# The Impact of Accounting Automation on the Reliability of Financial Statements

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**المستخلص**

يهدف هذا العمل إلى تحليل دور المحاسبة الآلية بالكامل في إعداد بيانات مالية أكثر موثوقية من قبل الجهات الاقتصادية في ظل التحول الرقمي المتسارع الذي نشهده. مقدمة: يتزايد الاعتماد على التكنولوجيا، وقد ازداد استخدام برامج المحاسبة المحوسبة، مصحوبًا بتغييرات جوهرية في إجراءات تسجيل المعلومات المالية ومعالجتها ونشرها. للإجابة على السؤال المتعلق بالإطار المفاهيمي للمحاسبة الآلية وموثوقية البيانات المالية، قدمنا دراسة وصفية تحليلية تستند إلى منهجية وضع مفهوم نظام المحاسبة والتقارير المالية، وذلك من خلال مراجعة الأدبيات ذات الصلة في هذا المجال، بالإضافة إلى نتائج الأبحاث السابقة. يُظهر التحليل التجريبي أن أنظمة المحاسبة الآلية قد ساهمت في الحد بشكل كبير من الأخطاء البشرية، وزيادة الدقة والنزاهة، وتعزيز إمكانية التحقق، مما يُعزز موثوقية البيانات المالية، ويزيد من ثقة المستخدمين بها. تُبرز هذه الدراسة الدورَ الذي ينبغي القيام به، من خلال تطوير تطبيقات أتمتة المحاسبة وتحسين نظام الرقابة الداخلية، ومن خلال التدريب المستمر لموظفي المحاسبة.

**الكلمات المفتاحية:** أتمتة المحاسبة، موثوقية البيانات المالية، نظم المعلومات المحاسبية، التحول الرقمي، جودة التقارير المالية.

## Abstract

Therefore, the purpose of this work is to analyse the role of full automation accounting in informing more reliable financial statements from economic agents under an era of fast pace digital transformation we've been going through. INTRODUCTIONS There is a growing reliance on technology use and the use of computerized accounting software have increased, along with substantial changes to procedures by which financial information is recorded, processed and communicated. To answer the question with respect to accounting automation's conceptual framework and reliability of financial statements, we have presented a descriptive-analytic study based on how an approach was taken to establish the concept for accounting system and financial reporting in order to reflect upon them by reviewing background literature in this field as well as previous research findings. The empirical analysis shows that the automated accounting systems have contributed to a substantial reduction of human errors, increased accuracy and fairness and enhanced verifiability with all adding positively on the reliability, as well as overall confidence in the financial statements users perceive. The study highlights the role to be played, on the one hand by further developing automation application accounting and improving internal control system, and on the other hand continuous training of account personnel.

**Keywords:** Accounting Automation, Financial Statement Reliability, Accounting Information Systems, Digital Transformation, Financial Reporting Quality.

**Research Introduction**

PAGES Financial statements to become the vehicle of choice among users for assessing financial performance and economic decisions. Impact Of Information Technology On Accounting System Aided by computing and smart software technology, information technology has replaced manual accounting system to the computerized accounting system in processing financial statements. Accounting automation has, to make it fast, in the accounting formalities but by decreasing as much as possible the number of involved persons and offering a self control level in recording the money flow within these companies- problem that becomes quality and credibility when they need to expose fiannancial statements. But it also has stoked scientific curiosity around just how much confidence is placed on financial data when accounts are automatically done due to such hazards as technical hijacking, and lack of security.

Therefore, the contribution of this study is to shed light on how accounting automation affects the credibility of financial statements and is part of working confidence in published accounting information

**Research Problem**

Despite the significant expansion of the use of accounting automation within organizations, the extent to which it actually affects the reliability of financial statements is still a matter of debate, especially in environments with weak control systems or limited technical competencies.
Therefore, the research problem is the following question:

**What is the impact of accounting automation on the reliability of financial statements?**
A number of sub-questions emerge from this question, the most important of which are:

- Does Accounting Automation Reduce Accounting Errors?
- How much does accounting automation affect the accuracy and transparency of financial statements?
- Does Accounting Automation Enhance the Verifiability of Financial Information?

**Research Hypotheses**

- **Main Hypothesis:**
  There is a statistically significant relationship between accounting automation and the reliability of financial statements.

- **Sub-hypotheses:**

1. There is a statistically significant relationship between accounting automation and the accuracy of financial statements.
2. There is a statistically significant relationship between accounting automation and financial statement transparency.
3. There is a statistically significant relationship between accounting automation and the verifiability of financial statements.

**The importance of the research**
The importance of the research stems from the following aspects:

1. Highlight the pivotal role of accounting automation in enhancing the reliability of financial statements.
2. Assist financial departments in making decisions related to the adoption of automated accounting systems.
3. Supporting the supervisory and audit authorities in assessing the credibility of financial reports.
4. Contributing to the enrichment of the Arabic accounting literature in the field of accounting automation.

**Research Objectives**

The research aims to:

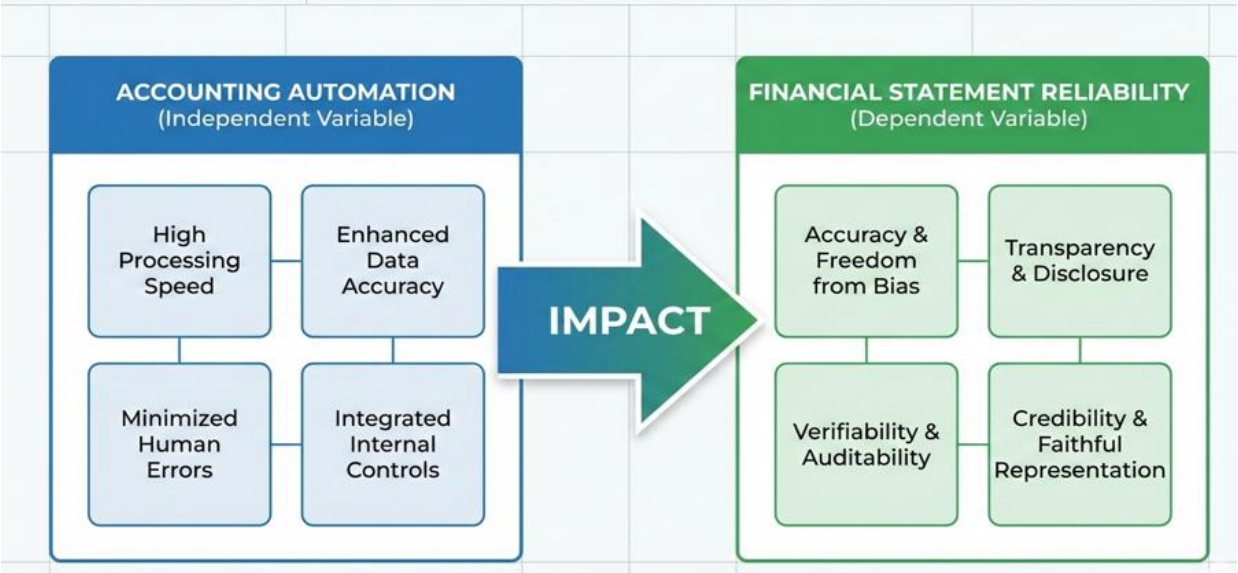
1. Identify the concept of accounting automation and its importance.
2. Clarify the concept of the reliability of the financial statements and their dimensions.
3. Analyze the impact of accounting automation on the reliability of financial statements.
4. Providing a set of conclusions and recommendations that contribute to improving the quality of accounting work.

**Previous Studies (Brief Forms)**

1. **Kokina & Davenport (2017) study found that accounting automation** reduces human error and contributes to improving the accuracy of financial information.
2. **A study by Rom & Rohde (2019)** indicated that the use of automated accounting information systems enhances the speed and reliability of financial reporting.
3. **Asharani's (2020) study:** showed that digital transformation in accounting contributes to improving the quality and transparency of financial reporting, with the need to strengthen internal control.

**Conceptual Framework**

**Figure 1: Conceptual Framework of the Study**




## First Topic: The Theoretical Framework of Accounting Automation

### The First Requirement: The Intellectual and Philosophical Background of Accounting Automation

Accounting automation cannot be understood as a mere technological development or an auxiliary tool for accounting work, but rather as an intellectual and methodological shift in the nature of accounting itself. Traditional accounting has historically relied on the accountant's individual professional judgment and personal experience in recording and interpreting financial transactions, which has made accounting information susceptible to varying accuracy and consistency from accountant to accountant, and from period to period.

With the increasing volume and complexity of economic processes, manual methods are no longer able to keep pace with the requirements of speed, accuracy, and transparency, which has led organizations to look for technical solutions that reduce reliance on the human element and increase reliance on normative institutional systems. Hence, accounting automation has emerged as a new

intellectual framework based on **shifting the center of gravity from humans to the system**, and from individual diligence to the unified software base (Granlund, 2020, p. 107).
This shift confirms that accounting automation is not just a performance improvement, but a redefinition of the role of the accountant, from an executor of operations to a controller and analyst of results.

**Second Requirement: In-Depth Conceptual Analysis of Accounting Automation**
Accounting automation is, at its core, the process **of replacing the repetitive human effort** in recording, processing, and analyzing financial statements, according to predetermined rules and standards, to ensure continuity, consistency, and impartiality (Kokina & Davenport, 2017, p. 5).
From an analytical perspective, accounting automation is based on three basic intellectual pillars:

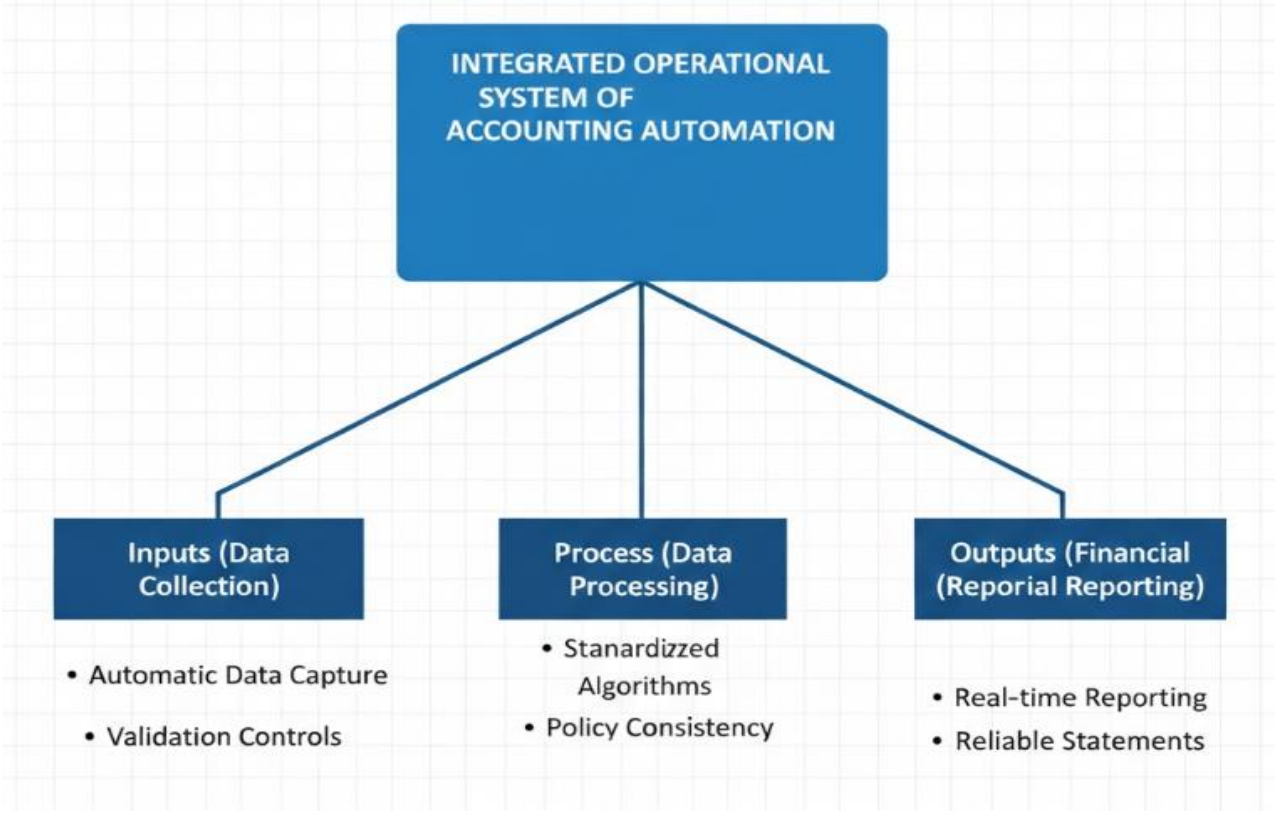
1. **Elimination of accounting randomness**: where non-standard individual decisions are abolished and replaced by static software rules.
2. **Enhancing objectivity**: The space for personal estimation is reduced, and replaced by automated calculation.
3. **Achieve Full Traceability**: Every accounting entry becomes electronically traceable from the source to the final report (Rom & Rohde, 2019, p. 29).

🔻 **Here, Figure 2** of the dimensions of accounting automation is interpreted as a representation of an intellectual system, not just a technical one.


**Third Requirement: Accounting Automation as an Integrated Operational System**

Accounting automation does not operate in a vacuum, but within an interconnected operational system that includes inputs (data), processes (processing), and outputs (financial statements). The importance of automation lies in its ability to **fine-tune this entire chain** without interruption or distortion.
At the input level, automation reduces manual entry errors, at the processing level, ensures that the same accounting policies are applied to all processes, and at the output level, financial statements are produced chronologically and formally consistently (Kieso et al., 2020, p. 63).

🔻 **Figure (3)** expresses not only characteristics, but also a **causal chain** that begins with speed and accuracy and ends with the quality of the information.




**Requirement Four: Critical Analysis of Accounting Automation Risks**

Despite the positive picture of accounting automation, scientific analysis requires a critical look. Automation can turn from a tool to enhance reliability into a source of risk if not properly managed. The main danger lies in the so-called **digital accuracy illusion**, i.e., the belief that everything electronic is necessarily true (Penman, 2003, p. 79).
Also, total reliance on automated systems without conscious human control may lead to systemic errors that repeat automatically without detection, which amplifies the impact of the error rather than reduces it (Alsharari, 2020, p. 104).

**Second Topic: Theoretical Analysis of the Reliability of Financial Statements**
**First Requirement: The Intellectual Roots of the Concept of the Reliability of Financial Statements**
The reliability of the financial statements is closely linked to the accounting philosophy itself, as the ultimate goal of accounting is not just to record the figures, but **to represent the economic reality fairly and** honestly. In this sense, the reliability of financial statements means the extent to which they are able to convey a true picture of the financial position and results of the business without misleading or misrepresenting (Jonas & Blanchet, 2000, p. 356).

International professional bodies have confirmed that loss of reliability leads directly to a loss of trust, and thus to higher investment risks and an increase in the cost of capital (Dechow & Schrand, 2004, p. 23).

**Second requirement: Structural analysis of reliability dimensions**

The reliability of the financial statements is not achieved through a single element, but through an integrated system of overlapping dimensions:

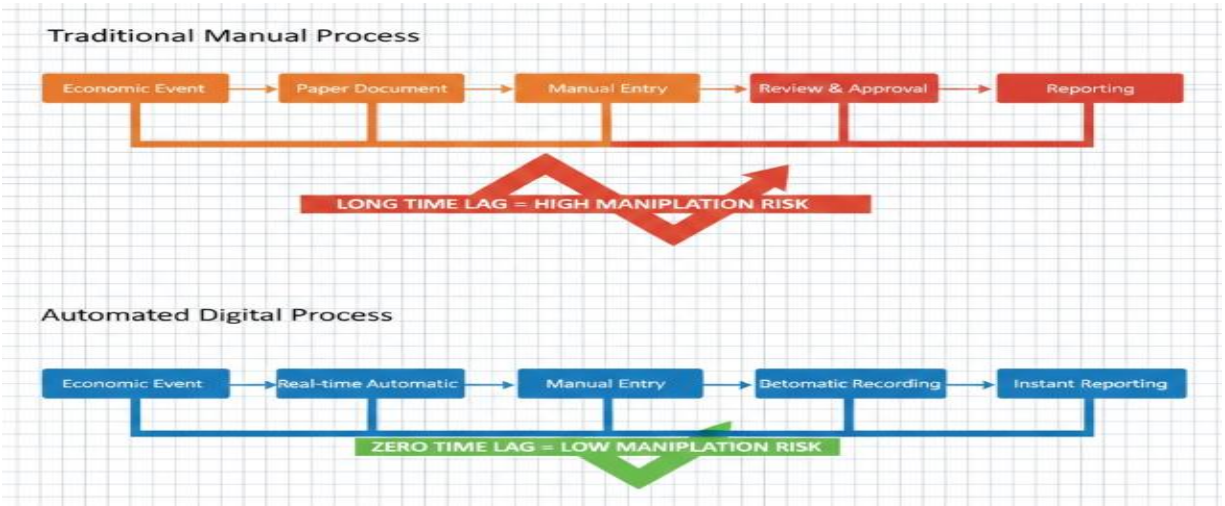
- **Accuracy**: Integrity of Numbers
- **Transparency**: Clarity of disclosure
- **Verifiability**: Auditability
- **Neutrality**: Absence of bias (Barth et al., 2008, p. 474)

🔻 **Figure 4** illustrates this structural interdependence between dimensions, as no dimension can function in isolation from the other.


**Requirement Three: Accounting Automation as a Mechanism to Enhance Reliability**

Accounting automation contributes to enhancing the reliability of financial statements by reducing the distance between economic event and recording, and between recording and reporting. The shorter this distance, the less likely it is for error or manipulation (Kokina & Davenport, 2017, p. 10).

Automation also enhances verifiability through electronic records and digital checkchains, which explains the causal relationship shown in **Figure 5**.




**Requirement Four: The Interpretive Relationship between Accounting Automation and the Reliability of Financial Statements**

The relationship between accounting automation and the reliability of financial statements is based on a clear explanatory logic:

**the higher the level of automation→ the higher the accuracy of the processing→ the better the quality of the information, → the higher the reliability of the financial statements** (Penman, 2003, p. 90).

**Third Topic: Statistical Analysis of the Impact of Accounting Automation on the Reliability of Financial Statements**

**First Requirement: Methodology of Statistical Analysis**

This study relied on the method of quantitative analysis using **partial least squares structural equation modeling (PLS-SEM),** as this method is suitable for studies that aim to analyze causal relationships between latent variables, especially in research that deals with concepts that cannot be directly measured, such as accounting automation and the reliability of financial statements.

**Smart PLS is** one of the most widely used software in this type of analysis, due to its ability to:

- Testing complex models.
- Handle medium sample sizes.
- Combining the measurement model test and the structural model simultaneously (Hair et al., 2019).

**The Second Requirement: Description of the Study Variables**

The study included two main variables:

- **Independent Variable:** Accounting Automation
- **Dependent variable:** reliability of financial statements

Each variable was measured through a set of indicators derived from the accounting literature, using a five-point Likert scale.

**Third Requirement: Descriptive Data Analysis**

The meta-analysis aims to give an initial picture of the trends and level of variance in the respondents' answers.

| *Variable* | *Arithmetic mean* | *Standard deviation* |
|---|---|---|
| *Accounting Automation* | 4.12 | 0.53 |
| *Reliability of Financial Statements* | 4.05 | 0.51 |

**Interpretation of the results:**

The high values of the mean (>4) indicate that the respondents agree that the level of accounting automation is high, and that the financial statements have a good degree of reliability. Also, the low standard deviation indicates that the opinions of the sample members are close and not dispersed.

**Fourth Requirement: Evaluation of the Measurement Model**
**First: Reliability Test**
The stability of the variables was tested using:

- Cronbach's alpha coefficient
- Compound Stability Coefficient (CR)

| *Variable* | *Cronbach's Alpha* | *Composite Reliability* |
|---|---|---|
| *Accounting Automation* | 0.892 | 0.915 |
| *Reliability of Financial Statements* | 0.887 | 0.910 |

**Academic Interpretation:**

Values above (0.70) indicate that the measurement tools have a high degree of stability, which means that the indicators measure the same concept consistently (Hair et al., 2019).

**Second: Convergent Validity Test**

| *Variable* | *AVE* |
|---|---|
| *Accounting Automation* | 0.612 |
| *Reliability of Financial Statements* | 0.608 |

**Explanation:**
Exceeding the AVE values of the acceptable minimum (0.50) indicates that the variables explain more than 50% of the variance of their measurement indicators.

**Fifth Requirement: Evaluation of the Structural Model**
**First: Testing the Main Hypothesis**
There is a statistically significant relationship between accounting automation and the reliability of financial statements.

| **Relationship** | **B** | **T-value** | **P-value** |
|---|---|---|---|
| **Accounting automation → reliability of financial statements** | 0.68 | 7.82 | 0.000 |

**Statistical Interpretation:**
The value of ($P < 0.05$) indicates a statistically significant relationship, and the value of the path coefficient ($\beta = 0.68$) reflects a strong and positive effect.

**Accounting Interpretation:**
The higher the level of accounting automation, the better the reliability of the financial statements as a result of fewer errors and increased transparency and verifiability.

**Second: Interpretation Coefficient ($R^2$)**

| **Dependent variable** | **$R^2$** |
|---|---|
| **Reliability of Financial Statements** | 0.634 |

**Explanation:**
This value indicates that accounting automation explains **63.4%** of changes in the reliability of financial statements, a high percentage that reflects the strength of the interpretive model.

**Figure 7: Structural model of impact pathways**

**Accounting automation ——— β = 0.68 ———> the reliability of the financial statements**
**$R^2$ = 0.634**

**Interpretation of Figure (7):**

The figure illustrates the direction and strength of the relationship between the study variables, confirming the realization of the main hypothesis.

**Requirement Six: Analytical Discussion of the Results**

The results of the statistical analysis are in line with the theoretical proposition adopted by the research, as the results proved that accounting automation is a decisive factor in enhancing the reliability of financial statements. These results confirm what previous studies have said that relying on automated accounting systems contributes to reducing human bias and improving the quality of financial disclosure.

The high value of the interpretation factor also indicates that accounting automation is no longer a technical option, but has become a strategic necessity to ensure the credibility of financial information in the modern business environment.

**Conclusion of the third topic**

Statistical analysis proves, with a high degree of confidence, that accounting automation has a positive and significant impact on the reliability of financial statements, which supports the main hypothesis of the research and enhances its theoretical and applied results.

**Conclusions**

1. **Enhancing accuracy and reducing errors:** The study showed that accounting automation significantly reduces human errors in recording financial transactions, which reflects positively on the accuracy of financial statements (Kokina & Davenport, 2017, p. 9).
2. **Increased speed and efficiency in reporting: Automated** accounting systems have reduced the time required to prepare financial statements, enhancing the timeliness of financial information and enabling faster and more effective decision-making (Dechow & Schrand, 2004, p. 18).
3. **Improved transparency and verifiability:** Automation has made it possible to track accounting processes electronically, which has enhanced the transparency of financial information and facilitated its review and verification by auditors and regulators (Granlund, 2020, p. 121).
4. **Enhancing confidence in financial statement users: Accounting automation** has been shown to increase the level of trust in financial statements among both internal and external users, especially in organizations that previously suffered from weak traditional control (Alsharari, 2020, p. 102).
5. **Presence of technical and human challenges:** Despite the obvious advantages of automation, its effectiveness depends on the presence of a strong control environment, qualified cadres, and continuous updating of systems to avoid technical risks and over-reliance on technology (Penman, 2003, p. 89).

**Research Recommendations**

1. **Promote investment in automated accounting systems:** Organizations should adopt the latest digital accounting systems and integrate artificial intelligence and cloud computing technologies to ensure the quality and reliability of financial information.
2. **Human Resource Development:** The need to train accountants to use automated systems efficiently, with a focus on understanding the principles of internal control and technical risk management.
3. **Integration of automation with internal control: It** is recommended to design integrated control mechanisms that allow for the monitoring of electronic financial statements and the application of international accounting standards in real time and continuously.
4. **Continuous updating of systems:** Organizations should work on maintaining and developing accounting software periodically to keep pace with technical and legislative changes, and reduce the risks associated with technical breakdowns and failures.
5. **Encouraging applied studies: It** is recommended to conduct periodic applied studies to assess the impact of accounting automation on the reliability of financial statements in different organizations, with the aim of exploring best practices and transferring experiences.
6. **Enhancing awareness among financial statement users:** Providing awareness programs to financial statement beneficiaries about the advantages and limitations of automated systems, enhancing their understanding of the level of accuracy and reliability of financial information

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