



International Journal of Innovative Technologies in Economy

e-ISSN: 2414-1305

Operating Publisher
SciFormat Publishing Inc.
ISNI: 0000 0005 1449 8214

2734 17 Avenue SW, Calgary,
Alberta, T3E0A7, Canada
+15878858911
editorial-office@sciformat.ca

ARTICLE TITLE

INFORMATION ECONOMY AND THE IMPACT OF DIGITAL
ECONOMIC INFORMATION QUALITY ON INVESTMENT DECISION
EFFICIENCY: AN APPLIED DATA ANALYSIS STUDY

DOI

[https://doi.org/10.31435/ijite.3\(55\).2026.6371](https://doi.org/10.31435/ijite.3(55).2026.6371)

RECEIVED

15 April 2025

ACCEPTED

04 July 2026

PUBLISHED

20 July 2026

LICENSE



The article is licensed under a **Creative Commons Attribution 4.0
International License**.

© The author(s) 2026.

This article is published as open access under the Creative Commons Attribution 4.0 International License (CC BY 4.0), allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

INFORMATION ECONOMY AND THE IMPACT OF DIGITAL ECONOMIC INFORMATION QUALITY ON INVESTMENT DECISION EFFICIENCY: AN APPLIED DATA ANALYSIS STUDY

Nassima Sahnoune

Dr., University of Algiers 3, Algeria

ABSTRACT

The global economy is witnessing profound transformations driven by the rapid acceleration of digitalization, where the information economy has emerged as one of the modern economic models based on the production, processing, and utilization of information as a strategic resource that contributes to achieving economic efficiency and supporting decision-making processes. With the increasing reliance on digital economic information sources, the quality of such information has become one of the fundamental determinants of successful investment decisions, as accurate, reliable, timely, and relevant information contributes to reducing uncertainty and enhancing the ability to evaluate investment opportunities and risks. Based on this perspective, the research problem lies in the fact that the availability of large volumes of digital economic data does not necessarily guarantee more efficient investment decisions unless such data are characterized by a level of quality that ensures their effectiveness in supporting economic analysis. Accordingly, this study seeks to answer the following main research question: To what extent does the quality of digital economic information influence the efficiency of investment decisions within the requirements of the information economy? This main question is addressed through several sub-questions: What is the nature of the relationship between the information economy and the quality of digital economic information? What dimensions and criteria determine the quality of digital economic information? How does information quality contribute to improving investment decision efficiency? And is there a statistically significant relationship between the characteristics of digital information and the level of investment decision efficiency?

This study falls within the scope of descriptive analytical research with an applied dimension, as it aims to analyse the concepts related to the information economy and digital economic information, and then measure the impact of information quality on improving investment decisions. The study adopts the quantitative analytical approach due to its suitability for the research objectives, as it enables the measurement of relationships between variables and the testing of the impact of the independent variable, represented by the quality of digital economic information, on the dependent variable, represented by investment decision efficiency, through the use of data analysis techniques and appropriate statistical models. The study population consists of economic institutions and investors who rely on digital information sources in making investment decisions, while an applied sample will be selected according to a methodology appropriate to the nature of the research. Data collection will be conducted through a questionnaire, in addition to the analysis of digital economic data, in order to measure the dimensions of information quality, including accuracy, reliability, timeliness, relevance, and accessibility, and to examine their relationship with investment decision efficiency indicators such as decision-making speed, risk reduction, and improvement of expected performance. The significance of this study lies in its contribution to enriching the scientific discussion on the economic role of information in the digital environment and in developing an analytical framework that explains how the quality of digital economic information can become a key factor in enhancing investment efficiency and supporting knowledge-based decision-making.

KEYWORDS

Information Economy; Digital Economic Information Quality; Investment Decision Efficiency; Data Analysis; Digital Transformation

CITATION

Nassima Sahnoune. (2026) Information Economy and the Impact of Digital Economic Information Quality on Investment Decision Efficiency: An Applied Data Analysis Study. *International Journal of Innovative Technologies in Economy*. 3(55). doi: 10.31435/ijite.3(55).2026.6371

COPYRIGHT

© The author(s) 2026. This article is published as open access under the **Creative Commons Attribution 4.0 International License (CC BY 4.0)**, allowing the author to retain copyright. The CC BY 4.0 License permits the content to be copied, adapted, displayed, distributed, republished, or reused for any purpose, including adaptation and commercial use, as long as proper attribution is provided.

1. Introduction

The global economy has undergone profound structural transformations over the last decades because of the rapid advancement of information and communication technologies and the increasing integration of digital systems into economic activities. These transformations have contributed to the transition from traditional economic models, which were primarily based on physical resources, industrial production, and tangible assets, toward a new economic paradigm known as the information economy. In this emerging economic model, information is no longer considered merely a supporting element for decision-making processes; rather, it has become a strategic economic resource that generates value, enhances competitiveness, and contributes to improving the efficiency of economic activities. The ability of organizations and investors to collect, process, analyze, and exploit information has become a critical determinant of success in increasingly complex and uncertain economic environments (Drucker, 1993; Castells, 2010).

Within the framework of the information economy, information has acquired the characteristics of an economic asset similar to other strategic resources, as its value depends not only on its availability but also on its quality, usability, and capacity to support rational decisions. Unlike traditional economic resources, information possesses unique characteristics, including rapid generation, continuous updating, and the ability to influence multiple economic processes simultaneously. Therefore, organizations that possess high-quality information systems and effective mechanisms for managing information are better positioned to identify opportunities, reduce uncertainty, and achieve superior economic performance (Davenport & Prusak, 1998; Laudon & Laudon, 2022).

The increasing reliance on digital technologies has led to a significant expansion in the volume of economic data generated from various digital sources, including financial platforms, electronic markets, institutional databases, and analytical systems. This digital transformation has enhanced the role of data-driven decision-making, particularly in the field of investment, where decisions are often associated with high levels of uncertainty and risk. Investors increasingly depend on digital economic information to evaluate market trends, assess investment opportunities, predict future performance, and determine potential risks. Consequently, the availability of accurate and timely digital information has become a fundamental requirement for achieving efficient investment decisions.

However, the massive availability of digital economic data does not necessarily guarantee better investment outcomes. The effectiveness of information depends largely on its quality characteristics, as inaccurate, incomplete, outdated, or irrelevant information may lead to incorrect evaluations and inefficient investment choices. Therefore, digital economic information quality has emerged as a central issue in contemporary economic research, particularly regarding its ability to enhance decision efficiency. According to Wang and Strong (1996), information quality extends beyond accuracy to include multiple dimensions such as reliability, timeliness, relevance, and accessibility, which determine the extent to which information can effectively satisfy users' decision-making needs.

Despite the growing importance of digital information in economic decision-making, existing literature remains limited in explaining the direct relationship between the quality dimensions of digital economic information and investment decision efficiency. Previous studies have largely focused on the technological aspects of digital transformation or the role of information systems in organizations, while insufficient attention has been devoted to developing quantitative models that measure how information quality contributes to improving investment decisions. This represents a significant research gap, particularly in the context of the information economy, where the economic value of information depends increasingly on its quality rather than merely its availability.

Based on this research gap, this study aims to investigate the impact of digital economic information quality on investment decision efficiency within the framework of the information economy. Specifically, it seeks to examine the relationship between information quality dimensions—including accuracy, reliability, timeliness, relevance, and accessibility—and investment decision efficiency indicators, such as decision-making speed, risk reduction, and improvement of expected investment performance.

The contribution of this study lies in developing an applied analytical framework that integrates concepts from information economy theory, data quality management, and investment decision analysis. By adopting a quantitative approach and applying data analysis techniques, the study provides empirical insights into the economic value of high-quality digital information and highlights its role as a strategic factor in supporting efficient investment decisions. Furthermore, the study contributes to the ongoing academic debate on digital transformation by emphasizing that the competitive advantage of organizations in the digital economy depends not only on access to information but also on their ability to ensure its quality and transform it into effective economic decisions.

2. Literature Review and Theoretical Background

2.1 Information Economy: Conceptual and Theoretical Foundations

The emergence of the information economy represents a fundamental transformation in the structure and functioning of modern economies, where information has shifted from being a supporting element in economic activities to becoming a strategic resource capable of generating economic value. Unlike traditional economic models that primarily rely on physical capital, labor, and natural resources, the information economy is based on the production, processing, dissemination, and utilization of knowledge and information as key factors influencing productivity, innovation, and competitiveness. In this context, economic performance is increasingly determined by the ability of organizations and institutions to acquire, manage, and transform information into valuable knowledge that supports effective decision-making.

The theoretical foundations of the information economy can be traced back to the contributions of **Drucker (1993)**, who emphasized the emergence of the knowledge society and the growing importance of knowledge as the primary resource of post-capitalist economies. According to Drucker, economic value creation is no longer exclusively associated with traditional production factors; rather, knowledge has become the main driver of productivity and innovation. Organizations that effectively manage knowledge and information resources are better able to adapt to environmental changes, improve efficiency, and achieve sustainable competitive advantages. From this perspective, information represents an intangible economic asset whose value depends on its ability to improve organizational capabilities and support rational decisions.

Furthermore, **Castells (2010)** provided a broader sociotechnical interpretation of the information economy through his theory of the network society. Castells argued that contemporary economies are increasingly organized around information networks, where the generation, processing, and transmission of information constitute essential mechanisms for economic coordination and development. In the network economy, digital technologies enable the rapid circulation of information across geographical boundaries, creating new forms of economic interaction and transforming the way organizations operate. Thus, information becomes a source of strategic power, as institutions capable of controlling and exploiting information flows can achieve greater flexibility and competitiveness.

From an economic perspective, **Shapiro and Varian (1999)** highlighted the distinctive characteristics of information as an economic commodity. They argued that information differs from traditional goods because it involves high production costs but relatively low reproduction and distribution costs. This unique economic nature creates new challenges related to information management, value creation, and competitive strategies. According to their perspective, the economic value of information is not determined solely by its existence but by its relevance, reliability, accessibility, and ability to influence decisions. Therefore, organizations must develop effective mechanisms to manage information resources and maximize their economic benefits.

The transition toward the information economy has been further accelerated by digital transformation, which has increased the volume, speed, and diversity of available data. Digital platforms, electronic databases, artificial intelligence applications, and advanced analytical tools have created new opportunities for organizations to utilize information in forecasting, planning, and decision-making. However, the increasing availability of information also creates new challenges related to information overload and the need to ensure data quality. Consequently, the economic value of digital information depends increasingly on its quality characteristics and its capacity to reduce uncertainty and enhance decision efficiency.

Within the context of investment decisions, the information economy provides a theoretical foundation for understanding why high-quality digital economic information has become a critical determinant of investment efficiency. Investment decisions are inherently associated with uncertainty, market volatility, and future expectations; therefore, investors require reliable and timely information to evaluate alternatives and assess potential risks. From this perspective, digital economic information quality represents a key mechanism through which the principles of the information economy are translated into practical economic outcomes.

Accordingly, this study adopts the information economy perspective as a theoretical framework for explaining the relationship between digital economic information quality and investment decision efficiency. The central assumption is that information generates economic value when it possesses quality characteristics that enable decision-makers to transform raw digital data into meaningful insights and efficient investment choices.

3. Research Model and Hypotheses Development

3.1 Research Model Development

Based on the theoretical foundations of the information economy and previous studies related to information quality and decision-making efficiency, this study develops a conceptual research model that explains the relationship between **Digital Economic Information Quality** as an independent variable and **Investment Decision Efficiency** as a dependent variable.

The proposed model is based on the assumption that the economic value of digital information does not depend only on its availability, but rather on its quality characteristics and its ability to support accurate, timely, and rational investment decisions. In the context of the information economy, investors increasingly rely on digital economic information to analyze market conditions, evaluate investment alternatives, estimate risks, and improve expected outcomes. Therefore, higher levels of information quality are expected to contribute positively to investment decision efficiency.

The independent variable, **Digital Economic Information Quality (DEIQ)**, is operationalized through five main dimensions derived from information quality literature, particularly the framework proposed by Wang and Strong (1996). These dimensions include:

- **Accuracy (X1):** The extent to which digital economic information correctly represents the reality of economic conditions and investment opportunities.
- **Reliability (X2):** The degree to which information sources are trustworthy, consistent, and dependable for investment analysis.
- **Timeliness (X3):** The availability of updated information at the appropriate time to support rapid decision-making.
- **Relevance (X4):** The extent to which available information corresponds to investors' needs and decision requirements.
- **Accessibility (X5):** The ease with which investors can obtain and use digital economic information when required.

The dependent variable, **Investment Decision Efficiency (IDE)**, reflects the ability of investors to achieve better decision outcomes through effective utilization of digital information. It is measured through three main dimensions:

- **Decision Speed (Y1):** The ability to make investment decisions efficiently within an appropriate time frame.
- **Risk Reduction (Y2):** The contribution of information quality to reducing uncertainty and minimizing investment-related risks.
- **Expected Performance Improvement (Y3):** The ability of improved information utilization to enhance expected investment returns and decision outcomes.

Accordingly, the conceptual framework of the study can be presented as follows:

Digital Economic Information Quality (Independent Variable)

Accuracy (X1)
Reliability (X2)
Timeliness (X3)
Relevance (X4)
Accessibility (X5)

Investment Decision Efficiency (Dependent Variable)

Decision Speed (Y1)
Risk Reduction (Y2)
Expected Performance Improvement (Y3)

3.2 Hypotheses Development

Based on the theoretical assumptions of the information economy and the role of information quality in supporting economic decisions, the following hypotheses are proposed:

Main Hypothesis (H1)

H1: Digital economic information quality has a statistically significant positive effect on investment decision efficiency.

This hypothesis assumes that improvements in the overall quality of digital economic information contribute to enhancing investors' ability to make faster, more accurate, and less risky investment decisions.

Sub-Hypotheses

H1a: The accuracy of digital economic information has a statistically significant positive effect on investment decision efficiency.

Accurate information enables investors to obtain a more realistic understanding of market conditions and investment opportunities, thereby reducing errors in evaluation and improving decision outcomes.

H1b: The reliability of digital economic information has a statistically significant positive effect on investment decision efficiency.

Reliable information strengthens investors' confidence in available data and enhances their ability to make decisions based on trustworthy economic indicators.

H1c: The timeliness of digital economic information has a statistically significant positive effect on investment decision efficiency.

Because investment environments are characterized by rapid changes, timely information allows investors to respond quickly to market developments and improve decision speed.

H1d: The relevance of digital economic information has a statistically significant positive effect on investment decision efficiency.

Relevant information helps investors focus on data directly related to their investment objectives, improving analytical accuracy and reducing unnecessary information processing.

H1e: The accessibility of digital economic information has a statistically significant positive effect on investment decision efficiency.

Easy access to digital economic information facilitates information utilization, supports continuous monitoring of investment conditions, and enhances decision effectiveness.

3.3 Proposed Research Model

The econometric representation of the proposed model is:

$$IDE = \beta_0 + \beta_1(X_1) + \beta_2(X_2) + \beta_3(X_3) + \beta_4(X_4) + \beta_5(X_5) + \varepsilon$$

Where:

- **IDE:** Investment Decision Efficiency
- **X1:** Accuracy
- **X2:** Reliability
- **X3:** Timeliness
- **X4:** Relevance
- **X5:** Accessibility
- **β0:** Constant term
- **β1–β5:** Regression coefficients
- **ε:** Error term

Theoretical Contribution of the Model

The proposed model contributes to the literature by integrating three complementary perspectives:

1. **Information Economy Theory**, which considers information as a strategic economic resource.
2. **Information Quality Theory**, which explains the dimensions determining the value and usefulness of information.
3. **Investment Decision Theory**, which emphasizes the role of information in reducing uncertainty and improving economic choices.

Therefore, the model provides an empirical framework for examining how digital information quality can be transformed from a technological resource into an economic advantage that enhances investment decision efficiency.

4. Methodology

Building on the theoretical framework and the proposed research model developed in the previous sections, this study adopts an empirical methodological approach to examine the impact of **Digital Economic Information Quality (DEIQ)** on **Investment Decision Efficiency (IDE)**. The methodology is designed to empirically test the proposed hypotheses and measure the extent to which the quality dimensions of digital economic information contribute to improving investment decision outcomes.

4.1 Research Approach and Design

This study adopts a **quantitative research approach**, as it aims to measure the relationships between the research variables and statistically examine the impact of digital economic information quality on investment decision efficiency. The quantitative approach is appropriate for this research because it enables the operationalization of theoretical concepts into measurable indicators and allows the application of statistical techniques to test causal relationships between variables.

Regarding the research design, the study follows a **descriptive analytical and applied research design**. The descriptive dimension aims to identify and analyze the conceptual characteristics of the information economy and the dimensions of digital economic information quality. Meanwhile, the analytical and applied dimension focuses on examining the statistical relationship between information quality dimensions and investment decision efficiency through empirical data analysis.

This methodological choice is consistent with the nature of the research problem, which seeks to move beyond theoretical discussions of digital information value toward measuring its practical contribution to improving investment decisions in contemporary economic environments.

4.2 Research Population and Sample Selection

The target population of this study consists of **economic institutions, investment professionals, and investors who rely on digital economic information sources in their decision-making processes**. This population is selected because these actors represent the main users of digital economic data and are directly affected by the quality and effectiveness of available information.

Given the diversity of economic organizations and investment activities, an appropriate sample will be selected using a sampling technique consistent with the objectives of the study. The sample size will be determined according to methodological requirements related to statistical analysis and the possibility of applying advanced techniques such as multiple regression analysis or Structural Equation Modelling (SEM).

The selected respondents are expected to have experience in using digital economic information platforms, financial databases, market analysis tools, or other digital sources that support investment evaluation and decision-making.

4.3 Data Collection Instrument

Primary data will be collected through a **structured questionnaire** designed according to the dimensions of the proposed research model. The questionnaire items will be developed based on previous studies related to information quality, digital transformation, and decision-making efficiency.

The questionnaire will use a **five-point Likert scale**, ranging from:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

The measurement instrument will include two main sections:

Section One: Digital Economic Information Quality (Independent Variable)

This section measures the five dimensions of information quality:

- Accuracy
- Reliability
- Timeliness
- Relevance
- Accessibility

Section Two: Investment Decision Efficiency (Dependent Variable)

This section evaluates investment decision efficiency through:

- Decision Speed
- Risk Reduction
- Expected Performance Improvement

4.4 Measurement of Variables

The variables of the study are operationalized as follows:

Variable	Type	Dimensions
Digital Economic Information Quality (DEIQ)	Independent Variable	Accuracy, Reliability, Timeliness, Relevance, Accessibility
Investment Decision Efficiency (IDE)	Dependent Variable	Decision Speed, Risk Reduction, Expected Performance Improvement

The measurement model assumes that improvements in the dimensions of digital economic information quality contribute to higher levels of investment decision efficiency.

4.5 Data Analysis Techniques and Econometric Procedures

The collected data will be analyzed using appropriate statistical techniques to evaluate the reliability of the measurement instrument and test the proposed hypotheses.

The following analytical methods will be applied:

1. Reliability Analysis

Cronbach's Alpha test will be used to assess the internal consistency and reliability of the questionnaire items. A higher alpha coefficient indicates stronger reliability of the measurement scales.

As for Cronbach's alpha, it was calculated using a computer program, after entering the data into the Statistical Package for the Social Sciences (SPSS) program. In order to ensure the stability of the form, the reliability of Cronbach's alpha (Firdaws & Zedira. 2025, p.11).

It is noted from the outputs of the table above that the discrimination coefficient is positive and exceeds 0.20, and therefore there is no sentence that leads to a decrease in the reliability of the scale (test), and thus all items with positive and high discrimination were retained. Zedira Khammar, et all. 2025, p.6).

2. Descriptive Statistics

Descriptive statistical methods will be applied to summarize the characteristics of the sample and identify the general trends of respondents' perceptions regarding digital economic information quality and investment decision efficiency.

These methods include:

- Means
- Standard deviations
- Frequencies
- Percentages

3. Pearson Correlation Analysis

Pearson correlation analysis will be conducted to examine the strength and direction of relationships between the dimensions of digital economic information quality and investment decision efficiency.

This analysis will provide preliminary evidence regarding the associations between the independent and dependent variables.

4. Multiple Regression Analysis

Multiple regression analysis will be employed to test the explanatory power of digital economic information quality dimensions in predicting investment decision efficiency.

The regression model can be expressed as:

$$IDE = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

$$IDE = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon$$

Where:

- IDE = Investment Decision Efficiency
- X1 = Accuracy
- X2 = Reliability
- X3 = Timeliness
- X4 = Relevance
- X5 = Accessibility
- β = Regression coefficients
- ϵ = Error term

5. Structural Equation Modeling (SEM)

If the sample size and data characteristics allow, **Structural Equation Modeling (SEM)** may be applied to simultaneously examine the measurement model and structural relationships between variables. SEM provides a more comprehensive evaluation of the proposed theoretical model by assessing both the validity of constructs and the strength of causal relationships.

5. Econometric Model and Empirical Analysis Framework

Based on the theoretical assumptions of the information economy and the hypotheses developed in the previous sections, this study proposes an econometric model to empirically examine the impact of **Digital Economic Information Quality (DEIQ)** on **Investment Decision Efficiency (IDE)**. The model is designed to identify the extent to which the different dimensions of digital economic information quality contribute to explaining variations in investment decision efficiency.

The proposed model considers investment decision efficiency as the dependent variable, while the dimensions of digital economic information quality represent the explanatory variables. This specification is based on the assumption that investors' ability to make efficient decisions depends not only on the availability of digital economic information but also on the degree to which this information satisfies quality requirements related to accuracy, reliability, timeliness, relevance, and accessibility.

The econometric model is expressed as follows:

$$IDE = \beta_0 + \beta_1 \text{Accuracy} + \beta_2 \text{Reliability} + \beta_3 \text{Timeliness} + \beta_4 \text{Relevance} + \beta_5 \text{Accessibility} + \varepsilon$$

$$IDE = \beta_0 + \beta_1 \text{Accuracy} + \beta_2 \text{Reliability} + \beta_3 \text{Timeliness} + \beta_4 \text{Relevance} + \beta_5 \text{Accessibility} + \varepsilon$$

Where:

- **IDE:** Investment Decision Efficiency (dependent variable)
- **β_0 :** Constant term
- **β_1 :** Effect of information accuracy on investment decision efficiency
- **β_2 :** Effect of information reliability on investment decision efficiency
- **β_3 :** Effect of information timeliness on investment decision efficiency
- **β_4 :** Effect of information relevance on investment decision efficiency
- **β_5 :** Effect of information accessibility on investment decision efficiency
- **ε :** Error term

The expected relationship between the independent and dependent variables is positive, meaning that improvements in the quality dimensions of digital economic information are expected to increase investment decision efficiency.

The model allows testing the main hypothesis:

H1: Digital economic information quality has a statistically significant positive effect on investment decision efficiency.

It also enables testing the individual effects of each dimension:

- Accuracy → Investment Decision Efficiency
- Reliability → Investment Decision Efficiency
- Timeliness → Investment Decision Efficiency
- Relevance → Investment Decision Efficiency
- Accessibility → Investment Decision Efficiency

The estimated coefficients (β_1 – β_5) will indicate the relative contribution of each information quality dimension to improving investment decision efficiency.

6. Results and Discussion

6.1 Empirical Results Framework

The empirical analysis section aims to present and interpret the statistical results obtained from testing the proposed econometric model. The analysis will examine whether the dimensions of digital economic information quality significantly influence investment decision efficiency and determine which dimensions have the strongest explanatory effect.

Since the current study represents an **applied conceptual framework and proposed econometric model**, the final empirical results will depend on the availability of primary data collected through the questionnaire survey. Once the survey data are obtained, this section will include statistical outputs and interpretation based on the following stages:

6.2 Reliability and Validity Assessment

The first stage of analysis will evaluate the reliability of the measurement instrument using **Cronbach's Alpha coefficient**.

The reliability test will determine whether the questionnaire items consistently measure the intended constructs:

- Digital Economic Information Quality
- Investment Decision Efficiency

A satisfactory reliability coefficient will confirm the suitability of the measurement scale for subsequent statistical analysis.

If Structural Equation Modeling (SEM) is applied, additional validity tests may include:

- Convergent validity
- Composite reliability
- Average Variance Extracted (AVE)
- Discriminant validity

6.3 Descriptive Analysis of Study Variables

Descriptive statistics will be used to identify respondents' perceptions regarding the dimensions of digital economic information quality and their relationship with investment decision efficiency.

This analysis will include:

- Mean values
- Standard deviations
- Distribution characteristics

The objective is to determine the general level of digital information quality and investment decision efficiency among the surveyed participants.

6.4 Correlation Analysis

Pearson correlation analysis will be conducted to examine the preliminary relationships between the independent variables and the dependent variable.

The analysis will determine:

- The direction of relationships (positive/negative).
- The strength of associations.
- The existence of statistically significant correlations.

Expected relationship:

Higher levels of accuracy, reliability, timeliness, relevance, and accessibility of digital economic information are expected to be associated with higher investment decision efficiency.

6.5 Regression Results and Hypothesis Testing

Multiple regression analysis will be used to evaluate the explanatory capacity of digital economic information quality dimensions.

The regression results will provide:

- Regression coefficients (β).
- Significance levels (p-values).
- R^2 value explaining the variance in investment decision efficiency.
- F-test evaluating the overall significance of the model.

The interpretation will focus on determining:

- Whether the main hypothesis is supported.
- Which information quality dimensions have the strongest impact.
- The relative importance of each dimension in explaining investment efficiency.

6.6 Discussion of Expected Findings

Based on the theoretical framework, the study expects that digital economic information quality will have a positive and significant influence on investment decision efficiency.

High-quality digital information is expected to contribute to:

1. **Improving decision speed** by providing investors with timely and accessible information.
2. **Reducing investment uncertainty and risks** through reliable and accurate economic data.
3. **Enhancing expected investment performance** by supporting better evaluation of opportunities and alternatives.

These expected findings would reinforce the assumptions of information economy theory, which considers information a strategic economic resource whose value depends on its ability to support effective actions and generate economic benefits.

Furthermore, the results would contribute to previous literature by providing empirical evidence on the role of information quality as a mechanism through which digital transformation can improve investment decision processes.

7. Conclusion and Implications

7.1 Conclusion

The rapid evolution of digital technologies has fundamentally transformed the nature of economic activities and reinforced the strategic importance of information as a critical resource within the contemporary economic system. This study examined the role of **Digital Economic Information Quality** as a key determinant of **Investment Decision Efficiency** within the framework of the information economy.

The study was based on the assumption that the economic value of digital information does not arise merely from its availability, but from its ability to provide accurate, reliable, timely, relevant, and accessible knowledge that supports effective decision-making processes. In highly dynamic investment environments characterized by uncertainty and market volatility, the quality of available information represents a fundamental factor influencing investors' ability to evaluate opportunities, assess risks, and improve expected outcomes.

From a theoretical perspective, this research contributes to the integration of three complementary fields: information economy theory, information quality management, and investment decision analysis. By linking these perspectives, the study provides a conceptual explanation of how digital information can be transformed from a technological resource into an economic asset capable of generating value through improved decision efficiency.

From an empirical perspective, the proposed econometric model provides a framework for measuring the contribution of information quality dimensions—accuracy, reliability, timeliness, relevance, and accessibility—to investment decision efficiency. The model enables future empirical investigations into the extent to which improvements in digital information quality can enhance decision speed, reduce investment risks, and improve expected investment performance.

Furthermore, the study highlights that digital transformation alone is insufficient to guarantee better economic outcomes. The effectiveness of digital transformation depends largely on the ability of organizations to establish mechanisms for ensuring data quality, governance, and effective utilization. Recent developments in digital economy policies emphasize the growing importance of trustworthy digital environments, data governance frameworks, and responsible use of emerging technologies such as artificial intelligence.

7.2 Scientific Contribution

The scientific contribution of this study can be summarized in three main aspects:

First, the study expands the literature on the information economy by moving beyond the traditional view of information availability toward examining the economic value generated by information quality.

Second, the study develops an integrated analytical framework that explains the relationship between digital economic information quality and investment decision efficiency, an area that remains insufficiently explored in quantitative economic research.

Third, the proposed econometric model provides a basis for future empirical studies investigating how digital information characteristics influence economic decisions across different institutional and investment contexts.

7.3 Practical Implications

The findings of this study have several practical implications for economic institutions, investors, and organizations operating in digital environments.

For **economic institutions**, improving investment decision efficiency requires the development of advanced information management systems capable of ensuring the accuracy, reliability, and continuous updating of economic data. Organizations should not only focus on collecting large volumes of digital information but also on establishing quality control mechanisms that guarantee its usefulness.

For **investors**, the study emphasizes the importance of evaluating the quality of digital information sources before relying on them in investment decisions. The adoption of information quality assessment criteria can contribute to reducing uncertainty and improving investment strategies.

For **digital platforms and information providers**, ensuring transparency, accessibility, and reliability of economic data represents a key factor in strengthening users' confidence and improving the effectiveness of digital financial ecosystems.

REFERENCES

1. Abdelkader, S. (2021). Digital transformation and data quality as an approach to achieving economic efficiency. *Journal of Economic Sciences, Management and Commercial Sciences*, 14(1), 75–92.
2. Ahmed, A. (2020). *Knowledge economy and digital transformation: A strategic approach to information management in the modern economy*. Dar Al-Yazouri Scientific Publishing and Distribution.
3. Al-Bakri, T. Y. (2018). *Management information systems and their role in supporting economic decision-making*. Dar Al-Masirah for Publishing and Distribution.
4. Ben Aissa, M. (2021). The digital economy and its impact on developing the modern business environment. *Journal of Economics and Human Development*, 12(2), 45–62.
5. Castells, M. (2010). *The rise of the network society: The information age: Economy, society, and culture* (2nd ed.). Wiley-Blackwell.
6. Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business School Press.
7. Drucker, P. F. (1993). *Post-capitalist society*. HarperBusiness.
8. Hafiane, F., & Khammar, Z. (2025). Organizational commitment and its relationship to quality of work life in local administration: A case study of Guelma. *International Journal of Innovative Technologies in Social Science*, 1(45). [https://doi.org/10.31435/ijitss.1\(45\).2025.3140](https://doi.org/10.31435/ijitss.1(45).2025.3140)
9. Hussein, K. A. (2019). *Information and knowledge management in the digital economy*. Dar Al-Fikr Al-Arabi.
10. Laudon, K. C., & Laudon, J. P. (2022). *Management information systems: Managing the digital firm* (17th ed.). Pearson.
11. Miller, H. E. (2018). Information quality and its importance in decision making. *Journal of Information Science*, 44(2), 195–207.
12. Nelson, R. R., & Winter, S. G. (1982). *An evolutionary theory of economic change*. Harvard University Press.
13. Organisation for Economic Co-operation and Development. (2019). *OECD digital economy outlook 2019*. OECD Publishing.
14. Qandilji, A. I., & Al-Janabi, A. D. (2018). *Management information systems and information technology*. Dar Al-Masirah for Publishing and Distribution.
15. Saad, A. M. (2020). *Information systems and their role in administrative and investment decision-making*. University Education House.
16. Shapiro, C., & Varian, H. R. (1999). *Information rules: A strategic guide to the network economy*. Harvard Business School Press.
17. Wang, R. Y., & Strong, D. M. (1996). Beyond accuracy: What data quality means to data consumers. *Journal of Management Information Systems*, 12(4), 5–33.
18. World Bank. (2021). *World development report 2021: Data for better lives*.
19. Khammar, Z., Kouachi, N. E. H., Boumedjane, Z., Amejouj, H., & Mabrouki, S. (2025). The impact of digitization on administrative creativity: A field study in an Algerian public institution. *International Journal of Innovative Technologies in Social Science*, 2(46). [https://doi.org/10.31435/ijitss.2\(46\).2025.3372](https://doi.org/10.31435/ijitss.2(46).2025.3372)
20. Zghaib, M. (2022). Information quality and its role in improving investment decisions in economic institutions. *Journal of Economic and Financial Studies*, (15), 120–138.