addition to the use of advanced statistical methods such as factor analysis and regression analysis to forecast future performance, estimate risk, and identify the institution's strengths and weaknesses.

2.2.1 Definition of Financial Analysis

Financial analysis is defined as: “the study of financial statements after classifying them and using quantitative methods, with the aim of revealing the correlations among their elements and the changes occurring in these elements, the magnitude and effect of these changes, and deriving a set of indicators that help study the institution's operational and financing situation and evaluate the performance of these institutions, as well as providing the necessary information to the interested parties in order to make sound managerial decisions” (Melikaoui, 2018, p. 219).

2.2.2 Stages of Financial Analysis

The most important stages for carrying out financial analysis are as follows (Al-Shanti et al., 2010, pp. 138–143):



Preparation stage:

This is a fundamental and important stage that affects the process of carrying out the financial analysis and its outputs; at this stage the financial analyst carries out the following steps:

1. Determining the objective of the analysis, since it is on this basis that many subsequent steps, such as determining the method of analysis, are decided.
2. Determining the scope of the analysis — will it cover one institution or more? Will the analysis cover a single year or several years? This step affects the financial data that must be gathered and prepared for the financial analysis.
3. Gathering the data and information necessary for the analysis, since the more complete this stage, the more thoroughly all of the intended objectives are achieved.

Analysis stage:

At this stage, the data and information that were gathered are processed in a way that serves the objectives of the analysis, following these steps:

1. Reclassifying and categorizing the data, through which the financial analyst's task is facilitated and accurate results that achieve the intended objectives are reached.
2. Selecting the appropriate analytical tool, requiring consistency and harmony between the chosen tool and the objectives of the financial analysis on the one hand, and between the tool and the available data on the other.
3. Identifying deviations and their causes, which helps the financial analyst recognize the performance of the institution targeted by the analysis; these deviations may be positive or negative and are tracked, with their causes investigated and the related factors studied in order to address them.

Conclusions and recommendations stage:

This is the final stage of financial analysis and it carries great importance, since through it the user of the financial analysis is presented with the most important conclusions and facts reached by the analyst, done by writing a dedicated report following these guidelines:

1. Simplicity and clarity in presenting the facts and conclusions reached by the analysis;
2. Conciseness and focus on matters related to the objectives of the analysis;
3. Proposing the necessary solutions and recommendations.

2.3 The Investment Decision

2.3.1 Concept of Investment Decision-Making

The investment decision is considered one of the most important and most difficult decisions taken by the financial management of an institution, since the process of exchanging a current certain



benefit for future benefits is a decision that carries a degree of risk. It is that conscious choice among the alternatives available in a given situation, given that the essence of the decision is the uncertainty arising from the existence of multiple alternatives; it is therefore considered a critical management process, and the decision-maker finds himself amid three conditions (Al-Shayeb, 2009, pp. 35–36):

1. State of certainty: The ideal condition for decision-making, owing to knowledge of the available alternatives, the circumstances surrounding them, their results, and the objectives sought by the investor.
2. State of risk: A condition in which the decision-maker has partial and incomplete information when estimating the probability of the results being achieved.
3. State of uncertainty: A condition of unavailability of information about the probabilities, alternatives, their results, and their probability distributions; here decision-making relies on the nature of the conjectures on the basis of which future returns are estimated.

The investment decision is also considered the product of either conflict or harmony between the decision-maker's personal profile on the one hand and the state of the market on the other, given that determining future demand will shape the investor's choice, comparing the marginal efficiency of capital with its cost or with the market's average performance; accordingly, aggregate investment increases as long as capital goods exist in the market (Berr et al., 2018, p. 21).

2.3.2 Key Determinants of the Investment Decision

The investment policy in an economic institution determines the procedures and rules necessary for making the optimal investment decision that achieves the greatest possible return while taking into account the risk entailed, which the decision-maker takes into consideration when choosing the investment alternative in a manner that achieves the institution's objectives. The most important determinants of the investment decision are the return, which represents the net profit achieved by the investment instrument, and the risk resulting from the possibility of the return not being achieved, which is measured and assessed relying on statistical and quantitative methods to gauge the degree of risk under conditions of uncertainty. The relationship linking return and risk for the investment instrument is a direct one: the higher the return, the higher the risk. In this section we will address investment return and investment risk.

2.4 Theoretical Approaches Explaining the Relationship Between Financial Information Quality and the Investment Decision

This section addresses three main theoretical approaches that explain, each from its own angle, the reason for the importance of financial information quality and its analytical processing in



rationalizing the investment decision, and which together form the conceptual framework on which the study's hypotheses were built.

2.4.1 Agency Theory

Jensen & Meckling (1976) formulated agency theory based on the assumption of the existence of a contractual relationship between two parties: the investor or owner (the principal) and the agent (the manager), whereby the former delegates to the latter the management of his resources. The agency problem arises when the manager possesses a degree of information not available to the investor; the manager may act in a way that serves his own interest at the expense of the investor's interest, or the investor may make a suboptimal investment decision for lack of an accurate picture of the institution's true financial position. This theory accordingly highlights the pivotal role played by the quality of financial disclosure in narrowing this informational gap, which constitutes the theoretical basis for Hypothesis One (H1) of this study, positing the existence of a positive correlational relationship between financial data quality and the efficiency of the investment decision (Jensen & Meckling, 1976).

2.4.2 Signaling Theory

This theory assumes that well-performing institutions disclose additional information beyond the mandatory minimum, with the aim of sending a positive signal to the market that distinguishes them from weaker-performing institutions that lack a similar incentive to disclose. Financial disclosure quality thus becomes in itself an indicator that the investor relies on to infer the institution's actual situation. This approach provides an explanation complementary to agency theory, since it highlights the strategic and voluntary dimension of disclosure quality, not merely the mandatory regulatory dimension (Spence, 1973).

2.4.3 Information Processing View

This approach rests on the idea that raw financial data, however accurate and reliable, carry no decision value in themselves. Beaver's (1968) pioneering study laid an empirical foundation for this idea, demonstrating that trading volume and return volatility in the market rise markedly around annual earnings announcements, which is explained by the fact that investors and analysts receive the raw accounting information and then process it and reprice their assets on the basis of it, such that financial analysis constitutes the necessary link between the availability of data and the quality of the decision built upon it (Beaver, 1968). This approach provides the theoretical basis for Hypothesis Two (H2), which links financial analysis quality with the efficiency of the investment decision, and it also anticipates, before the field results are presented, the possible



superiority of the explanatory effect of financial analysis over the direct effect of the data quality alone, which the study will test statistically in the applied section.

2.5 Financial Information Quality and Investment Decision-Making in Small and Medium-sized Enterprises (SMEs)

Small and medium-sized enterprises occupy a distinctive position within this theoretical debate, since the informational and organizational specificities that characterize them accentuate the issues raised by agency theory, signaling theory, and the information processing view. Unlike large listed companies, SMEs are generally subject to lighter accounting and disclosure obligations, often rely on simplified accounting systems, and rarely have a dedicated financial analysis department, a condition of informational opacity that widens the gap between the owner-manager and external stakeholders such as investors and banks (Berger & Udell, 1998), and reinforces the agency problem described by Jensen and Meckling (1976). Furthermore, the limited human and technical resources available to these enterprises constrain their ability to produce financial data possessing the qualitative characteristics of relevance, reliability, and comparability, and just as often limit their capacity to process this data through structured financial analysis, which, according to the information processing view, is precisely what transforms raw figures into a genuine decision-making tool. Consequently, the investment decision within SMEs tends to rely more heavily on the owner-manager's personal judgment and experience than on formalized financial analysis, which increases the relative weight of uncertainty and risk in this category of institution compared with listed companies. This specificity of SMEs, present within the Algerian economic fabric alongside the listed and unlisted institutions covered by the study sample, reinforces the relevance of examining the relationship between financial information quality and investment decision efficiency, and opens a promising avenue for future research focused specifically on this category of institutions.

III. Study Methodology

3.1 Study Population and Sample

The study population consists of Algerian economic institutions active in various production and service sectors. The study sample included 45 economic institutions, with respondents carefully selected from among employees and officials at three main managerial levels: the accounting and finance department, the financial analysis department, and senior management, in order to ensure the accuracy and soundness of the data gathered on the investment decision-making process.



3.2 Study Instrument

The study relied on a questionnaire specially designed for this purpose, comprising three main axes:

1. The first axis: The quality of financial data extracted from financial reports — 10 items, from (FINAN01) to (FINAN10).
 2. The second axis: The financial-analysis process applied to financial data — item (11) from ANA_FINA, V26_A to V35_A.
 3. The third axis: The investment decision-making process — item (16) from DEC01 to DEC16.
- A three-point scale (3 = Yes, 2 = Neutral, 1 = No) was used to answer all items, which is consistent with the nature of the questions posed in the context of exploratory studies of Algerian institutions.

3.3 Study Variables

The study includes the following variables:

1. Independent variables: financial data quality (average of FINAN01–FINAN10) and financial analysis quality (average of ANA_FINA, V26_A–V35_A).
2. Dependent variable: investment-decision efficiency (average of DEC01–DEC16).

3.4 Statistical Methods Used

The study relied on the following statistical methods: descriptive statistics, arithmetic mean, standard deviation, coefficient of variation, and the reliability test of the instrument via Cronbach's alpha coefficient; Pearson correlation analysis; and multiple linear regression to measure the predictive effect. The statistical processing was carried out using the Python environment with the NumPy and SciPy libraries.

IV. Study Results and Analysis

4.1 Validity and Reliability Test of the Study Instrument

Before proceeding to analyze the results, the study verified the reliability of the questionnaire via Cronbach's alpha coefficient, for each axis and for the questionnaire as a whole.

Table (1): Cronbach's Alpha Coefficients for the Study Axes

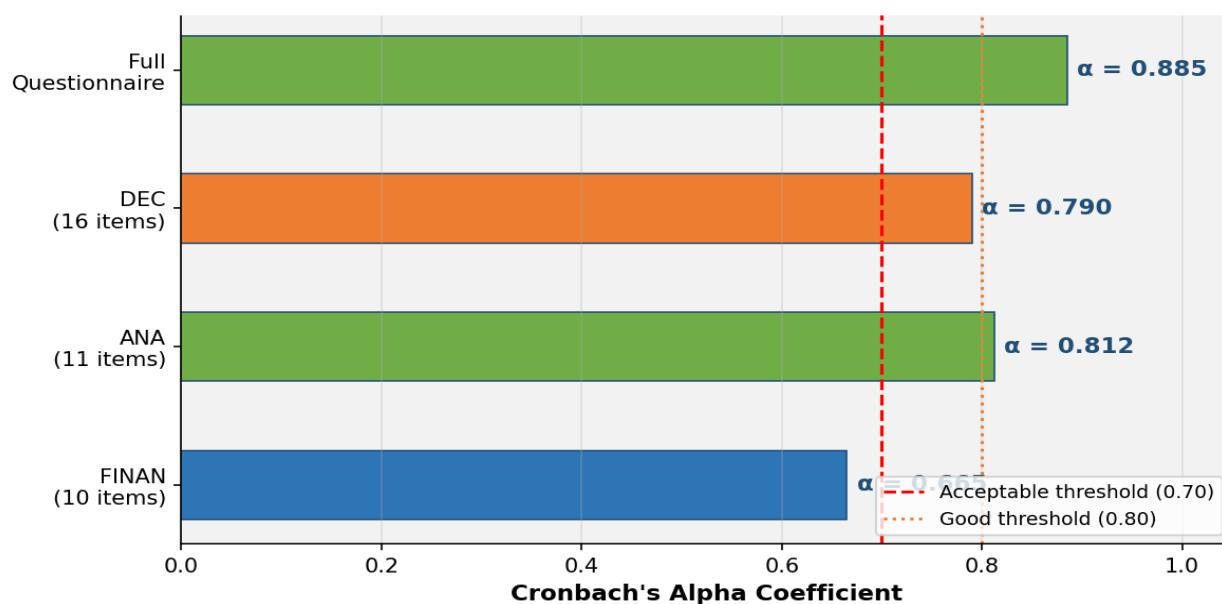
Axis	Number of Items	Sample Size	Cronbach's Alpha	Confidence Level
Financial Data Quality (FINAN)	10	45	0.665	Acceptable
Financial Analysis Quality (ANA)	11	45	0.812	Very Good



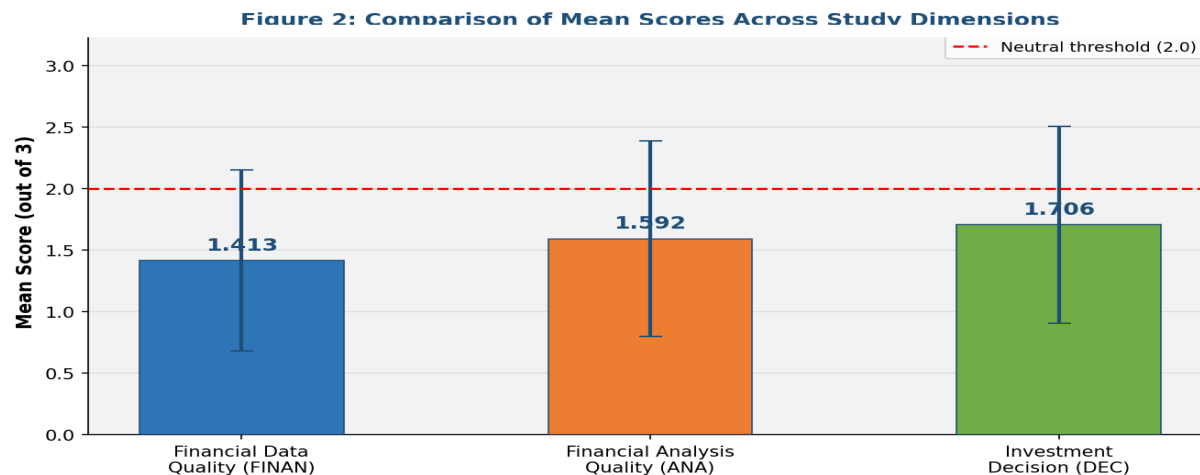
Axis	Number of Items	Sample Size	Cronbach's Alpha	Confidence Level
Investment Decision (DEC)	16	45	0.79	Good
Full Questionnaire	37	45	0.885	Very Good

Figure (1): Cronbach's Alpha Coefficients for the Study Axes

Figure 1: Cronbach's Alpha Reliability Coefficients



The results in Table (1) indicate that the alpha coefficient for the overall questionnaire reached 0.885, a very good level exceeding the acceptable threshold (0.70) and revealing high internal consistency. The coefficients of the sub-axes vary: the financial-analysis axis coefficient reaches 0.812 (very good), the investment-decision axis 0.79 (good), while the financial-data-quality axis records a coefficient of 0.665 (acceptable), which calls for a cautious reading of this axis's results.

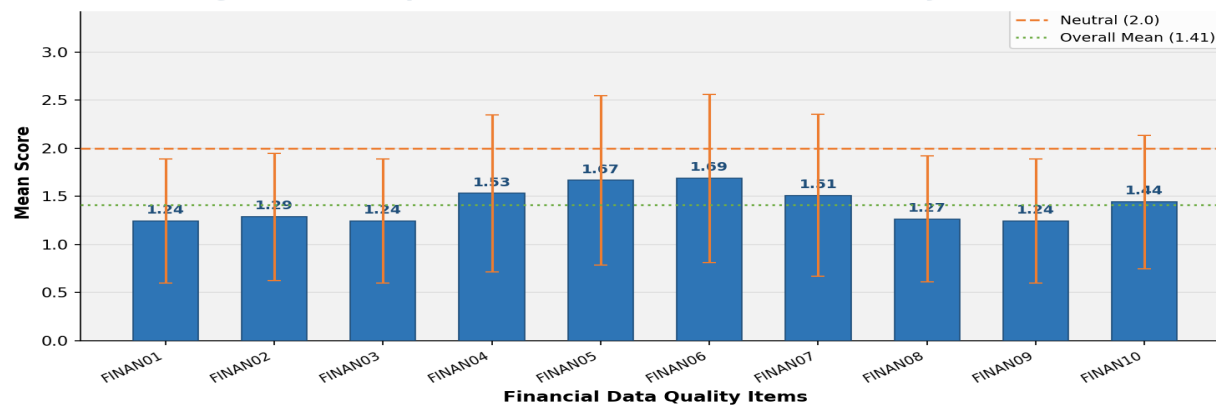
**Figure (2): Comparison of the Arithmetic Means of the Study Axes****Descriptive Statistics for the Financial Data Quality Axis****Table (2): Descriptive Statistics for the Items of the Financial Data Quality Axis**

No.	Item	N	Mean	Std. Dev.	Coeff. of Variation %	Rank
1	Relevance and reliability	45	1.244	0.645	51.8%	8
2	Comparability and consistency	45	1.289	0.661	51.3%	6
3	Final balance sheet	45	1.244	0.645	51.8%	9
4	Income statement	45	1.533	0.815	53.1%	3
5	Treasury liquidity statement	45	1.667	0.879	52.7%	2
6	Statement of changes in equity	45	1.689	0.874	51.8%	1
7	Notes	45	1.511	0.843	55.8%	4
8	Statutory auditor's report	45	1.267	0.654	51.6%	7
9	Accounting information system	45	1.244	0.645	51.8%	10
10	Financial analysis department	45	1.444	0.693	48.0%	5
Overall Mean		45	1.413	0.735	—	—

Figure (3): Descriptive Statistics for the Items of the Financial Data Quality Axis



Figure 3: Descriptive Statistics - Financial Data Quality (FINAN)



In the financial data quality axis it is observed that the weakest item was “the accounting information system,” with a mean of 1.244 and a standard deviation of 0.645, while the item “statement of changes in equity” ranked first with a mean of 1.689. This gap is not a passing detail: the weakness of the accounting information system specifically affects the very structure on which the rest of the financial data are built, and this may subsequently be reflected in the quality of the analysis extracted from them. Overall, the axis's total mean did not exceed 1.413 out of 3, a figure that falls slightly below the midpoint of the scale and reflects clear reservation on the part of respondents in evaluating this dimension.

Descriptive Statistics for the Financial Analysis Axis:

Table (3): Descriptive Statistics for the Items of the Financial Analysis Axis

No.	Item	N	Mean	Std. Dev.	Coeff. of Variation %	Rank
1	Diagnosis of the financial position	45	1.400	0.720	51.4%	9
2	Identifying strengths and weaknesses	45	1.378	0.777	56.4%	10
3	Use of financial statements	45	1.622	0.834	51.4%	5
4	Statistical and mathematical methods	45	1.600	0.751	46.9%	6
5	Financial indicators	45	1.333	0.674	50.6%	11
6	Financial ratios – performance	45	1.511	0.815	54.0%	8
7	Financial-balance indicators	45	1.556	0.841	54.1%	7



No.	Item	N	Mean	Std. Dev.	Coeff. of Variation %	Rank
8	Financial ratios – liquidity	45	1.844	0.903	49.0%	1
9	Income-statement analysis	45	1.711	0.920	53.8%	4
10	Cash-flow analysis	45	1.733	0.837	48.3%	3
11	Recourse to an external office	45	1.822	0.650	35.7%	2
Overall Mean		45	1.592	0.793	–	–

Unlike the data axis, the financial analysis axis showed a somewhat higher level in respondents' evaluation, with an overall mean of 1.592. Notably, the highest-rated item was “financial ratios – liquidity,” with a mean of 1.844, which is quite logical, since liquidity ratios are among the simplest financial-analysis tools to compute and use, unlike more complex methods such as factor analysis, which require deeper analytical expertise. It can therefore be said that the surveyed institutions show an interest in practicing financial analysis that exceeds their interest in ensuring the quality of the data underlying this analysis.

Descriptive Statistics for the Investment Decision Axis:

Table (4): Descriptive Statistics for the Items of the Investment Decision Axis

No.	Item	N	Mean	Std. Dev.	Coeff. of Variation %	Rank
1	Comprehensiveness of the investment policy	45	1.467	0.815	55.5%	12
2	Timing of the investment decision	45	1.356	0.743	54.8%	16
3	Reliance on financial data	45	1.467	0.786	53.6%	13
4	Data quality and decision efficiency	45	1.822	0.614	33.7%	6
5	Internal data only	45	2.044	0.852	41.7%	1
6	Outputs of financial analysis	45	1.800	0.869	48.3%	7
7	Estimating return and risk	45	1.667	0.853	51.2%	9
8	Return and risk as determinants	45	1.667	0.853	51.2%	10



No.	Item	N	Mean	Std. Dev.	Coeff. of Variation %	Rank
9	Quantitative assessment of return and risk	45	1.667	0.905	54.3%	11
10	Trade-off between alternatives	45	2.022	0.753	37.3%	2
11	Personal judgment and intuition	45	1.711	0.757	44.3%	8
12	Verification of results	45	1.911	0.793	41.5%	4
13	Risk and uncertainty	45	1.889	0.935	49.5%	5
14	Expected-value criterion	45	1.933	0.809	41.8%	3
15	Optimism/pessimism criterion	45	1.467	0.726	49.5%	14
16	Follow-up on decision implementation	45	1.400	0.751	53.6%	15
Overall Mean		45	1.706	0.801	—	—

It is observed in this axis that the item “reliance on internal data only” ranked first, with a mean of 2.044 — a result that is difficult to read optimistically: an institution's reliance exclusively on its internal sources, without recourse to sectoral comparisons or external information, limits its ability to place its investment decision in a broader context. Conversely, the item “timing of the investment decision” fell to last place with a mean of 1.356, suggesting a weakness in linking the investment decision to its optimal timing. Nevertheless, this axis recorded the highest overall mean among the three study axes (1.706).

Correlation Analysis Among the Axes:

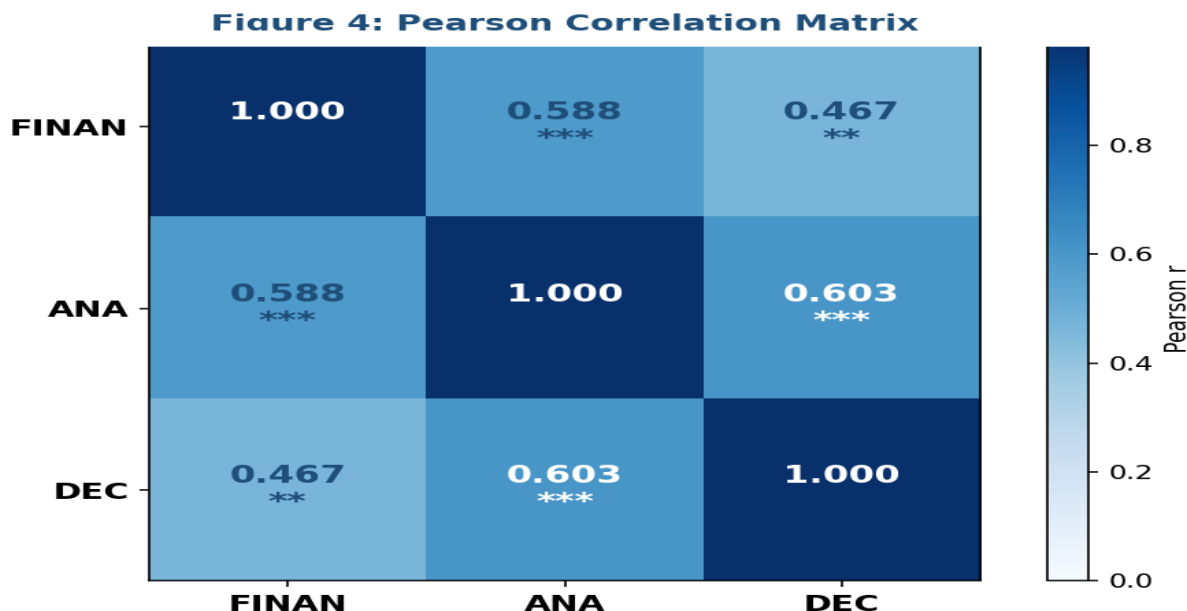
Table (5): Correlation Matrix Among the Study Axes (Pearson Coefficient)

Axis	Financial Data Quality	Financial Analysis Quality	Investment Decision	Significance
Financial Data Quality	1.000	0.588***	0.467**	Significant**
Financial Analysis Quality	0.588***	1.000	0.603***	Significant**
Investment Decision	0.467**	0.603***	1.000	—

** Correlation is statistically significant at the 0.01 level



Figure (4): Correlation Matrix Among the Study Axes



Pearson correlation analysis showed positive and statistically significant relationships among all three study axes, as theoretically expected. Referring to Cohen's (1988) criterion for classifying correlation strength (weak below 0.3, moderate between 0.3 and 0.5, strong above 0.5), the results can be read as follows:

1. The correlation coefficient between financial data quality and investment-decision efficiency reached $r = 0.467$, a moderate correlation close to the upper bound, statistically significant at $p = 0.001$, which establishes the existence of a significant positive relationship between the two variables and confirms acceptance of Hypothesis One (H1).
2. The correlation coefficient between financial analysis quality and investment-decision efficiency rose to $r = 0.603$, a strong correlation by Cohen's criterion, statistically significant at $p < 0.001$, confirming that financial analysis represents the stronger predictor of investment-decision efficiency and establishing acceptance of Hypothesis Two (H2).
3. The financial-data-quality and financial-analysis-quality axes are also strongly correlated with each other ($r = 0.588$, $p < 0.001$), reflecting the organic functional interdependence between the quality of inputs and the quality of processing, a matter that will be explained in light of the regression-model results.

Multiple Linear Regression Analysis:

In order to measure the predictive effect of each independent variable on investment-decision efficiency, a multiple linear regression analysis was carried out according to the following model:



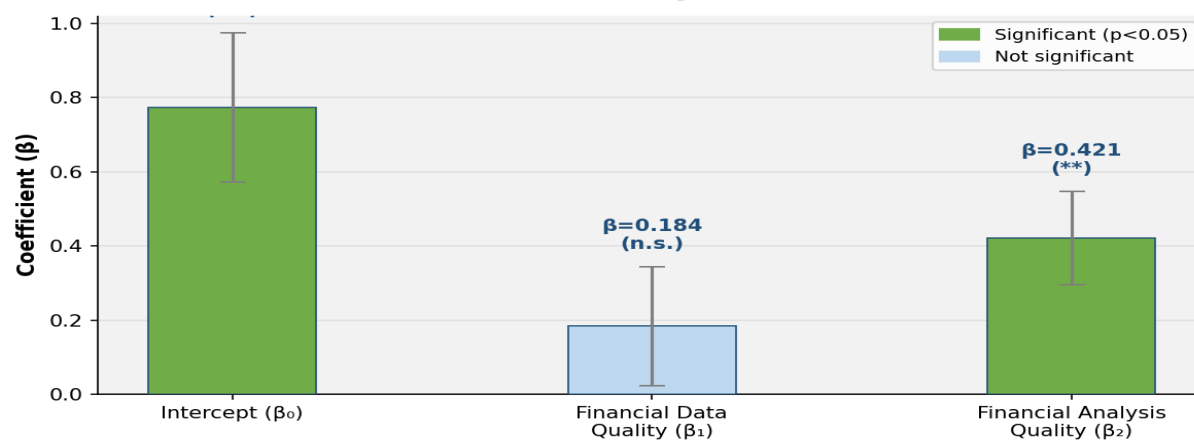
$$\text{Investment Decision} = \beta_0 + \beta_1 (\text{Financial Data Quality}) + \beta_2 (\text{Financial Analysis Quality}) + \varepsilon$$

Table (6): Multiple Linear Regression Results

Variable	Coefficient β	Standard Error	t value	Significance Level	Decision
Constant	0.774	0.201	3.857	0.0004	Significant*
Financial Data Quality	0.184	0.16	1.152	0.2558	Not significant
Financial Analysis Quality	0.421	0.126	3.343	0.0018	Significant*

* Statistically significant at the 0.05 level

Model fit: $F = 13.01$, significance level = 0, $R^2 = 0.383$, adjusted $R^2 = 0.353$.

Figure 5: Multiple Regression Coefficients

Since the correlation between the two independent variables reached 0.588, a correlation that is not weak, it was necessary to verify the absence of severe multicollinearity before relying on the regression results. The variance inflation factor (VIF) test showed a value of 1.528 for both variables, far from the commonly recognized critical threshold (10), which allows the regression-model results to be accepted without reservation on this count. The results of Table (6) can now be read:

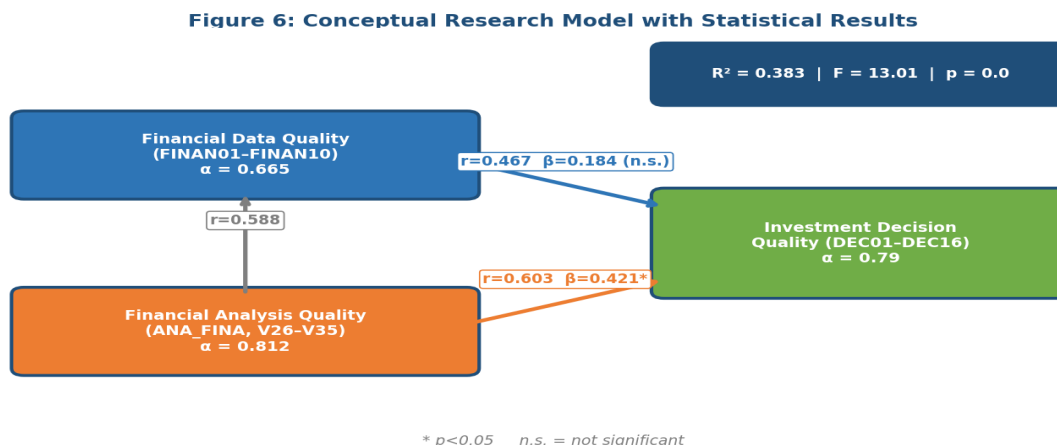
1. Regarding the model as a whole, the coefficient of determination reached $R^2 = 0.383$ and the adjusted $R^2_{adj} = 0.353$, meaning that financial data quality and financial analysis together explain about 38% of the variance in investment-decision efficiency. This proportion may be modest compared with the standards of the natural sciences, but it remains acceptable in the field of management and finance studies, where a large number of factors not directly measurable come into play. The F-test reached 13.01 with high statistical significance ($p < 0.001$), which establishes that the model as a whole has real explanatory power that is not due



to chance, and leads to the acceptance of Hypothesis Three (H3). The remaining 62% is likely attributable to factors not covered by the study, such as institutional characteristics or the personal traits of the decision-maker.

2. As for the financial data quality variable, it recorded a coefficient of $\beta = 0.184$, which did not reach the level of statistical significance in the multiple model ($t = 1.152$, $p = 0.256$). This result should not be read as indicating an absence of effect of financial data: Table (5) showed a significant correlation between it and the investment decision ($r = 0.467$) when tested individually. The closest explanation is that the relatively high correlation between the two independent variables ($r = 0.588$) “absorbed” part of the independent explanatory power of data quality in favor of financial analysis when both were entered together in the model — a behavior well known in multiple regression whenever two independent variables share in explaining a common portion of the variance. Settling the nature of this relationship, and whether the effect of data quality actually passes through financial analysis as a mediating variable, requires a dedicated statistical test not addressed by this study, which the researcher recommends as a direction for future research.
3. In contrast, the financial analysis quality variable emerged as the strongest predictor in the model ($\beta = 0.421$, $t = 3.343$, $p = 0.002$), a clear statistical significance even at the 0.01 level. In practical terms, this means that every one-degree increase in financial analysis quality, holding data quality constant, corresponds to an increase of about 0.421 in investment-decision efficiency. This result is consistent with the idea that financial data, however accurate, do not automatically translate into a rational decision; the real value stems from the processing and interpretation carried out by the financial analyst, which transforms the raw figure into a usable indicator for decision-making.

Figure (6): The Study's Conceptual Model with Statistical Results





V. Discussion of Results and Recommendations

5.1 Discussion of Results

The most important finding revealed by the regression results in this study is not merely the existence of an effect of financial information quality on the investment decision, but the disparity in the weight of this effect: financial analysis ($\beta = 0.421$) clearly outweighs the data quality itself ($\beta = 0.184$) in its predictive power. In other words, the availability of good financial data alone is not sufficient to guarantee a rational investment decision, unless these data are translated through an actual analytical practice. This finding largely intersects with what Biddle et al. (2009) found regarding the link between financial-reporting quality and investment efficiency and the reduction of the risk of over- or under-investment, and is consistent with the findings of Chen et al. (2011) regarding the role of disclosure quality in enabling investors to estimate the true value of assets. The difference is that the present study adds to this literature a feature specific to the Algerian context: the relationship between information and decision quality does not appear to be direct so much as it passes through an analytical mediator that appears decisive.

It is also worth noting that Cronbach's alpha for the financial-data axis was relatively lower (0.665) compared with the financial-analysis (0.812) and investment-decision (0.790) axes. Although it remains within acceptable bounds, this difference may be attributed to the fact that the concept of “financial data quality” is broader and more abstract from the respondent's perspective compared with analysis practices or decision-making steps, which may explain greater variation in the understanding of the items. This observation supports the researcher's recommendation to adopt a five-point Likert scale instead of the three-point one in future studies, given the finer gradation it allows in responses.

The study, like any field work, is not free of a number of limitations that should be taken into account when generalizing its results. The first is the sample size and type: only 45 Algerian economic institutions, although diverse between those listed on the Algiers Stock Exchange and those unlisted (public and private), a size that calls for caution when generalizing the results to a broader population of institutions. The second is the nature of the scale adopted: the three-point scale used, while suitable for the nature of an exploratory sample, remains less sensitive in capturing response variation compared with the five-point scale common in the literature. The third is that the proposed model explains only 38% of the variance in investment-decision efficiency, leaving a wide margin for other mediating or moderating variables not tested in this study, which could be the subject of future research. The fourth is that Cronbach's alpha for the financial-data-quality axis came out relatively low (0.665), constituting a limitation of the measurement instrument used, which calls for taking into account the differences in financial structures between listed and unlisted institutions in the Algerian environment when generalizing the results of this axis specifically.



5.2 Recommendations

In light of the study's findings, the following is recommended:

1. Strengthening the independence of financial-analysis departments within institutions and equipping them with qualified human competencies and modern analytical tools, since financial analysis proved to be the strongest predictor of investment-decision quality.
2. Working to raise the level of financial disclosure in Algerian institutions and developing the oversight system supervised by COSOB, to ensure that published financial statements reflect a true picture of the actual financial situation.
3. Encouraging institutions to invest in advanced accounting information systems capable of producing timely and accurate financial data, while ensuring their integration with Business Intelligence reporting-analysis tools.
4. Incorporating systematic institutional financial analysis into the requirements for listing and continued listing on the Algiers Stock Exchange.
5. Designing support programs tailored to small and medium-sized enterprises (SMEs) to help them adopt simplified but reliable accounting systems and gain access, whether internally or through external offices, to basic financial-analysis competencies, given their limited resources compared with large institutions.
6. It is recommended that future studies broaden the sample scope to include a greater number of unlisted institutions in the Algerian environment, in order to enhance the ability to generalize the results to a broader population of economic institutions.

Conclusion:

This study set out from a fundamental question regarding the extent to which the quality of accounting and financial data affects the efficiency of investment decision-making in the Algerian economic institution, and the empirical results drawn from a sample of 45 institutions yielded a set of conclusions:

First, the financial data of the surveyed institutions show a notable deficiency in one of their qualitative characteristics specifically, reflected in the low reliability coefficient of this axis (0.665) compared with the other two axes. This disparity is not a mere passing figure: the relatively strong correlation between data quality and analysis quality (0.588) suggests that the weakness of data inputs transmits its effect to the outputs of financial analysis itself, which in turn is reflected in the ability of these data to guide the investment decision in the required manner.

Second, the practice of financial analysis is characterized by a relatively acceptable level, yet it remains below the hoped-for strategic level that would make analysis a permanent pillar of decision-making.



Third, the regression model established that financial analysis quality is the primary predictor of investment-decision efficiency ($\beta = 0.421$, $p < 0.05$), while the model as a whole contributes to explaining 38% of the variance in the dependent variable, a proportion of significance in the field of management and finance studies.

Taken together, these results confirm that all three of the study's hypotheses were validated without exception: a positive and significant relationship between financial data quality and the investment decision was established (H1), a stronger relationship between financial analysis quality and the investment decision (H2), and the multiple regression model demonstrated statistically significant explanatory power (H3). However, the acceptance of all three hypotheses does not mean their weights are equal: the weight of financial analysis quality in explaining the investment decision exceeded the weight of data quality itself, and it is precisely on this basis that the study builds its recommendations.

The study concluded that the relationship between the quality of accounting information and the investment decision does not proceed along a direct straight line, but rather passes through a fundamental analytical mediator — institutional financial analysis. Accordingly, any strategy aimed at rationalizing the investment decision should adopt an integrated approach combining the improvement of disclosure quality with the development of financial-analysis capabilities within the institution.

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