



# THE ROLE OF ARTIFICIAL INTELLIGENCE SELF-EFFICIENCY IN IMPROVING THE QUALITY OF ACCOUNTING INFORMATION-AN APPLIED STUDY IN THE ELECTRICAL TRANSFORMER PRODUCTION PLANT IN SALAH AL-DIN

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Article history:	Abstract:
<p><b>Received:</b> 14<sup>th</sup> March 2026 <b>Accepted:</b> 11<sup>th</sup> April 2026</p>	<p>The contemporary study aims to determine the role of artificial intelligence self-efficacy, through its dimensions (AI awareness, technological adaptability, and digital literacy), in the quality of accounting information, through its dimensions (reliability, relevance, stability, and comparability). This is an applied study conducted in the electrical transformer production plant in Salah al-Din. The research used the descriptive analytical method to achieve this objective. The sample size was (112) employees of the plant. The research was based on the main question: (Does artificial intelligence self-efficacy play a role in improving the quality of accounting information in the electrical transformer production plant in Salah al-Din?) The questionnaire was used as the main tool for data collection, and the numerical sequencers (AMOS.V.29, SPSS.V.29) were used. The exploration outcomes showed that the use of artificial intelligence techniques contributes to increasing the accuracy of accounting information by reducing human errors in recording and analyzing financial data.</p>

**Keywords:** Artificial intelligence self-efficacy, accounting information quality.

## INTRODUCTION

In recent years, the world has witnessed rapid development in the field of information and communication technology. The emergence of artificial intelligence (AI) technologies has had a significant impact on bringing about fundamental transformations in various administrative and economic fields, including accounting (Morales-García et al., 2024). Organizations are now striving to employ AI technologies in their accounting systems to improve performance efficiency and increase the accuracy and reliability of accounting information, which is a crucial foundation for administrative and financial decision-making (Chiu et al., 2025) The quality of accounting information is a cornerstone of organizational success, as management, investors, and stakeholders rely on this information to evaluate financial performance, plan for the future, and make informed decisions (Oran, 2023). With the swelling volume of data and the complication of accounting progressions, the need has ascended for modern machineries capable of investigating data hurriedly and resourcefully. This is indeed what AI affords complete its ability to acquire on its own, scrutinize data, and distinguish patterns and budding boobos (Shao et al., 2025). As of this perception, the impression of AI self-efficacy has developed as a crucial reason in ornamental the usefulness of intellectual classifications in dealing out and analyzing bookkeeping data. This subsidizes to improving the eminence appearances of accounting evidence, such as accuracy, consistency, importance, and correctness (Khan et al., 2024). Additionally, employing these machineries helps reduce anthropological error, fast-track the financial commentary progression, and increase the level of control and clearness within establishments (Carter et al., 2016). In the developed sector, principally in invention accommodations such as the electrical convertor business plant in Salah al-Din, the reputation of applying contemporary machineries in book-keeping systems is manifest. This is important for guardianship pace with industrial advancements and enlightening the productivity of pecuniary and evidence resource administration (Duong, 2025). Consequently, this study objectives to best part the role of AI self-efficacy in enlightening the eminence of bookkeeping data through an everyday study in this shrub. The goal is to categorize the range to which these knowledge contribute to developed the accounting classification and



auxiliary the administrative process (Bergdahl & Sjöberg, 2024). This homework seeks to determine the bond between the intrinsic proficiency of artificial astuteness and the eminence of accounting data, and to determine the scope to which non-natural intelligence presentations can be used to enhance the productivity of accounting concert within industrial foundations, in line with the necessities of industrial development and the contemporary economic atmosphere.

### **Part One: Scientific Methodology**

#### **First: The Research Problem**

Presently, industrial administrations face snowballing contests in management and processing bookkeeping data and evidence due to rapid scientific improvements and the increasing volume and complication of financial procedures. These establishments rely on bookkeeping evidence to estimate their economic and functioning routine and make organizational and premeditated judgments. This imposes that such data be pigeon-holed by a high degree of truthfulness, reliability, consequence, and properness (Carter et al., 2016). Nonetheless, many establishments still rely comprehensively on modern methods of handling bookkeeping data, which can lead to booboos or adjournments in so long as the evidence needed for supervisory (Oran, 2023).

With the substantial progress of artificial astuteness (AI) machineries, it has converted imaginable to engagement these know-hows to progress the effectiveness of bookkeeping systems complete their capacity to progression large volumes of data hurriedly and truthfully (Morales-García et al., 2024). Moreover, AI has the capability for self-learning, arrangement breakdown, and the recognition of blunders and aberrations in monetarist data. Nevertheless, the authentic benefit consequential from these machineries be contingent fundamentally on the level of AI's innate efficiency indoors the association and its capacity to excellently integrate it into the bookkeeping classification. The electrical convertor business plant in Salah al-Din faces encounters related to enlightening the eminence of bookkeeping evidence in light of hasty scientific fluctuations (Wang & Chuang, 2024). This advances questions approximately the amount to which non-natural astuteness (AI) can be leveraged to funding the bookkeeping system and develop the eminence of its bookkeeping data. Therefore, the study badly-behaved can be articulated in the following foremost question: Whatever role does AI's AI fundamental proficiency play in enlightening the quality of accounting evidence at the electrical convertor business plant in Salah al-Din? This key question subdivisions into more than a few sub-questions, counting:

1-What is the close of AI expertise submission in the plant's secretarial system?

2-To what level is AI fundamental productivity offered for dealing out and analyzing secretarial data?

3-What is the level of bookkeeping evidence eminence at the plant in terms of truthfulness, trustworthiness, relevance, and timeliness?

4-Is there a substantial affiliation between AI fundamental efficiency and the eminence of book-keeping evidence at the plant?

5- To what scope do AI knowledge contribute to enlightening the efficiency of the bookkeeping system and supportive administrative administrative?

#### **Second: The Importance of the Research**

This examination study descends its standing from the increasing consequence of using artificial cleverness (AI) machineries in various organizational and pecuniary fields, principally in bookkeeping, which relies worryingly on the precision and eminence of evidence to funding policymaking. Recent foundations are motivated to engagement smart machineries to progress the productivity of bookkeeping evidence arrangements and preserve pace with speedy industrial improvements. The standing of this training lies in its weight of the person of AI's integral productivity in enlightening the eminence of bookkeeping evidence. It determines the extent to which these machineries subsidize to attractive the precision, reliability, and importance of accounting evidence, thus selection changed branches indoors foundations make more competent and effective pronouncements. The homework's reputation also branches from its applied submission, as it observes the tender of AI machineries in an electrical converter business vegetal in Salah al-Din. This contributes to providing a clear understanding of how these technologies can be utilized to develop the accounting system and improve the quality of accounting information in industrial institutions. Furthermore, the results of this study can guide decision-makers and financial departments in industrial institutions towards adopting AI applications and developing accounting information systems that align with the requirements of digital transformation.

#### Fourth: The Hypothetical Scheme

Constructed on the examination delinquent and in stripe with its goals, the proposed scheme for the homework was articulated and is publicized in Figure (1). This organization personifies the role of the persuasive associations between the main examination variables and their sub-dimensions as trails:

1-Independent Variable: Artificial Intelligence Self-Efficacy, which includes three dimensions: (AI Awareness, Technological Adaptability, and Digital Literacy). This adjustable was unrushed consuming the gage developed by Rahman et al. (2025)

2-Dependent Variable: The Quality of Accounting Information, which includes four dimensions: (Reliability, Relevance, Stability, and Comparability). This adjustable was unrushed consuming the scale established by Abdulrahman (2024).

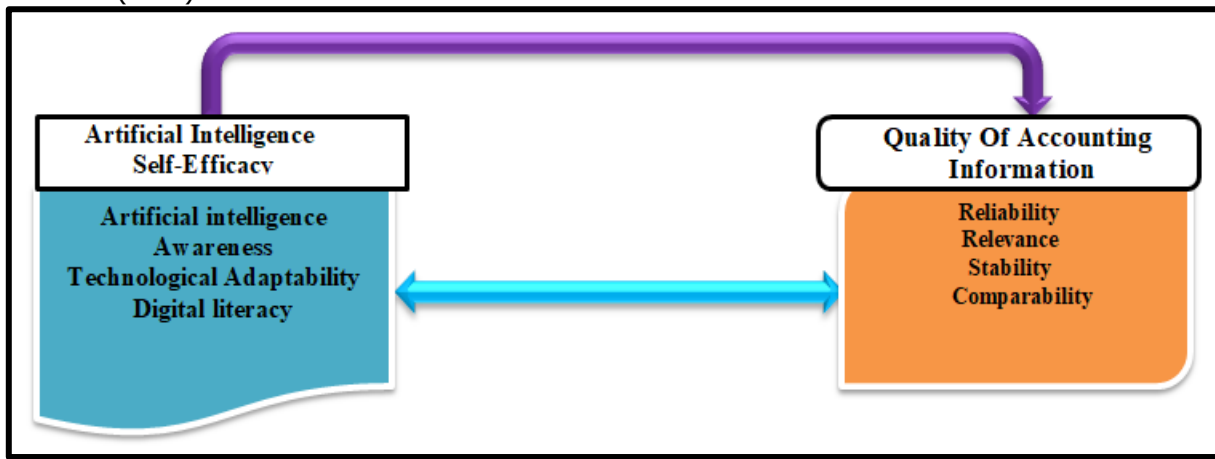


Figure (1) Hypothetical diagram

#### Fifth: Developing Hypotheses

The first hypothesis: There is a statistically significant correlation between self-efficacy in artificial intelligence with its dimensions (awareness of artificial intelligence, technological adaptability, digital literacy) and (the quality of accounting information)

The second hypothesis: There is a statistically significant effect of self-efficacy in artificial intelligence, with its dimensions (awareness of artificial intelligence, technological adaptability, digital literacy), on (the quality of accounting information).

#### Part Two: Theoretical Framework

##### First: The Concept of AI Self-Efficacy

Self-efficacy in reproduction intelligence is a crucial emotional thought. Bandura's self-efficacy theory is applied to the field of AI and refers to individuals' confidence in their ability to use and interact effectively with AI technology (Montag et al., 2023). Based on Bandura's social cognition theory, this competency is influenced by four factors: acquired experiences, indirect experiences, verbal persuasion, and physiological states (Khan et al., 2024). In AI contexts, these factors include proficient AI use, observing others interact with it, acquiring motivation, and controlling emotional responses (Duong, 2025). This concept is fundamental in organizational contexts, as it influences employees' willingness to adopt AI, their determination to acquire related skills, and their performance in using AI systems (Wang & Chuang, 2024).

Employees with high AI self-efficacy tend to view it as a manageable challenge rather than a threat, leading to increased job satisfaction (Bergdahl & Sjöberg, 2024). The concept of AI self-efficacy also illustrates how employees' confidence and belief in their ability to handle AI applications influence their adoption behavior (Chiu et al., 2025). This concept underscores that low self-esteem can hinder the effective deployment of organizational readiness (Chen et al., 2025). This is directly related to perceived usefulness and ease of use, as individual perspectives on technology significantly impact its acceptance and integration within an organization's human resources systems (Morales-García et al., 2024).

##### Second: Importance of AI Self-Efficacy

AI self-efficacy prominently simplifies the embracing of AI in anthropological resource supervision. It acts as a link amongst AI use and concert outcomes, enlightening task-related, appropriate, and adaptive



routine (Oran, 2023). Systematic use of AI boosts work-related self-efficacy, thereby growing ingenuity and compliance skills (Woo et al., 2024). Moreover, high AI self-efficacy is accompanying with more encouraging observations of AI combination and amended intellectual health in AI-enabled atmospheres (Shao et al., 2025).

AI self-efficacy refers to the extent to which an individual believes they can understand, use, and effectively interact with AI technologies in their work (Basri & Almutairi, 2023). Its importance lies in the fact that it represents the psychological and behavioral basis that drives individuals to adopt these technologies instead of resisting or fearing them. The more an individual feels capable of dealing with artificial intelligence tools, the greater their desire to learn, experiment, and benefit from them (Kim & Lee, 2024).

### **Third: Dimensions of AI Self-Efficacy**

The AI self-efficacy variable was measured through three dimensions (Rahman et al., 2025):

#### **1-AI Awareness**

AI awareness refers to an individual's understanding of the nature of artificial intelligence, how it works, its limitations, its potential, and its impact on personal and professional life (Oran, 2023). This awareness is a fundamental element in the rational use of smart technologies, as it helps in using AI consciously and responsibly instead of randomly or without due consideration (Khan et al., 2024). AI alertness subsidizes to enabling personalities to separate between exact and misleading evidence bent by gifted systems, thus tumbling the risks of carelessly relying on their productivities (Chiu et al., 2025). This responsiveness also develops the ability to estimate the ethical characteristics associated through the use of AI, such as privacy fortification, fairness, and photograph (Morales-García et al., 2024).

#### **2-Technological Adaptability**

Technological adaptability is one of the most important skills in the digital age. It refers to an individual's or organization's ability to absorb and adapt to new technologies flexibly and positively, while being prepared to learn new skills and change work methods to keep pace with rapid developments (Oran, 2023). Technology is changing rapidly today, and those who lack the ability to adapt may find it difficult to keep up with the demands of work and life (Morales-García et al., 2024). The importance of technological adaptability lies in its ability to help individuals reduce fear or anxiety about using new technologies, increase their confidence in their ability to cope with change, and contribute to improved performance efficiency. This is because technologically adaptable individuals can leverage digital tools to accomplish their tasks faster and more accurately (Khan et al., 2024). Industrial compliance is one of the most imperative skills in the cardinal age.

#### **3. Digital Literacy**

Digital literacy refers to an individual's possession of the fundamental knowledge and skills that enable them to use digital machineries and technological tools effectively in their daily and proficient lives. Digital literacy is not limited to knowing how to operate devices; it also includes the ability to search for information online, evaluate its credibility, communicate across digital platforms, and use various applications consciously and safely (Khan et al., 2024). The importance of digital literacy lies in its ability to help individuals integrate into the contemporary digital society and enhance their opportunities for learning, work, and professional development (Morales-García et al., 2024). A digitally literate person is more capable of completing tasks quickly and accurately and is better prepared to work with intelligent systems and modern technologies such as artificial intelligence (Oran, 2023).

#### **Fourth: The Concept of Accounting Information Quality**

Carter et al. (2016) express evidence as that which is equipped or formed to be most advantageous to decision-makers for the reason that of its respected aspects in the up-to-date decision-making progression or in future execution. For evidence to be useful to decision-makers, it essential be of high superiority, though there is no single, universally accepted definition of information quality due to differing perspectives and objectives among information producers and users (Khasanah, 2022).

Accounting information quality is viewed as a system dedicated to collecting, recording, storing, and processing data to produce information for decision-makers (Fitrios, 2016). Accounting information quality is generally a computer-based method for tracking accounting activity, utilizing information technology resources. Financial reports can be used by management or other stakeholders, including investors, creditors, and tax authorities (Gelinah et al., 2018). The quality of accounting information is a component



of the management information system (Al-Hiyari et al., 2013). This is evidenced by a fundamental characteristic of management information quality: it is a collection of subsystems of information that integrate to achieve a comprehensive level of management information quality. While the accounting information system is independent of the management information system, the two systems overlap (Al-Okaily et al., 2020).

The quality of accounting information comprises a set of principles and methods for collecting data and information within an organization in a way that enables the achievement of administrative objectives. Through this system, economic transactions documented in internal or external records are financed as values (Turner et al., 2020) and then recorded in internal books and statements according to specific rules and principles. The goal is to generate accounting reports for successive periods, which are used for various purposes such as planning, control, and decision-making (Oudat et al., 2021). The quality of accounting information is an important factor that helps the economic unit achieve its various strategies. This system is concerned with collecting, classifying, processing, analyzing and delivering appropriate information to all levels to make appropriate decisions in a timely manner in a way that is appropriate to the requirements of the contemporary business environment (Sunarta et al., 2023).

Information quality concepts define the characteristics of useful accounting information or the basic rules that should be used to evaluate the quality of accounting information (Prasetianingrum & Sonjaya, 2024). Defining them will help those in charge to set accounting standards and assist them in preparing financial statements when evaluating accounting information resulting from the application of accounting using some alternative methods. In addition, these characteristics are often of great benefit to preparing financial reports when evaluating the quality of information resulting from the application of alternative accounting methods (Al-Sartawi et al., 2022).

#### **Fifth: The Importance of Accounting Information Quality**

The quality of accounting information interacts and integrates with other subsystems within the management information system to provide useful information to decision-makers both inside and outside the economic unit (Chowdhury, 2023). Accounting information quality plays a fundamental and crucial role in all the economic unit's operations and activities, such as setting objectives, formulating policies, and developing plans and strategies that enable the system to confront challenges and crises, especially in light of globalization and the intensifying competition in the contemporary business environment (Setyaningsih et al., 2021). This has led to increased attention being paid to the success of accounting information quality, particularly regarding the accuracy, validity, and independence of the system, and its comprehensive use by various stakeholders (Khasanah, 2022). The importance of accounting information quality lies in recording, processing, and presenting data in the form of reports and financial statements for external parties (Ibrahim et al., 2021). To ensure confidence in accounting reports, generally accepted accounting principles must be applied. One of the general objectives of an accounting information system is to protect the assets of an economic unit by establishing an effective and efficient internal control system within that unit (Lutfi et al., 2021)

The objectives of financial reports are to provide useful information that meets the diverse needs of users of these reports, both inside and outside the entity, to ensure their relevance to those needs. This requires providing a set of qualitative characteristics of accounting information (Prasetianingrum & Sonjaya, 2024). Accounting information published within the framework of financial statements must comply with international standards, as its most important characteristic for users is its high quality, which includes relevance, reliability, and quantifiability. According to the requirements of the International Accounting Standards Board (IASB) issued in September 2010, the quality characteristics of accounting information are divided into two groups (Chowdhury, 2023):

1-The first group comprises the main characteristics of accounting information quality, consisting of relevance, accurate representation, comprehensiveness, and impartiality.

2-The second group includes the sub-characteristics of accounting information quality: (understanding, verifiability, timeliness, and comparability) (Ababneh & Alrabei, 2021). Furthermore, the relevant information provided should demonstrate its ability to reduce uncertainty and enhance decision-making capacity. Therefore, it is crucial that information be error-free, while ensuring that no important aspects are omitted (Salih et al., 2023).

#### **Sixth: Dimensions of Accounting Information Quality**



Abdulrahman (2024) identified four essential elements for measuring the quality of accounting information, which are as follows:

**1-Reliability**

Reliability (dependability) is described as the second fundamental characteristic of accounting information, reflecting the degree of trust in the information (Prasetianingrum & Sonjaya, 2024). For information to acquire this characteristic, it must possess three elements (Al-Sartawi et al., 2022):

a- Objectivity: meaning the absence of bias in preparing and presenting the information. Objectivity here refers to relative objectivity, not absolute objectivity.

b- Verifiability: meaning that the information can be verified and its accuracy proven.

c- Accurate Presentation of Information: meaning that the information accurately reflects what it represents.

**2-Relevance**

Relevance is described as the first fundamental characteristic of accounting information. Information is relevant if it meets the needs of users and is related to the purpose for which it will be used. There are three criteria that information must meet to be considered relevant (Al-Sartawi et al., 2022):

Predictability: meaning it should be relevant to the future and help predict it through the decision model.

Feedback: meaning it should have an impact on the decision or subsequent decisions (Al-Hashimy et al., 2022), by using the output as an input to arrive at new outputs, thus helping to evaluate the accuracy of predictions and, consequently, the decisions based on those predictions.

Timeliness: meaning it should be available to the user at the appropriate time (Solikin & Darmawan, 2023).

**3-Consistency**

Consistency in an accounting information system is a fundamental principle that ensures a company uses consistent and stable accounting methods and policies across different time periods, making it easier for users to compare and understand financial data (Al-Sartawi et al., 2022). Consistency refers to the absence of arbitrary or frequent changes in recording and accounting methods unless there is a legitimate and known reason, such as changes to international accounting standards or adjustments to financial policies to reflect new economic conditions (Al-Hashimy et al., 2022). Steadiness helps in associating a corporation's economic results since one old-fashioned to alternative, simplifying routine analysis besides the documentation of economic leanings. It also supports policymaking, as supervision and investors rely on secretarial data to make premeditated decisions, and uniformity makes this data supplementary steadfast (Gelinas et al., 2018).

**4-Comparability**

Comparability in an bookkeeping data system means the capability of manipulators to relate a company's economic data and bookkeeping evidence with data after former periods or with data since other corporations in the identical segment (Qatawneh, 2023). The purpose of this feature is to enable investors and stakeholders to objectively evaluate the company's financial performance and make informed investment or management decisions (Putri et al., 2023). Comparability allows management and investors to make informed decisions—whether financial, investment, or management—based on accurate and reliable information (Binh et al., 2022).

**Part Three: The Practical Aspect**

**First: Describing and Coding the Research Variables**

This step intentions to present-day the cryptograms that embody the variables and the quantity tool items, which supports the reader recognize the results suitably and affords a clear apparition of the points the study search for to reveal. And so, Table (1) demonstrates the coding and explanation of the training variables..

Table (1) Variable Coding and Description

Variables	Dimensions	No.	symbol	
AI self-efficacy	AI Awareness	6	AIA	ASE
	Technological Adaptability	5	TEA	
	Digital Literacy	7	DIL	
Quality of Accounting Information	Reliability	4	RE	QOAI
	Reliability	4	SU	



	Stability	4	ST
	Scalability	4	PO

### Second: Normality Test

The outcomes in Table (2) signpost the interruption of the data results correlated to the examination variables, someplace a arithmetic test was used to observe whether the numbers tracks a normal dispersal. This confirmations that the consequence level is bigger than 0.05, which revenues that the numbers adapts to a typical spreading. Constructed on that, the null supposition, which statuses that the data pinched from the study illustration follows a normal dispersal, was conventional, and the progressive proposition was rejected.

Table (2) Test for normality of study variables

NO.	Kol-Smia	Sig.
AIA	0.103	0.077
TEA	0.148	0.124
DIL	0.154	0.134
RE	0.172	0.144
SU	0.088	0.078
ST	0.132	0.139
PO	0.151	0.117

### Third: Analysis of the Amount Apparatus's Reliability

The marks in Table (3) expression that the trustworthiness quantity of the amount tool reached (0.903), which is circulated midst the capricious of self-efficacy in non-natural cleverness, epitomized in three proportions and comprising of (18) items, completing a trustworthiness of (Cronbach's Alpha = 0.894). The trustworthiness of its proportions ranged amongst the bottom value (0.811) for the alphanumeric knowledge breadth and the maximum value (0.814) for the reproduction astuteness alertness breadth, indicating the evenness of the opinion poll items. The results signposted that the independent inconstant (quality of accounting information), denoted by four magnitudes and consisting of 22 objects, achieved a trustworthiness of (Cronbach's Alpha = 0.902). The reliability of its magnitudes oscillated from the lowest value (0.821) for the breadth of trustworthiness to the highest value (0.910) for the width of usability, which proven the consistency of the feedback form items.

Table (3) Cronbach's Alpha Test Parameter

Variables	Dimensions	NO.	Cronbach's Alpha	
AI self-efficacy	AI Awareness	6	0.814	0.894
	Technological Adaptability	5	0.813	
	Digital Literacy	7	0.811	
Quality of Accounting Information	Reliability	4	0.821	0.902
	Reliability	4	0.827	
	Stability	4	0.829	
	Scalability	4	0.910	

### Fourth: Arithmetic Explanation of Variables

The results of Table (4) indicate a clear focus by the electrical transformer production plant in Salah al-Din on improving the self-efficacy of artificial intelligence, achieving a mean of (3.239) and a standard deviation of (1.01). This is due to the plant's interest in adopting the dimension of artificial intelligence awareness, achieving a mean of (3.287) and a standard deviation of (0.69). Meanwhile, there is a noticeable lack of interest in the dimension of digital literacy, achieving a mean of (3.199) and a standard deviation of (0.77).

The results of Table (4) signpost a clear concentration by the electrical converter construction plant in Salah al-Din on enlightening the quality of bookkeeping data by achieving a mean of (3.457) and a ordinary aberration of (1.15). This is payable to the plant's concentration in adopting the breadth of practicability, achieving a malicious of (3.763) and a ordinary unorthodoxy of (1.13). For now, there is a

conspicuous lack of awareness in the dimension of importance, reaching a mean of (3.21) and a standard deviation of (1.11).

Table (4) Statistical Description

No.	Mean	S.D	No.	Mean	S.D
<b>AIA1</b>	<b>3.30</b>	<b>0.77</b>	<b>RE1</b>	<b>3.04</b>	<b>1.14</b>
<b>AIA2</b>	<b>3.06</b>	<b>0.82</b>	<b>RE2</b>	<b>3.21</b>	<b>1.07</b>
<b>AIA3</b>	<b>3.81</b>	<b>1.10</b>	<b>RE3</b>	<b>3.16</b>	<b>1.02</b>
<b>AIA4</b>	<b>3.18</b>	<b>0.78</b>	<b>RE4</b>	<b>3.85</b>	<b>1.06</b>
<b>AIA5</b>	<b>3.20</b>	<b>0.76</b>	<b>RE</b>	<b>3.315</b>	<b>0.87</b>
<b>AIA6</b>	<b>3.17</b>	<b>0.90</b>	<b>SU1</b>	<b>3.52</b>	<b>1.04</b>
<b>AIA</b>	<b>3.287</b>	<b>0.69</b>	<b>SU2</b>	<b>3.11</b>	<b>0.75</b>
<b>TEA1</b>	<b>3.16</b>	<b>0.87</b>	<b>SU3</b>	<b>3.24</b>	<b>0.88</b>
<b>TEA2</b>	<b>3.52</b>	<b>1.03</b>	<b>SU4</b>	<b>3.00</b>	<b>1.10</b>
<b>TEA3</b>	<b>3.32</b>	<b>1.10</b>	<b>SU</b>	<b>3.218</b>	<b>1.11</b>
<b>TEA4</b>	<b>3.05</b>	<b>0.89</b>	<b>ST1</b>	<b>3.54</b>	<b>1.12</b>
<b>TEA5</b>	<b>3.10</b>	<b>1.01</b>	<b>ST2</b>	<b>3.02</b>	<b>0.88</b>
<b>TEA</b>	<b>3.230</b>	<b>0.87</b>	<b>ST3</b>	<b>3.78</b>	<b>1.11</b>
<b>DIL1</b>	<b>3.08</b>	<b>0.86</b>	<b>ST4</b>	<b>3.78</b>	<b>1.01</b>
<b>DIL2</b>	<b>3.16</b>	<b>0.81</b>	<b>ST</b>	<b>3.530</b>	<b>1.05</b>
<b>DIL3</b>	<b>3.04</b>	<b>0.91</b>	<b>PO1</b>	<b>4.08</b>	<b>1.03</b>
<b>DIL4</b>	<b>3.75</b>	<b>1.01</b>	<b>PO2</b>	<b>3.93</b>	<b>0.45</b>
<b>DIL5</b>	<b>3.24</b>	<b>0.97</b>	<b>PO3</b>	<b>3.00</b>	<b>0.87</b>
<b>DIL6</b>	<b>3.10</b>	<b>1.01</b>	<b>PO4</b>	<b>4.04</b>	<b>0.65</b>
<b>DIL7</b>	<b>3.02</b>	<b>0.77</b>	<b>PO</b>	<b>3.763</b>	<b>1.13</b>
<b>DIL</b>	<b>3.199</b>	<b>0.92</b>	<b>QOAI</b>	<b>3.457</b>	<b>1.15</b>
<b>ASE</b>	<b>3.239</b>	<b>1.01</b>			

#### **Fifth: Hypothesis Testing and Path Analysis**

H1: There is a statistically significant correlation between AI self-efficacy and its dimensions (AI awareness, technological adaptability, and digital literacy) and (the quality of accounting information)

The results of Table (5) indicate a significant correlation between self-efficacy in artificial intelligence and the quality of accounting information, with a correlation strength of (0.852), representing the relationship between these variables. This product is ascribed to the illustration's strong focus on the rapport between the proportions of these variables, with a relationship strength extending from (0.732) between the dimension of artificial intelligence awareness and the dimension of digital literacy, to (0.756). This, in turn, indicates a significant correlation between the internal research variables, meaning that the study is currently being conducted.

Table (5) Correlation Matrix

	AIA	TEA	DIL	ASE	RE	SU	ST	PO	QOAI
AIA	1								
TEA	.782**	1							
DIL	.884**	.863**	1						
ASE	.658**	.785**	.771**	1					
RE	.632**	.628**	.745**	.685**	1				
SU	.663**	.588**	.685**	.638**	.784**	1			
ST	.752**	.532**	.854**	.685**	.681**	.688**	1		
PO	.841**	.765**	.712**	.703**	.710**	.821**	.800**	1	
QOAI	.735**	.854**	.756**	.852**	.821**	.865**	.845**	.795**	1

H2: There is a statistically significant effect of AI self-efficacy, with its dimensions (AI awareness, technological adaptability, and digital literacy), on the quality of accounting information.

The results in Table (6) show a significant effect of AI self-efficacy on the quality of accounting information. A one-unit increase in AI self-efficacy leads to an improvement in accounting information



quality of (0.752), with a standard error of (0.048) and a critical value of (15.67). This indicates that the laboratory under study recognizes the importance of AI self-efficacy in enhancing the quality of accounting information. AI self-efficacy also explains (0.725) of the variance in accounting information quality. The remaining value falls outside the scope of this study.

Table (6) Results of path analysis of the impact of artificial intelligence self-efficacy on the quality of accounting information

Path			Standard weights	standard error	critical value	R <sup>2</sup>	P
<b>Artificial Intelligence Self-Efficacy</b>	--->	<b>Quality of Accounting Information</b>	<b>0.752</b>	<b>0.048</b>	<b>15.67</b>	<b>0.725</b>	<b>***</b>

### Part Four: Conclusions and Recommendations

#### First: Conclusions

- 1- The necessity of developing the technological infrastructure in the laboratory to support artificial intelligence applications in the accounting system, by adopting accounting programs supported by artificial intelligencetechnologies.
- 2- Training accounting and administrative staff on using artificial intelligence technologies in accounting work, thru organizing specialized training courses and workshops on AI applications.
- 3- Working on integrating AI applications into the processes of report preparation and accounting data analysis, by linking accounting systems with automated data analysis tools.
- 4- The necessity of enhancing the internal control system using artificial intelligence tools, thru the use of smart analysis techniques to review financial processes.
- 5- Working to encourage the lab management to adopt a culture of digital transformation in accounting work, developing a strategic plan for digital transformation within the lab, and involving various departments in implementing technical development projects.
- 6-The success of applying artificial intelligence in improving the quality of accounting information depends on the availability of technical infrastructure and appropriate training for the laboratory staff.

#### Second: Recommendations

- 1-The laboratory's technological infrastructure must be developed to support artificial intelligence (AI) applications in the accounting system by adopting AI-powered accounting software.
- 2-Accounting and administrative staff should be trained in the use of AI technologies in accounting work through specialized training courses and workshops on AI applications.
- 3-AI applications should be integrated into reporting processes and the analysis of accounting data by linking accounting systems with automated data analysis tools.
- 4-The internal control system must be strengthened using AI tools, specifically by employing intelligent analysis techniques to review financial operations.
- 5-The laboratory's management should be encouraged to adopt a culture of digital transformation in accounting work. A strategic plan for digital transformation within the laboratory should be developed, and various departments should be involved in implementing technological development projects.
- 6- Cooperation between the laboratory and academic and research institutions should be strengthened to develop the use of AI in accounting through the implementation of applied research projects that contribute to the development of intelligent accounting systems.

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