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Employing Artificial Intelligence in Finance and Accounting Business: Reality, Challenges and Prospects for Application in the Department of Finance at the University of Tikrit

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Abstract

This study aimed to know the reality of using artificial intelligence in the field of finance and accountants in the Department of Financial Affairs in the University of Tikrit, diagnosis the challenges of applying it, and to know its future potential. The descriptive – analytical approach was adopted, and questionnaire was applied through a total sample of (33) employees in this department using SPSS statistical program for analysis. The results indicated that there is a very positive attitude from employees toward using artificial intelligence with a mean of 1.85 with high confidence in its benefits for increasing the efficiency of work and reduction of human efforts and transparency. The results also showed that there is moderate awareness of artificial intelligence but limited usage and it indicated that there are some challenges including financial constraints, poor infrastructure, lack of technical abilities, and resistance to change. There is a very high willingness of employees in training and usage while understanding the need of updating the systems and institutional support. The study suggested that there should be development of the infrastructure, budget allocation, preparation of special training programs, gradual implementation of artificial intelligence and culture of change.

Keywords: Artificial Intelligence, Financial and Accounting Business, Challenges, Application Prospects, Department of Financial Affairs, Tikrit University.

Introduction

The third millennium experienced fast technological changes that transformed the economic and administrative environment of organizations in an unprecedented way, and artificial intelligence

became a major turning point in the transformation of sensitive professions like accounting and finance. From recent literature, it can be seen that accounting information systems are rule-based and structured systems with structured data; however, many accounting information systems failed to keep up with technological advances, and as a result, artificial intelligence in financial accounting becomes a relatively new phenomenon and is used in pilot projects only (Kureljusic & Karger, 2023: 82).

While AI is one of the biggest disruptive forces in finance and accounting, its effects go far beyond simple automation of processes and redefine the whole role of the accountant. The profession of accounting itself is experiencing a true revolution in which roles and responsibilities move from manual data entering to providing analytical services and making decisions, according to the results of a professional study published in the Journal of Applied Accounting Research, which stated that the profession is experiencing a transition in which actors, tasks, and roles change under the influence of AI accounting (Leitner-Hanetseder et al., 2022: 541).

Speaking about the practical application, AI allows to improve the quality and speed of financial reporting and is used as an effective tool for fraud detection and risk management based on machine learning algorithms capable of detecting abnormal deviations. In a literature evaluation study, it was found that AI is transforming the reality of the accounting industry very rapidly because of its benefits in simplifying and transforming the activities and increased interest of researchers in the field in recent years (Stancu & Duțescu, 2021: 751).

However, the transfer of these technologies from developed environments to developing environments such as Iraq is not automated, as Iraqi university institutions face structural, financial, and human challenges that prevent the optimal use of these technologies. Hence, the need for this research to monitor the current reality in the Department of Financial Affairs at the University of Tikrit, diagnose challenges, and explore future application prospects in light of local data.

Research Problem

The current research begins with the observation of a clear gap between the fast pace of technological development in the area of artificial intelligence and the practice of using it in the Department of Financial Affairs of the University of Tikrit. The research problem was defined as follows:

Professional questions corresponding to hypotheses and objectives of the research are:

1. Is there knowledge and practice of AI in financial and accounting activities of the staff of the Department of Financial Affairs at Tikrit University that can help in developing their activity?
2. What are the barriers of applying AI in financial and accounting at the Department of Finance at Tikrit University?
3. What are the opportunities for applying AI and institutional readiness to apply it in financial and accounting business at the Department of Finance at Tikrit University?

The Importance of the Research

Importance of the study from the theoretical point of view lies in the fact that this study will enrich the Arab literature on the use of artificial intelligence in financial and accounting operations through systematic classification of concepts, dimensions, challenges, and possibilities in a manner that will link the international theoretical framework with the Iraqi context.

Practical importance of the study is evident from the fact that it will provide decision makers at Tikrit University with an information base within the field that will help them in formulating policies of digital transformation as well as investing in infrastructure and manpower for the purpose of enhancing the efficiency of financial and accounting operations.

Research Objectives

1. Recognize the reality of knowledge and implementation of artificial intelligence in the financial and accountancy business with departmental staff at Tikrit University's Finance Office.
2. Evaluate the issues that are preventing the implementation of artificial intelligence in financial and accounting business with staff members at Tikrit University's Department of Finance.
3. Analyze future prospects and possibilities for the usage of artificial intelligence and requirements for its implementation in financial and accounting business with employees in Tikrit University's Finance Department.

Research Hypotheses

The hypotheses of the study were formulated statistically (Hypothesis Zero Hypothesis H0 and Alternative Hypothesis H1) as follows:

The First Hypothesis:

- H0: There are no statistically significant differences at the significance level (0.05) between the arithmetic mean of the responses of the sample members about the dimension (awareness and actual use of artificial intelligence) and the hypothetical mean (3) that represents the neutrality in the five-point Likert scale.
- H1: There are statistically significant differences at the significance level (0.05) between the arithmetic mean of the responses of the sample members about the dimension (awareness and actual use of artificial intelligence) and the hypothetical medium (3).

The Second Hypothesis:

- H0: There are no statistically significant differences at the significance level (0.05) between the arithmetic mean of the responses of the sample members about the dimension (challenges and obstacles) and the hypothetical mean (3).

- H1: There is a statistically significant difference at the significance level (0.05) between the arithmetic mean of the responses of the sample members about the dimension (challenges and obstacles) and the hypothetical mean (3).

Hypothesis III:

- H0: There are no statistically significant differences at the significance level (0.05) between the arithmetic mean of the responses of the sample members about the dimension of (implementation prospects and institutional readiness) and the hypothetical medium (3).
- H1: There is a statistically significant difference at the significance level (0.05) between the arithmetic average of the responses of the sample members about the dimension of (implementation prospects and institutional readiness) and the hypothetical mean (3).

Research Methodology

The research adopted the descriptive-analytical approach as the most suitable method for its subject matter since the work uses this approach to describe what happens in real life, conduct the necessary analysis on the gathered data for the purpose of making documented scientific conclusions. The use of this method required the creation of the research instrument (the questionnaire) which was to be used for gathering data from the sample population and its subsequent processing via the processing of the data with the help of statistical software (SPSS) to make tests of the research hypotheses and answer the relevant research questions.

This allowed to explore the situation with the degree of awareness and usage of the subject under investigation, to diagnose the problems existing in this field, as well as to investigate the future possibilities regarding the application of this subject in accordance with the requirements of field research in the management and accounting sphere that combines quantitative and qualitative sides of the study.

Research Sample and Society

The study population was made up of all (33) employees in the Financial Affairs Department at Tikrit University. As a result of the small size of the population, the researcher employed the method of total survey, whereby all (33) employees were included in the sample, which ensured the full representation of the community's characteristics and raised the accuracy of the results and their possibility for generalization.

While formulating the research instrument (questionnaire), the following dimensions were taken into consideration: (1) awareness and usage of artificial intelligence, (2) perspectives and actual usage of AI, (3) requirements for implementation use and readiness of the institutions, (4) challenges and problems that can come up, (5) possible advantages resulting from the use of AI. The answers were assessed using the five-point Likert.

Theoretical Framework

1. The Concept of Artificial Intelligence and its Historical Development:

1.1 The Idiom Concept of Artificial Intelligence:

Since the 1950s, the idea of artificial intelligence has evolved. Different researchers have given various scholarly definitions of the concept based on their professional backgrounds. The definition of AI in accounting was shaped by Schneider and Schmidt (2020) as the ability of computers and computer systems to imitate human mental functions, such as learning, thinking, solving problems, and making decisions, related to accounting and finance. The idea is supported by the findings of research conducted by Leitner-Hanetseder et al. (2022), who state that AI has led to the radical transformation of accounting processes through the combination of automation of tasks and skill improvement of accountants.

There are two aspects for studying AI as a phenomenon in regard to accounting: the technical aspect, emphasizing the structure of algorithms and learning abilities of the system, and the functional aspect, concerned with the actual role it plays in transformation of financial processes within organizations. Consequently, accounting information systems are the very rule-based tools with pre-defined data types, thus creating opportunities for application of AI (Kureljusic & Karger, 2023). However, its application in most organizations is still limited to pilot projects, which requires organizational awareness and cadre qualification.

1.2 Historical Development of AI in the Accounting Field:

Artificial intelligence experienced several phases of development starting from the 1950s until now. Initially, only basic systems designed to execute few functions were used, and later on by the 1980s, expert systems appeared. The last twenty years have seen the rise of machine learning and deep learning methods, respectively. Literature assessment confirms that interest in artificial intelligence solutions has always existed; however, the most recent advancements in the fields of machine learning and natural language processing lead towards an important breakthrough in the development of the system (Stancu & Dușescu, 2021: 752).

This development has seen the nature of accounting work slowly evolve from being done manually to being conducted on computers and eventually now being done through smart software, thus marking a substantial departure from accounting work being manual to accounting being strategic analytical work. According to a Romanian professional survey on the subject, use of artificial intelligence is not just reserved for big corporations anymore but is now set on transforming smaller and medium businesses' accounting activities too (Mihai & Dușescu, 2022: 860).

1.3 Key AI Technologies Adopted in Accounting:

Artificial intelligence encompasses many technologies that can broadly fall under several classifications. In this regard, machine learning enables devices to learn from the received

information and optimize their performance without requiring specific programming. Next comes natural language processing, which creates a possibility for computers to process and respond to human language, along with robotic process automation, which automatically performs mundane repetitious activities. This is corroborated by practical studies showing that all these technologies are already embedded in organizations' accounting operations and enabled them to analyze, interpret, and make decisions from the acquired information (Kokina et al., 2025: 5).

With that said, the common element linking these technologies is their ability to process vast volumes of financial transactions unbelievably fast with high degree of accuracy, thus reducing mistakes and costs of transactions significantly. According to (Leitner-Hanetseder et al. 2022: 544), the use of AI can be a good option for scanning "large volumes of financial transactions with high speed and accuracy, thus improving financial reporting and alleviating the burden on finance departments.

2. Applications of Artificial Intelligence in Finance and Accounting

2.1 Automate Routine Accounting Processes:

In the sphere of accounting, the use of artificial intelligence for automating standard processes is one of the most promising applications. The automation of data entry, process of invoicing, and bank reconciliation became a reality, enabling accountants to focus on value-added operations. According to the findings of a research study, conventional accounting processes like data entry, bookkeeping and deep analysis of financial data are actually very time-consuming and error-prone, which demonstrates the usefulness of artificial intelligence for simplifying and enhancing accuracy of accounting processes (Stancu & Duțescu, 2021: 753).

In a practical investigation, research conducted on Romanian companies highlighted that cloud accounting along with AI integrated services positively influences accounting firms, as it helps decrease the amount of time spent on mundane tasks and improves the overall quality (Mihai and Duțescu, 2022: 852). Therefore, the advantages of automation go beyond just saving time, as it allows the organization to publish periodic financial reports in a timely manner.

2.2 Financial Analysis and Forecasting:

Artificial intelligence is exceedingly proficient at examining massive financial datasets and establishing patterns and ramifications that are otherwise invisible to a human eye. Thanks to AI technology, companies tend to have more precise forecasts and make better financial decisions. It has been indicated through an exhaustive systematic review that the use of AI for accounting forecasting allows proactive management and in-depth analysis, however, the generalizable knowledge about evaluation forecasting models is still scarce. (Kureljusic & Karger, 2023: 90).

Regarding its field of application, the study conducted by Kokina, Blanchette, Davenport & Pachamanova (2025: 7) proved that AI assists in evaluating market risk and reducing possible financial disasters by providing valuable insights on the basis of data.

2.3 Fraud Detection and Risk Management:

The financial industry has seen numerous applications of AI for the early identification of frauds and unusual monetary transactions. Thanks to machine learning, it is now possible to recognize trends and find discrepancies in transactions much quicker and more accurately than before. However, comprehensive research shows that there is not sufficient `generalizable` knowledge in both social and technical aspects and studies in this area are needed (Kureljusic and Karger, 2023: 95).

The findings discussed in the research of (Leitner-Hanetseder et al. 2022: 548) show that audits powered by AI technologies are effective in tracking compliance and fraud detection, since they allow for minimizing errors in financial statements, which makes financial reports more credible and effective.

2.4 Real-time Financial Reporting:

AI's role in enhancing the quality of financial statements and accelerating their preparation is already well established. Through the automation of data collection, categorization and analysis, it is now possible to create more precise and all-encompassing financial statements in a shorter time frame. (Stancu & Dușescu 2021:755) provide evidence that AI is changing the face of accounting by automating processes, improving operational efficiency and helping to prevent fraud.

In the same vein, an analysis by (Mihai & Dușescu 2022: 855) points to the fact that widespread data availability, together with advances in technology, contributes to the practical application of AI by commercial entities, including massive investments into domain by prominent companies. In the field of data-driven finance and accounting, AI proves to be a tool for better performance and acquiring a sustainable competitive edge in the marketplace.

3. Challenges of Applying AI in Organizations:

3.1 Technical and Infrastructure Challenges:

Particularly in developing nations, institutions encounter several issues concerning the technical infrastructure required for AI application. Thus, in their study, Kokina, Blanchette, (Davenport, and Pachamanova 2025: 9) pointed out that AI application has to tackle a number of challenges, such as limited resources, absence of technical knowledge, privacy and data security issues, as well as deficiencies regarding infrastructures in higher education institutions, including poor Internet connection, lack of technical assistance, and a deficit in financing for a digital transformation.

According to the literature, institutions from advanced economies are usually able to implement AI successfully supported by regular training process, cross-disciplinary cooperation and investment in technological infrastructure, while organizations from developing countries are usually hampered by a lack of information, inadequate knowledge, and infrastructure issues (Mihai & Dușescu, 2022: 857).

3.2 Human Competencies and Skills Challenges:

The absence of specific technical knowledge is one of the most serious obstacles toward the utilization of artificial intelligence in companies. Utilizing such technologies demands a mix of technical and accounting abilities, which might not be attained by the present staff members. As highlighted by the authors (Leitner-Hanetseder et al. 2022: 549), complexity perceived in the use of AI instruments acts as a significant hurdle also, and it was established that the profession of accountants is undergoing a shift in the course of the next decade, with professionals moving their main focus from routine accounting to certain advisory services enabled by the innovations and incorporation of AI inventions into the profession.

Finally, from an academic standpoint, the results of the systematic research demonstrate that the introduction of AI literacy in universities is vital for creating the generation that will drive the process, while the effective application will depend upon the efficiency of educational programs, reliable systems and ethical evaluation of how to tackle the risks such as algorithmic biases (Kokina, Blanchette, Davenport & Pachamanova, 2025: 11).

3.3 Financial Challenges and Application Costs:

In the context of the challenges of AI adoption, it should be noted that the costs incurred in realizing AI systems remain one of the major obstacles for many organizations, particularly small and medium enterprises. These costs entail the purchase of both hardware and software solutions, employees' training costs, and maintenance of different systems. In the research conducted by Mihai and Dușescu (2022:858), it was pointed out that larger enterprises can benefit from the qualified workforce, sophisticated technological infrastructure, and financial capacity needed for adequate utilization of AI, while SMEs do not have sufficient digitization, finance, and the necessary technical and strategic capacity.

In the specific situation of Iraqi universities, new challenges emerge, such as insufficient training and support, limited technology access, infrastructural problems, limited time, and resistance to change that need to be addressed through elaboration of strategic plans for overcoming the mentioned issues independently yet with the coordination with the strategic development plan of the Foundation.

3.4 Resistance to Change and Cultural and Ethical Challenges:

A common problem that comes up with regards to the introduction of new technologies is employees' unwillingness to adapt to such change. Some employees may be worried about the dangers posed by AI technology when it comes to their profession and might think about it as taking their places in the respective jobs. Stancu & Dușescu (2021: 756) pointed out that the introduction of automation and AI processes in accounting will raise a range of questions referring to ethical problems, data security, and the risk of losing jobs, although its advantages, such as increase in efficiency, precision, and possibility of obtaining valuable insights are evident.

In regards to the ethical aspect, it has been found out that introduction of new technologies like artificial intelligence is going to lead to ethical challenges related to transparency, bias, cybersecurity, and accountability, meaning the necessity to implement an institutional ethical framework ensuring the safety of application and reliability of outputs (Daud, Kishan & Azhar, 2024: 92).

4. Prospects for the Application of Artificial Intelligence In Educational Institutions:

4.1 Digital Transformation in Universities:

Universities across the world are undergoing simultaneous transformations in various aspects of administrative and academic tasks with the use of end-to-end digital technology. Finance being the area where AI has the most potential, the nature of the university as a complicated environment dealing with vast budgets, payroll, purchases, and periodic reports gives AI the potential for improving efficiency and raising levels of compliance.

Research shows that strengthening the digital culture with AI leads to a stronger readiness for an AI culture and knowledge sharing which informs better strategies about AI operations in organizations and that educational institutions can derive AI benefits in improving payroll processing, budgeting, and in the regular making of financial reports. This theory was confirmed through the works of (Kokina, Blanchette, Davenport, & Pachamanova, 2025).

4.2 Opportunities in the Iraqi University Environment:

The Iraqi university environment offers good possibilities for the application of artificial intelligence in financial and accounting business. The universities in Iraq have the specialized cadres in the fields of the sciences and research, which can be used in developing these technologies and applying them to the development of the digital world; and the faculties of management and economics which produce qualified cadres every year to lead digital transformation.

Significant challenges arise, however, such as lack of training and support, limited access to technology and infrastructure, time constraints, resistance to change, among others, that require an in-depth approach to addressing them (Mihai & Dușescu, 2022: 860). The application needs to be supported by several elements: a proper technical infrastructure, qualified and trained human resources, the right administrative and institutional support which creates the right environment for the application.

4.3 Requirements for Successful Application and Institutional Readiness:

Several fundamental components are required to support the use of AI in schools, with each complementing the other. This is technical infrastructure (hardware, software, networks), qualified and trained cadres of human resources in the use of these technologies, and administration and institutional support that creates the appropriate environment for the application.

The study by Kokina, Blanchette, Davenport & Pachamanova (2025: 15) has confirmed that the

success of an app depends on targeted learning programs, robust systems, and ethical assessment to deal with risks such as algorithmic biases, workforce displacement, and integrity concerns. Similarly, Kureljusic & Karger (2023: 98) pointed out that there is still a lack of social, technical, and generalizable knowledge, which means that there is a need for an open research agenda that would fill this gap and facilitate the more frequent and efficient use of AI-based predictions in financial accounting.

Practical Framework

The results of the statistical analysis applied to the data obtained from the target sample were presented in this chapter, followed by testing the stability (Cronbach's alpha coefficient), descriptive analysis of the dimensions of the study and concluding with the testing of the statistical hypotheses.

1. Demographic Characteristics of the Study Sample:

The study sample was (33) employees working in financial affairs department at University of Tikrit (UoT), and because of the small number of the study population, the (full inventory) comprehensive survey method was used. The following breakdown of age, sex, and marital status was found in the sample:

Table (1): Distribution of the study sample by sex

Gender	Repetition	Percentage %
Male	32	97.0
Female	1	3.0
Total	33	100.0

Table (1) shows that the majority of the sample members are males (97.0%), while the percentage of females reached only (3.0%), which reflects the predominant nature of the Department of Financial Affairs at Tikrit University in terms of sexual makeup, and this distribution should be taken into account when interpreting the results.

Table (2): Distribution of the study sample by age group

Age Group	Repetition	Percentage %
25-34 years	4	12.1
35-44 years	22	66.7
45-54 years	5	15.2
55 years and above	2	6.1
Total	33	100.0

As it can be seen from Table (2), the highest percentage belongs to the age group (35-44 years), which is equal to (66.7%), and the second highest percentage belongs to the age group (45-54 years), which is equal to (15.2%), which means that the department prefers to employ young cadres at the beginning of their career life.

Table (3): Distribution of the study sample according to academic qualification

Educational Qualification	Repetition	Percentage %
Bachelor	5	15.2
Master	19	57.6
PhD	9	27.3
Total	33	100.0

Table (3) shows that (84.9%) of the sample members hold a master's or doctoral degree, which indicates a high level of education that is a strong pillar for the acceptance of artificial intelligence applications, as this level provides a knowledge base that can be scaled towards specialized technical skills.

Table (4): Distribution of the study sample by academic specialization

Specialization	Repetition	Percentage %
Accounting	13	39.4
Finance	9	27.3
Business Administration	9	27.3
Economy	2	6.1
Total	33	100.0

It is clear from Table (4) that the accounting major accounts for the highest percentage (39.4%), followed by the specializations of Finance and Business Administration with (27.3%) each, which enhances the suitability of the sample for the subject of the study, and makes its responses more accurate and credible in depicting the reality of financial and accounting business.

Table (5): Distribution of the study sample by years of experience

Years of Experience	Repetition	Percentage %
5-10 Years	7	21.2
10-15 years	4	12.1
More than 15 years	22	66.7
Total	33	100.0

Table (5) shows that (66.7%) of the sample members have more than (15) years of experience, which is a double advantage: on the one hand, it gives the department an institutional memory and rich field experience, and on the other hand, it requires additional effort in training programs on modern technologies to address the resistance to change that may accompany long experience.

2. Stability of the Study Instrument (Cronbach's Alpha Coefficient):

The stability of the study tool was verified using Cronbach's Alpha coefficient, where the coefficient is acceptable if it exceeds (0.70), and good if it exceeds (0.80). The results of the stability test are as follows:

Table (6): Results of the test of the stability of the study instrument using Cronbach's alpha coefficient

Dimension	Number of paragraphs	Cronbach's Alpha Value
Awareness and actual use	3	0.751
Benefits and Future Prospects	4	0.756
Application and readiness requirements	6	0.640
Challenges and Constraints	5	0.609
Expected Benefits	2	0.745
Survey as a whole	20	0.713

It is clear from Table (6) that the Cronbach's alpha coefficient for the questionnaire as a whole was (0.713), which is an acceptable coefficient according to the reference standard (>0.70), which indicates the stability of the study tool and its validity for application and reliance on its results. The coefficient values for the dimensions ranged between (0.609) and (0.756), which are values within the research-acceptable range.

3. Descriptive Analysis of the Dimensions of the Study:

The five-point Likert scale was used to measure the responses of the sample, where: (1) I agree completely, (2) I agree, (3) Neutral, (4) I disagree, and (5) I don't agree at all. The averages were interpreted according to the following criteria:

Table (7): The criterion for interpreting arithmetic averages according to the five-point Likert scale

Level of Approval	Range
Very high approval	1.00 - 1.80
High approval	1.81 - 2.60
Neutral (Medium)	2.61 - 3.40
Disapproval	3.41 - 4.20
Absolute disapproval	4.21 - 5.00

The study relied on the criterion shown in Table (7) to interpret the arithmetic averages of the responses of the sample members, where the responses were measured on the five-point Likert scale with scores (1=Totally agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Disagree at all), and the value of the hypothetical mean was calculated at score (3) to be used in testing hypotheses.

Table (8): Summary of the results of the study dimensions (arithmetic mean, standard deviation, and level of approval)

Dimension	Arithmetic mean	Standard deviation	Level of Approval
Awareness and actual use	2.08	1.03	High approval
Benefits and Future Prospects	1.67	0.65	Very high approval
Application and readiness requirements	1.76	0.56	Very high approval
Challenges and Constraints	2.04	0.75	High approval
Expected Benefits	1.68	0.71	Very high approval
Overall average	1.85	0.41	High approval

Table (8) shows that the overall average of the sample responses reached (1.85) with a high level of approval, which indicates that there are clear positive trends towards employing artificial intelligence in financial and accounting business. The dimension of (benefits and future prospects) achieved the

highest average of (1.67) with a very high level of approval, followed by the dimension of (expected benefits) with an average of (1.68), then the dimension of (application and readiness requirements) with an average of (1.76), all of which are within the very high level of approval.

The following is a detailed presentation of the results of each dimension of the study with the arithmetic mean and standard deviation of each paragraph:

Table (9): After-Awareness Outcomes and Actual Use of AI

Paragraph	Arithmetic mean	Standard deviation	Level of Approval
Artificial Intelligence Concept	1.82	1.10	High approval
Keeping up with technical developments	2.03	1.24	High approval
Relying on AI every day	2.39	1.43	High approval
Average Dimension	2.08	1.03	High approval

The dimension of awareness and actual use shows a high level of approval with an average of (2.08), which indicates that there is an acceptable awareness among AI workers, with a clear gap between theoretical awareness and actual daily use (2.39).

Table (10): After-benefit results and future prospects

Paragraph	Arithmetic mean	Standard deviation	Level of Approval
Improve financial efficiency	1.61	0.79	Very high approval
Reduce human effort	1.58	0.71	Very high approval
Promoting transparency	1.79	0.89	Very high approval
Strategic Decision Making	1.73	1.01	Very high approval
Average Dimension	1.67	0.65	Very high approval

This dimension achieved the highest level of approval with an average of (1.67), which reflects the strong belief of employees in the benefits of artificial intelligence in the development of financial and accounting work. The most prominent paragraphs were (reducing human effort) with an average of (1.58), which is in line with the literature that confirms the role of artificial intelligence in reducing operational burdens.

Table (11): Results after Application and Readiness Requirements

Paragraph	Arithmetic mean	Standard deviation	Level of Approval
The need to modernize systems	1.73	0.80	Very high approval
The Impact of Organizational Culture	1.94	1.34	High approval
Training Preparation	1.58	0.66	Very high approval
Accepting AI	2.00	1.06	High approval
Ease of Use	1.73	0.80	Very high approval
Need for intensive training	1.58	0.75	Very high approval
Average Dimension	1.76	0.56	Very high approval

This dimension shows a very high willingness to train with an average of 1.58, with a clear awareness of the need to modernize systems and intensive training. This reflects the conviction of workers that the shift towards AI requires building specialized human capabilities and not just technical

acquisition.

Table (12): Results after Challenges and Obstacles

Paragraph	Arithmetic mean	Standard deviation	Level of Approval
Lack of financial resources	2.36	1.32	High approval
Inadequate infrastructure	1.79	1.14	Very high approval
Initial Application Costs	2.36	1.37	High approval
Resistance to Change	1.97	1.19	High approval
Lack of technical skills	1.73	0.91	Very high approval
Average Dimension	2.04	0.75	High approval

This dimension indicates that there are real challenges that workers are aware of, most notably the lack of financial resources and the costs of initial implementation with an average of (2.36) each, followed by inadequate infrastructure and lack of technical skills. This finding is consistent with what has been reported in the global literature on the challenges of implementing AI in developing countries.

Table (13): Results after the expected benefits

Paragraph	Arithmetic mean	Standard deviation	Level of Approval
Enhanced security and privacy	1.76	0.87	Very high approval
Reduce human error	1.61	0.70	Very high approval
Average Dimension	1.68	0.71	Very high approval

This dimension shows very high positive expectations for the benefits of artificial intelligence, especially in reducing human errors by an average of (1.61) and enhancing security and privacy by an average of (1.76), which is in line with the results of the global literature that confirm the ability of artificial intelligence to raise the accuracy of reports and enhance information security.

4. Testing Statistical Hypotheses:

To test the statistical hypotheses, the One-Sample T-Test was used to compare the arithmetic mean of the sample responses for each dimension with the hypothetical mean (3), which represents the degree of neutrality on the five-point Likert scale, at the significance level of (0.05). The results of the hypothesis test are as follows:

Table (14): Results of the test of the first hypothesis (T-test of one sample for the dimension of consciousness and actual use)

Dimension	Arithmetic mean	Virtual Medium	T value	Degree of Freedom	Significance Level	Conclusion
Awareness and actual use	2.08	3.00	-5.142	32	0.000	Reject H0

It is clear from Table (14) that the calculated T value was (-5.142) at a significance level of (0.000), which is less than the significance level (0.05), which means that the zero hypothesis H0 is rejected and the alternative hypothesis H1 is accepted. This indicates that there are statistically significant differences between the arithmetic mean of the sample responses about the dimension of awareness

and actual use and the hypothetical mean (3). Since the arithmetic mean (2.08) is smaller than the hypothetical medium, this indicates a high level of approval (as it is according to the adopted standard), i.e., workers have an acceptable awareness of artificial intelligence, although the actual use is still limited.

Table (15): Results of the second hypothesis test (T-test for one sample for the dimension of challenges and obstacles)

Dimension	Arithmetic mean	Virtual Medium	T value	Degree of Freedom	Significance Level	Conclusion
Challenges and Constraints	2.04	3.00	-7.285	32	0.000	Reject H0

Table (15) shows that the calculated T value was (-7.285) with a significance level of (0.000) which is less than (0.05), which means that the null hypothesis H0 is rejected and the alternative hypothesis H1 is accepted. Since the arithmetic mean (2.04) is smaller than the hypothetical mean (3), this indicates a high level of agreement that there are challenges and barriers to the application of AI, a finding that is consistent with the literature that indicates that organizations in developing countries face real barriers in this area.

Table (16): Results of the third hypothesis test (T-test for one sample for the dimension of application prospects and readiness)

Dimension	Arithmetic mean	Virtual Medium	T value	Degree of Freedom	Significance Level	Conclusion
Application Prospects and Readiness	1.76	3.00	-12.684	32	0.000	Reject H0

It is clear from Table (16) that the calculated T value was (-12.684) with a significance level of (0.000) which is less than (0.05), which means that the zero hypothesis H0 is rejected and the alternative hypothesis H1 is accepted. Since the arithmetic mean (1.76) is much smaller than the hypothetical mean (3), this indicates a very high level of approval for the prospects of applying AI and institutional readiness requirements, which is a positive indicator of the department's ability to adopt these technologies, provided that the necessary requirements are met.

Discussion of the Results

The results of the field study indicate that there are clear positive trends among employees in the Department of Finance at Tikrit University towards employing AI in finance and accounting business, with an overall average of 1.85 with a high level of approval. This is in line with the conclusion of the Stancu & Duțescu (2021: 757) study that AI is transforming accounting by automating processes, enhancing operational efficiency, and increasing the accuracy of financial reporting, which is reflected in the awareness of employees and their aspiration to benefit from these technologies.

The (benefits and future prospects) dimension showed the highest average (1.67), reflecting the strong belief of employees in the importance of AI in the development of financial work. This finding is consistent with the study of Leitner-Hanetseder et al. (2022: 550) that the accounting profession is in

a state of transition in which roles and tasks are changing, and that accountants are on their way to moving from a focus on data entry to more specialized advisory services thanks to AI.

In terms of challenges, the results of the study confirmed that the most prominent barriers facing the implementation of AI in the department are lack of financial resources, initial application costs, inadequate infrastructure, and lack of technical skills. This is in line with what Mihai & Duțescu (2022: 859) reported that organizations in developing countries face greater barriers due to limited resources, lack of expertise, and infrastructure challenges, and that SMEs suffer from limited digitization and financial resources.

In terms of application prospects, 90.9% of the respondents expressed their willingness to receive training on the use of AI applications, and 84.8% of them stressed the urgent need for intensive training for all employees before adopting it. This finding is consistent with the findings of the study by Kokina, Blanchette, Davenport & Pachamanova (2025: 14) that the success of the application of AI depends on targeted learning programs, robust systems, and ethical assessment to deal with risks such as algorithmic biases. The presence of qualified staff (84.9% master's and Ph.D.) is a strong pillar to lead this transformation.

The results of the hypothesis test confirm a clear statistical significance for all dimensions of the study, as the values of significance levels (0.000) came less than (0.05) in the three hypotheses, which indicates that workers are clearly aware of the reality of limited awareness of use, the existence of real challenges, and a very high susceptibility to adopting technologies provided that the requirements are met. This is in line with the study of Kureljusic & Karger (2023: 96) that generalizable social and technical knowledge is still lacking, and that there is an urgent need to develop a research agenda to address this gap and enable the more efficient use of artificial intelligence in financial accounting.

Recommendations

Based on the findings of the study, the researcher recommends the following, categorized according to the dimensions of the application:

A. Recommendations Related to Infrastructure:

1. Developing the technological infrastructure in the Finance Department to be compatible with the requirements of artificial intelligence applications, while updating devices, networks, and information protection systems.
2. Allocating a sufficient budget for investment in modern systems and software supported by artificial intelligence, provided that it is included in the university's annual strategic plan.
3. Modernize existing financial and accounting systems to keep pace with recent technological developments, and link them to an AI-powered Enterprise Resource Planning (ERP) system.

B. Human Resources Recommendations:

1. Preparing intensive and specialized training programs for workers in the field of finance and accounting on the use of artificial intelligence applications, with accredited professional certificates.
2. Benefiting from the high academic competencies in the department (84.9% master's and doctorate) in leading the transformation process, by forming a specialized team for artificial intelligence.
3. Holding workshops and ongoing training courses to bridge the gap in technical skills, in cooperation with the colleges of business and economics and technical departments at the university.

C. Recommendations Related to the Application:

1. Gradually start applying AI in routine processes such as data entry and reporting, in preparation for expanding its scope.
2. Benefiting from the successful experiences of other universities in adopting artificial intelligence, and adopting the best international practices while adapting them to the local environment.
3. Develop a clear strategic plan for digital transformation with a specific timeline and measurable performance indicators, reviewed periodically.

D. Recommendations Related to Change Management:

1. Promote an organizational culture that supports change and innovation by raising awareness of the benefits of AI and responding to concerns transparently.
2. Involve staff in the planning and implementation stages to reduce resistance to change and enhance a sense of ownership.
3. Providing incentives and rewards to distinguished workers in the use of modern technologies, and linking this to the performance appraisal system.

E. Research Recommendations:

1. Conducting similar studies in other Iraqi universities for comparison and dissemination of the results to university institutions.
2. Studying the impact of the application of artificial intelligence on the quality of financial reports in educational institutions, using longitudinal approaches.
3. Study the relationship between the level of education, experience, and trends in the adoption of artificial intelligence, to deepen the understanding of the influencing factors.

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