

The Impact of Using Electronic Auditing Applications on Enhancing the Reliability of Accounting Information And Mitigating Accounting Manipulation Practices

Dr. Mostafa Mazouzi

Mohamed Boudiaf University - M'Sila
mostafa.mazouzi@univ-msila.dz
<https://orcid.org/0009-0000-8402-703X>

Pr. Salaheddine Cheriet

Mohamed Boudiaf University of M'Sila
salaheddine.cheriet@univ-msila.dz

Abstract:

This study aimed to analyse the impact of using electronic auditing applications on enhancing the reliability of accounting information and mitigating the use of creative accounting manipulation practices. It explores the role these applications play in supporting audit procedures and improving their effectiveness in detecting practices that may affect the credibility of financial reports. The study adopted a descriptive-analytical approach through reviewing and analysing relevant literature, with a particular focus on Audit Command Language (ACL) as one of the most prominent electronic auditing applications used in financial data analysis. The findings of the study demonstrate that electronic auditing applications, particularly ACL, contribute effectively to enhancing the quality of the audit process by analysing large volumes of data, detecting irregularities, and identifying indicators of manipulation in accounting records and financial reports. This enhances the reliability of accounting information and mitigates creative accounting manipulation practices. The results also indicate that the advanced analytical capabilities of these applications enable auditors to improve the efficiency of audit procedures, strengthen their ability to detect risks associated with financial reports, thereby supporting transparency and reinforcing confidence in the outputs of the accounting system. The study concludes that electronic auditing applications represent an effective tool for enhancing the reliability of accounting information and mitigating creative accounting manipulation practices, thereby contributing to raising the level of transparency and credibility in financial reporting.

Keywords: Electronic Auditing Applications, Reliability of Accounting Information, Creative Accounting Manipulation, Audit Command Language (ACL), Audit Quality.

Introduction:

The rapid transformations in information technology have given rise to a digital business environment that has reshaped accounting systems and auditing methods, bringing about a qualitative shift in the mechanisms of

Received: January 01, 2026; Accepted: April 05, 2026; Published: August 15, 2026¹

© 2026 The Author. Published by IMCRA. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY 4.0), which permits unrestricted use, distribution, adaptation, and reproduction in any medium, provided that the original author and source are properly credited.

<https://creativecommons.org/licenses/by/4.0/>



producing, processing, and disclosing financial information. This transformation has contributed to enhancing the efficiency of accounting operations and improving the quality of financial reports. However, at the same time, it has created a more complex environment that has provided new opportunities for engaging in accounting manipulation practices, exploiting the flexibility of certain accounting treatments and technological advancements in data processing. Such practices may negatively affect the reliability of accounting information, weaken the quality of financial reports, and undermine the confidence of their users (Noor Al-Huda & Mohamed, 2022).

In addressing these challenges, electronic auditing applications have emerged as one of the fundamental pillars for developing the auditing profession. These applications provide advanced tools and techniques for analysing financial data, extracting digital evidence, and detecting abnormal patterns and indicators of accounting manipulation risks. These applications are characterised by their ability to examine large databases with high efficiency and conduct automated and continuous audit tests, thereby contributing to enhancing the effectiveness of audit procedures, improving risk assessment, and raising the quality of evidence upon which the auditor bases their professional opinion (Hamdouna, 2008).

The importance of electronic auditing applications extends beyond merely improving the efficiency of the audit process; it encompasses enhancing the reliability of accounting information by supporting its qualitative characteristics, particularly faithful representation, neutrality, and verifiability. This reduces opportunities for employing accounting practices aimed at influencing business results or the financial position in a manner that does not reflect the economic reality of the entity. From this perspective, electronic auditing applications represent an advanced control mechanism that contributes to enhancing transparency and the quality of financial disclosure, thereby reinforcing confidence in the outputs of the accounting system (Hussam Ali & Amal Mohamed, 2020).

In light of the accelerating digital transformation and the increasing reliance on electronic accounting information systems, the quality and reliability of accounting information have become among the most important foundations upon which economic and investment decisions are based. Conversely, this transformation has created a more complex environment that has provided opportunities for engaging in accounting manipulation practices aimed at influencing business results or the financial position of entities, which negatively impacts the credibility of financial reports and the confidence of their users. In this context, electronic auditing applications have emerged as one of the modern mechanisms capable of supporting the quality of the audit process, enhancing the reliability of accounting information, and mitigating accounting manipulation practices through the employment of data analysis and digital control technologies (Wissam & Karim Al-Shammari, 2019).

Accordingly, the research problem is formulated in the following main question:

What is the impact of electronic auditing applications on enhancing the reliability of accounting information and mitigating accounting manipulation practices?

The following sub-questions branch from this main question:

- What is the conceptual framework of electronic auditing applications, and what are their most prominent characteristics and mechanisms for employment in the audit process?
- What is meant by the reliability of accounting information, and what are the most important factors influencing its achievement?
- What is the concept of accounting manipulation, and what are its most prominent methods, motives, and effects on the quality of financial reports?

-To what extent do electronic auditing applications contribute to enhancing the reliability of accounting information?

-What is the impact of electronic auditing applications on mitigating accounting manipulation practices?

Importance of the Study:

This study derives its importance from the increasing expansion in the employment of digital technologies within accounting and auditing systems, and the consequent necessity of developing control tools capable of keeping pace with the risks arising from the digital business environment. Its importance also stems from the growing need to enhance the reliability of accounting information as a basis for sound economic decision-making, and to mitigate accounting manipulation practices that may mislead users of financial statements and harm the credibility of financial reports (Al-Olimat & Al Shbail, 2021).

The importance of the study lies in highlighting the impact of electronic auditing applications on improving the quality of the audit process, enhancing the reliability of accounting information, and supporting transparency and governance. Furthermore, it demonstrates their role in mitigating accounting manipulation practices through the employment of data analysis tools and electronic control. The study's findings also contribute to providing a scientific and applied framework that can benefit economic institutions, audit firms, and regulatory bodies, thereby supporting the development of professional practices and enhancing the efficiency of financial information oversight.

Objectives of the Study:

This study aims to achieve the following objectives:

-To establish the conceptual framework of electronic auditing applications and explain their characteristics and importance in developing the auditing profession.

-To analyse the concept of reliability of accounting information and explain its determinants and importance in enhancing the quality of financial reports.

-To study the concept of accounting manipulation, and analyse its motives, methods, and effects on the credibility of accounting information.

-To analyse the impact of electronic auditing applications on enhancing the reliability of accounting information.

-To evaluate the impact of electronic auditing applications on mitigating accounting manipulation practices.

-To provide a set of scientific and practical recommendations that support the employment of electronic auditing applications in a manner that contributes to raising audit quality, enhancing transparency, improving the reliability of accounting information, and mitigating accounting manipulation practices.

I. Conceptual Framework of Electronic Auditing:

1. Definition of Electronic Auditing:

Electronic auditing has been defined as "a systematic process of obtaining evidence regarding the financial assertions made by management, and objectively evaluating this evidence to verify the extent to which management's assertions correspond with objective facts, and presenting the results to interested parties" (Nashwan, 2014, p. 318). It has also been defined as "the process of collecting and evaluating information to

determine whether the use of an electronic computer system contributes to achieving the required objectives and specified administrative goals, such as protecting the institution's assets, effectively achieving the institution's goals, and efficiently and effectively using its resources" (Ghabayen, 2012, p. 21). It also means "the process of applying auditing systems using information technology to assist the auditor in planning, controlling, and documenting audit activities" (Hamdouna, 2008, p. 926).

Based on these definitions, "electronic auditing" can be defined as a systematic process based on the use of information technology and computer techniques, aimed at verifying the accuracy and appropriateness of financial assertions using objective evaluation of evidence, and presenting the results to interested parties.

2. Objectives of Electronic Auditing:

The use of computer systems in performing audit work enables the auditor to exploit the advantages of computing in carrying out these tasks with greater efficiency and accuracy. The auditor can use computer programmes to read the data required for auditing, select samples, and perform the necessary steps for gathering evidence. Additionally, they can use computing to perform logical and arithmetic tests, facilitating the verification of previous transactions. The computer offers the auditor the advantage of lower costs compared to manual execution of these tasks. As a tool for managing accounting data, the use of computing contributes to achieving the following set of objectives (Sabiha, 2015, p. 423):

- Enhancing the Reliability of Accounting Information: The auditor aims to employ electronic auditing applications to verify the accuracy, completeness, and integrity of financial data, thereby ensuring the production of accounting information characterised by credibility and verifiability, and providing a reliable basis for economic and investment decision-making.

- Detecting Accounting Manipulation Methods: Electronic auditing applications contribute to enabling the auditor to analyse financial data and detect abnormal indicators and material misstatements that may reflect the existence of accounting manipulation practices. This is achieved through the use of data analysis tools and electronic audit tests that increase the efficiency of the detection process and reduce the risk of failing to detect errors or material misstatements.

- Enhancing the Efficiency and Effectiveness of the Audit Process: The auditor aims to benefit from the technical capabilities of electronic auditing applications in performing audit procedures with greater accuracy, speed, and comprehensiveness. This contributes to improving the quality of professional evidence, enhancing the efficiency of risk assessment, and rationalising the time and effort expended in completing audit tasks.

- Supporting Information Security and Risk Management: Electronic auditing applications seek to provide a secure control environment by evaluating information security controls, verifying the integrity of databases, and protecting accounting information from risks of breach, modification, or loss. This enhances the continuity of digital systems and preserves the confidentiality, integrity, and availability of information.

In summary, electronic auditing applications aim to enhance the reliability of accounting information, mitigate accounting manipulation practices, improve the quality and efficiency of the audit process, and support information security and risk management. This contributes to enhancing transparency, reinforcing confidence in financial reports, and supporting the principles of good governance.

3. Characteristics of Electronic Auditing:

Electronic auditing is characterised by a set of features that distinguish it from manual auditing and play a key role in enhancing the competitive advantage of companies and bodies in the auditing field. These characteristics can be summarised as follows (Amin & Khadija, 2016, p. 42):

-Efficiency and Effectiveness: Electronic auditing applications contribute to raising the efficiency and effectiveness of the audit process by automating audit procedures and analysing large volumes of financial data in record time. This enables the auditor to perform tasks with greater accuracy, detect deviations more effectively, and rationalise time, effort, and cost.

-Reliability and Dependability: Electronic auditing applications enhance the reliability of accounting information by verifying the integrity, completeness, and consistency of data, and providing digital audit evidence characterised by accuracy and objectivity. This supports the credibility of financial reports and increases the confidence of their users in the results of the audit process.

-Accuracy and Transparency: Electronic auditing applications enable the performance of advanced control and analytical tests to detect errors, material misstatements, and indicators of accounting manipulation. This contributes to improving the level of transparency and financial disclosure, and providing accurate and relevant accounting information that supports sound economic decision-making.

-Quality of the Audit Process: The employment of electronic auditing applications leads to elevating the quality of the audit process by improving risk assessment procedures, enhancing the efficiency of collecting and analysing evidence, and providing more continuous and comprehensive control. This mitigates accounting manipulation practices and enhances the reliability of financial reports in accordance with adopted professional standards.

In summary, electronic auditing applications represent a fundamental pillar in developing the quality of the audit process, enhancing the reliability of accounting information, and mitigating accounting manipulation practices. This contributes to supporting transparency, reinforcing confidence in financial reports, and improving the efficiency of control and governance systems.

4. Methods of Electronic Auditing:

The auditing-around-the-computer approach is based on examining input data and comparing electronic outputs with original documents and records, without delving into how data is processed within the electronic system. This approach aims to verify the correctness of processing results and the accuracy of financial reports, thereby contributing to enhancing the reliability of accounting information. Despite its ease of application, its effectiveness remains limited in detecting accounting manipulation practices that may occur during electronic processing stages, necessitating its support with other more comprehensive audit procedures (Bagranoff, Simkin, & Norman, 2010, p. 460).

Under this approach, the auditor can reach an accurate assessment of internal control and evaluate the performance of control and basic audit operations for processes and activities. This is in addition to conducting control tests and substantive tests of operations (Arens, Elder, & Beasley, 2014, p. 380).

The application of the auditing-around-the-computer approach requires the availability of original documents in a clear and organised manner, enabling the auditor to trace financial transactions and verify the correctness of input data and its correspondence with accounting outputs. It also requires preparing a detailed list of outputs to facilitate the examination and comparison process, while benefiting from information technology applications in

organising and retrieving documents efficiently, thereby enhancing the accuracy of audit procedures and the reliability of their results (Arens & Loebbecke, 2009, p. 689).

4.1 Auditing-Through-the-Computer:

The auditing-through-the-computer approach is based on examining electronic processing procedures and the controls embedded within the system, rather than limiting the examination to comparing inputs with outputs. The auditor relies on using electronic audit techniques and tools to evaluate the integrity of operating programmes and the efficiency of internal control, and to verify the correctness of data processing at its various stages. This approach contributes to providing more reliable audit evidence and enhancing the ability to detect errors and accounting manipulation practices within electronic systems (Arens, Elder, Beasley, & Hogan, 2017, p. 386).

When the auditor uses this approach, they rely on what is known as Computer-Assisted Audit Techniques (CAATs), which provide effective means for testing and controlling computer applications. These techniques enable the verification of the correctness of internal operating processes of the relevant programmes by examining the programme's design and confirming the correctness of its execution. The methods used by the auditor include (Hamdouna, 2008, pp. 927-928):

-Parallel Simulation Approach: This method involves the auditor processing a sample of actual data using an independent programme that simulates the system under audit, then comparing the results with the entity's original outputs. This contributes to verifying the integrity of electronic processing and detecting errors or indicators of accounting manipulation, thereby enhancing the reliability of accounting information.

-Test Data Approach: The auditor prepares hypothetical data that includes different operating scenarios and inputs them into the electronic system to test the efficiency of processing programmes and control procedures, and to ensure the system's ability to correctly process data and detect deviations or improper transactions.

-Electronic Audit Programmes: The auditor uses specialised audit applications to perform audit tests and analyse financial data with high efficiency. These applications are divided into custom programmes designed in accordance with the nature of the entity's system, and general programmes used in various audit environments to analyse data, detect risks, and enhance the quality of audit procedures while mitigating accounting manipulation practices.

4.2 Auditing-Using-the-Computer:

The auditing-using-the-computer approach involves employing computer applications to support the various stages of the audit process, from planning to the execution of control tests and substantive tests, and documenting their results. These applications also contribute to organising audit procedures, identifying and analysing samples, and evaluating examination results with accuracy and objectivity. This enhances the efficiency and effectiveness of the audit process, raises the reliability of accounting information, and increases the auditor's ability to detect indicators of accounting manipulation (Al-Dhunaybat, 2015).

There is a set of programmes used for these purposes, including:

-**Custom Audit Programmes:** Custom electronic auditing programmes represent applications designed specifically to suit the nature of the entity's accounting information system. They are used by the auditor to perform specific audit procedures in accordance with the objectives of the engagement. These programmes enable efficient access to and analysis of electronic data, supporting the collection of sufficient and appropriate audit evidence, enhancing the reliability of accounting information, and increasing the ability to detect errors and indicators of accounting manipulation. The development of these applications requires collaboration between the

auditor and information systems experts or system developers to ensure their compatibility with the characteristics of the electronic system and the efficient achievement of audit objectives (Jum'a, 2012). This includes:

- Accurately defining the programme's objectives to ensure compatibility with the nature of the audit engagement and the required procedures.
- Analysing and documenting work procedures by preparing a detailed description of processing stages and data circulated within the system.
- Designing process flowcharts that illustrate the data path from input through processing to output, facilitating system evaluation and understanding of its operation mechanism.
- Collaborating with information systems experts during the programme's design to ensure its compatibility with the entity's technical environment and the achievement of audit requirements.
- Testing the programme and verifying its efficiency before actual use, to ensure the accuracy of its results and its ability to detect errors and indicators of accounting manipulation.
- Ensuring the programme's compatibility with audit objectives to enhance the reliability of accounting information and raise the quality of electronic audit evidence.

-General Audit Programmes: General electronic auditing programmes are applications designed to be usable across various accounting information environments and systems, without being tied to a specific entity or system. These programmes enable the auditor to perform numerous audit procedures, such as verifying the correctness of balances and arithmetic operations, analysing financial data, extracting reports, and conducting analytical tests. This contributes to improving the efficiency and effectiveness of the audit process. They also help enhance the reliability of accounting information by detecting errors, deviations, and indicators of accounting manipulation, and providing more accurate and objective electronic audit evidence. These procedures include (Abu Ghayyah, 2009):

- Verifying the correctness of balances and accumulations.
- Performing arithmetic operations and calculations accurately.
- Verifying and analysing financial ratios.
- Reviewing and monitoring reorder inventory.
- Performing comparison operations between stored data and information.

II. Conceptual Framework of Accounting Manipulation (Creative Accounting)

1. Concept of Creative Accounting:

Creative accounting is an accounting practice aimed at presenting the company in the best possible light to stakeholders by following accounting principles or standards. Thus, creative accounting represents the process of transforming financial accounting data from its actual state to a state that the financial report preparer intends to present, whether by complying with current standards or by ignoring some or even all of them (Madan, 2016, pp. 62-143). Creative accounting involves accounting procedures that may or may not agree with the text of accounting standards, but certainly do not comply with them (Adamikova & Tatiana, 2021, p. 14). The characteristics of creative accounting include excessive complexity and the use of innovative methods to represent income, assets,

and liabilities. Creative accounting represents a systematic distortion of the real and fair income, liabilities, and assets of the bank or institution (Brijesh, 2014, p. 38). Many believe that creative accounting deliberately works to beautify financial statements and present them without showing the true vision, to serve a specific group, by exploiting some gaps in international accounting standards (Nofan & Mohammed, 2021, p. 57). The goal of every company in creative accounting is to enhance and expand its market position, while financial statement frauds have also spread over the years to Central European countries (Durana, Roman, Veronika, & Miroslav, 2022, p. 481).

2. Motives for Resorting to Creative Accounting Practices:

Creative accounting refers to the use of accounting methods and techniques to improve the representation of financial data in beautifying ways or to improve financial performance without adhering to traditional financial reporting. These practices may appear within the framework of implementing accounting rules unconventionally or through the use of creative techniques to improve the appearance of financial results. The most prominent motives for using accounting manipulation practices are as follows (Bhasin, 2016, p. 36):

- a. Improving Apparent Financial Performance: Some managements may resort to using accounting manipulation practices to show better financial results, with the aim of maximising the entity's market value and enhancing investor confidence, without this reflecting the true economic performance.
- b. Mitigating the Negative Effects of Financial Crises: Accounting manipulation practices may be used to conceal the decline in financial performance or reduce the impact of losses, preserving the entity's image before stakeholders.
- c. Achieving Managerial Incentives and Rewards: Some managers may seek to improve financial indicators to achieve performance-related bonuses, or to fulfil the terms of financing agreements, or to facilitate obtaining new financing sources.
- d. Enhancing Reputation and Attracting Investors: Some entities may aim to superficially improve the quality of financial reports to create a positive image of their financial position, thereby attracting investors and enhancing the confidence of financial markets, although these practices may negatively affect the reliability of accounting information.

In addition to the aforementioned motives (Al-Olimat & Al Shbail, 2021, p. 55), there are also other motives for the emergence of creative accounting, such as tax evasion. Tax evasion is defined as the use of loopholes or gaps in the tax system to reduce the amounts of taxes due through illegal methods. Providing misleading or exaggerated financial information is among the methods of creative accounting used as a means to implement tax evasion by modifying financial data in a way that reduces income or increases expenses to reduce the amounts of taxes due.

3. Factors that Contributed to the Emergence of Creative Accounting:

Several factors have contributed to the emergence of accounting manipulation practices, including but not limited to the following (Fatima, 2011, p. 26):

- a. Exploiting Flexibility in Choosing Accounting Policies: Management may exploit the alternatives provided by accounting standards to choose policies that achieve financial results more favourable to their objectives, thereby affecting the presentation of financial performance and the financial position of the entity.

b. Manipulating Accounting Estimates: Some accounting items depend on professional estimation, which may allow management to employ biased estimates regarding provisions, depreciation, asset impairment, and revenues, thereby affecting business results and financial statements.

c. Influencing the Timing of Recognition of Accounting Transactions: Management may resort to accelerating or delaying the recognition of some revenues or expenses, or the execution of some economic transactions, to serve their objectives in improving financial indicators during a specific period, without this reflecting the true economic reality of the entity.

4. Areas of Creative Accounting:

Creative accounting extends to several areas within the accounting field, where it can be applied in many aspects. There are some areas where creative applications can be achieved (Al-Naqdi, 2020, p. 195):

- Manipulation of Accounting Estimates: This involves exploiting professional estimates related to provisions, depreciation, and asset impairment, thereby affecting business results and the financial position of the entity.

- Manipulation of Revenue and Expense Recognition: This includes accelerating or delaying the recognition of revenues or expenses between financial periods with the aim of improving apparent financial performance.

- Manipulation of Presentation and Accounting Disclosure: This involves modifying the method of presenting some items or hiding material information in the financial statements, thereby affecting users' understanding of the entity's true financial position.

- Manipulation of Asset and Liability Valuation: This includes overstatement or understatement of asset or liability values, leading to distortion of the financial position and business results.

- Manipulation of Classification of Accounting Transactions: This involves reclassifying some items or financial transactions in a way that affects financial indicators and ratios used in performance evaluation.

- Manipulation through Fictitious Transactions: This includes recording unreal transactions, inflating the values of some transactions, or concealing certain liabilities with the aim of presenting a financial image that does not reflect the economic reality of the entity.

5. Methods of Accounting Manipulation:

There are several means and methods used to manipulate accounting data, the most important of which are (Iqbal & Abdul Mun'im, 2010, p. 94):

- In some cases, accounting policies allow companies to choose from a variety of accounting methods, and thus the company can choose the accounting policy that reflects the desired image of the company.

- Estimation is used in some accounting inputs related to valuation and forecasting. In this case, the accountant can manipulate the value by choosing the value used or by selecting an optimistic or pessimistic estimate according to the company's circumstances.

- Transactions can be executed in multiple ways to influence the profits recorded in the budget or to present a different distribution of profits across accounting periods. This can be done by dividing transactions into two or more parts, taking into account the financial feasibility of the third transaction.

-The timing of transactions is used strategically to load profits or losses to specific accounting periods. This is achieved by delaying or accelerating the execution of transactions with the aim of adjusting the financial impact associated with recording profits or losses.

-Manipulation of the timing of transactions with the aim of loading them with profits or losses for specific purposes. Transactions can be executed in a way that carries them to accounting periods that serve specific objectives, creating differences between the value recorded in the books and the market value or the real value of assets and liabilities.

5.1 Methods Used for Manipulation of Financial Statements:

a. Income Statement: The most prominent methods and tools used to manipulate the income statement can be presented through the following methods (Hussein & Fares, 2011, pp. 365-366; Mulford & Comiskey, 2002, p. 200):

-Early Recognition of Revenues: This involves recording revenues before meeting the conditions of accounting recognition or before the completion of the process of providing goods or services, leading to inflation of business results during the current financial period.

-Recording Fictitious Transactions: This includes recording non-genuine sales, revenues, or financial transactions with the aim of raising profits and improving financial indicators, thereby misleading users of financial statements.

-Recognising Non-recurring Revenues as Operating Revenues: This involves including exceptional revenues or those resulting from one-time transactions within operating revenues, to show better financial performance than actually exists.

-Manipulation of the Timing of Expense Recognition: This involves accelerating or delaying the recording of expenses between financial periods, or capitalising them unjustifiably, with the aim of influencing net profit and improving financial results.

-Manipulation of Liability Disclosure: This includes concealing some liabilities or understating their value, or failing to disclose them appropriately, leading to the presentation of a stronger financial position than reality reflects.

-Deferring or Postponing Revenue Recognition between Financial Periods: Some managements may postpone part of the realised revenues to later periods to achieve apparent stability in profits or improve financial performance in future periods.

-Charging the Current Period with Future Expenses: This involves the early recognition of some expenses expected to occur in the future, with the aim of reducing the current period's profits and providing the opportunity to achieve better financial results in subsequent periods.

b. Methods of Accounting Manipulation in the Statement of Financial Position (Oliver, 2003, p. 78):

The statement of financial position is one of the most important financial statements, as it provides material information about the entity's assets, liabilities, and equity, helping users of financial statements to assess the financial position and predict future cash flows. Due to its importance, this statement may be an area for accounting manipulation practices, through overstatement or understatement of assets and liabilities, reclassification of some items, inadequate disclosure of potential liabilities, or manipulation of accounting

estimates related to provisions and asset impairment. These practices lead to distortion of the true picture of the financial position, negatively affecting the reliability of accounting information and the quality of economic decisions based upon them. These include:

- Manipulation of Intangible Asset Valuation: Such as overestimating brands and accounting recognition of intangible assets, contrary to international accounting rules.

- Manipulation of Fixed Asset Values: Where the value recorded in the budget can be determined in ways that do not comply with the historical cost principle, in addition to manipulation of agreed depreciation rates for assets.

- Current Assets: Manipulation of stock prices used to value the securities portfolio and unjustified reductions in provisions for price declines.

- Non-disclosure of Restricted Cash Items: And manipulation of exchange rates used to translate available cash items from foreign currencies.

- Accounts Receivable: These methods include non-disclosure of doubtful debts with the aim of reducing the value of the provision for doubtful debts, and execution of deliberate errors in the classification of accounts receivable accounts. Long-term receivables can be classified as current assets to improve the entity's liquidity.

- Long-term Investments: These methods include changing the accounting methods used in accounting for long-term investments, from the cost method to the equity method.

- Contingent Assets: Contingent assets are recognised before their realisation is confirmed, which includes recognising revenues expected to be collected from a lawsuit before judgment is issued.

- Current Liabilities: Long-term loans can be included in current liabilities instead of long-term loans to improve liquidity ratios.

- Long-term Liabilities: These include using long-term loans before the budget announcement to repay short-term loans to improve liquidity ratios.

- Inventory: Manipulation and creative accounting methods here are concentrated on including items of stagnant and obsolete goods and unjustified changes in the inventory pricing method.

- Shareholders' Equity: These methods include adding gains realised from previous years to the current year's net profit instead of treating them within retained earnings as required.

c. Methods of Accounting Manipulation in the Statement of Cash Flows (Mulford & Comisky, 2002, p. 37):

Methods of accounting manipulation in the statement of cash flows aim to present all cash inflows and outflows in terms of their sources and uses during a specific period. This statement is prepared to help investors, creditors, analysts, and others analyse cash by providing relevant information about the sources and payments of cash flows during a specific period. Opportunities for manipulation of accounting values using accounting manipulation methods appear in the statement of cash flows, such as:

- Reclassification of Cash Flows: Some entities may resort to reclassifying some operating cash flows as investing or financing flows, or vice versa, with the aim of improving liquidity indicators and cash flows resulting from operating activities.

-Capitalisation of Some Capital Expenditures: This method involves recording some expenditures within investing activities instead of charging them to operating activities, leading to the presentation of operating cash flows higher than they actually are.

-Manipulation of Operating Cash Flows: This includes modifying or redistributing some cash flows related to the sale of assets, investments, or discontinued operations, with the aim of improving operating cash flows or reducing tax liabilities, thereby presenting a financial picture that does not reflect the economic reality of the entity.

d. Methods of Accounting Manipulation in the Statement of Changes in Equity (Jarrar, 2006, p. 66):

As for methods of accounting manipulation in the statement of changes in equity, they are based on monitoring and tracking changes in equity items during the financial period and presenting them on an accrual basis. Creative accounting practices are used through procedures of fictitious changes in increasing or decreasing paid-in capital, as well as earned and imputed capital, which affect the reassessment of the magnitude of prior period errors, prior option losses, and foreign currency balances.

III. The Role of Using Electronic Programmes in Mitigating Accounting Manipulation Practices

Electronic auditing applications represent a qualitative development in modern auditing practices, as they rely on data analysis techniques and digital systems to support audit procedures and improve their efficiency and effectiveness. These applications contribute to examining large volumes of financial data with speed and accuracy, and extracting reliable electronic audit evidence, thereby enhancing the quality of the audit process and raising the level of reliability of accounting information (Coderre, 2009).

Electronic auditing applications rely on advanced tools for data analysis and detection of abnormal patterns, material misstatements, and indicators of accounting manipulation. This enables the auditor to assess risks more accurately and detect errors or misstatements in a timely manner. They also allow for the automated and continuous execution of control and analytical tests, which increases the efficiency of audit procedures and reduces the risks of failing to detect manipulation.

In light of the accelerating digital transformation, electronic auditing applications have become an essential tool for enhancing transparency, governance, and the quality of financial disclosure, by supporting the reliability of accounting information and mitigating accounting manipulation practices. This contributes to consolidating the confidence of investors and stakeholders in financial reports, and enhancing the efficiency and sustainability of the business environment (ACL Analytics, 2023).

As previously indicated, audit programmes are divided into (Coderre, 2009):

-General Audit Programmes: These programmes are widely used for financial and accounting purposes, not only for auditing. They include common office programmes such as Microsoft Excel and Microsoft Word, which can be used to prepare reports, spreadsheets, and accounting and financial documents.

-Custom Audit Programmes (CAATs - Computer-Assisted Audit Tools: These programmes are specifically designed for auditing and review purposes. They aim to facilitate and improve auditing and verification processes. Custom audit programmes include many tools that help in data analysis, testing financial transactions, and detecting irregularities and errors. Examples of custom audit programmes include ACL (Audit Command Language), IDEA (Interactive Data Extraction and Analysis), and others.

1. The Most Important Electronic Auditing Programmes Used to Overcome Creative Accounting Practices:

There are many electronic auditing programmes used to overcome creative accounting practices and enhance the quality of audit processes. The following are some of the most important of these programmes:

-**ACL (Audit Command Language):** A powerful and well-known programme used to perform advanced data analysis on financial data and databases. It allows auditors to identify deviations and abnormal patterns in data and detect creative accounting practices (ACL, 2023).

-**IDEA (Interactive Data Extraction and Analysis):** A specialised programme for accurately analysing and examining financial data. It allows for the execution of advanced analyses and the detection of deviations and inconsistencies in data (IDEA, 2023).

-**TeamMate:** A programme that helps in managing and organising auditing and review processes. It can be used to create work schedules, track examination progress, and document results (TeamMate Audit Solutions, 2023).

-**CaseWare IDEA:** Offers a variety of tools for analysing and examining data. It helps in detecting errors and illegitimate practices in financial data (Caseware, 2023).

-**Galvanize HighBond:** An integrated platform that combines various audit and risk management tools. It helps in data analysis, detecting deviations, and providing integrated reports (Galvanize Diligent, 2023).

-**Wolters Kluwer CCH Axcess:** A platform that supports many aspects of auditing and risk management. It can be used to analyse data and detect inconsistencies and errors (Axcess CCH, 2023).

-**Arbutus Analyzer:** Considered one of the advanced data analysis tools, it allows for identifying deviations and analysing financial data in multiple ways (Arbutus Analyzer, 2023).

-**Power BI:** Although it is primarily a data visualisation tool, it can be used to analyse financial data and detect deviations (Power Bi, 2023).

-**Tableau:** Similar to Power BI, it can be used to analyse and visualise financial data in innovative ways (Power Bi, 2023).

In our study, we focused on the ACL (Audit Command Language) programme. It was developed by "ACL Services Ltd.", a technology company specialising in the field of data analysis and auditing. The company was established in 1987 in Canada, with its headquarters in Vancouver, British Columbia, Canada. The ACL programme is one of the well-known programmes in the field of data analysis and auditing, and it has been widely used in a variety of industries and sectors to improve audit quality and detect potential deviations and irregularities in financial data (ACL, 2023).

The name "Audit Command Language" comes from the power of the advanced tools and commands that the programme provides to users for conducting data analysis and audit procedures. It allows users to access a variety of customised functions and commands for data analysis and applying audit operations to them.

1.1 Features and Functions of the ACL Programme Include (ACL, 2023):

-The ability to import and analyse multiple data sources, including databases, spreadsheets, and text files.

-Data analysis using advanced commands including filters, queries, and comparisons.

- Detection of potential manipulations and irregularities in data.
 - Creation of customised reports to illustrate analysis and audit results.
 - Support for electronic auditing operations and big data examination.
- ACL is mainly used in the fields of internal audit and external audit, where it can contribute to increasing the accuracy of verification and improving audit quality through the use of advanced techniques and tools available in the programme.



Source: <https://ae.linkedin.com/pulse/audit-command-language-ben-ali>

-The user interface in the ACL (Audit Command Language) programme is the medium between the user and the programme, and it is the environment in which the user interacts with the tools and features available in the programme.

-The user interface aims to provide an easy and effective means for users to perform audit tasks and data analysis.

The user interface in the ACL programme is characterised by many features:

-Command and Tool Menu: The user interface provides a set of commands and tools that the user can use to perform various audit tasks. These commands include the ability to import data, analyse it, execute queries, perform tests, and generate reports.

-Display and Editing Windows: The user interface allows data to be displayed visually in separate windows. The user can view tables, charts, and analytical results in these windows and interact with them.

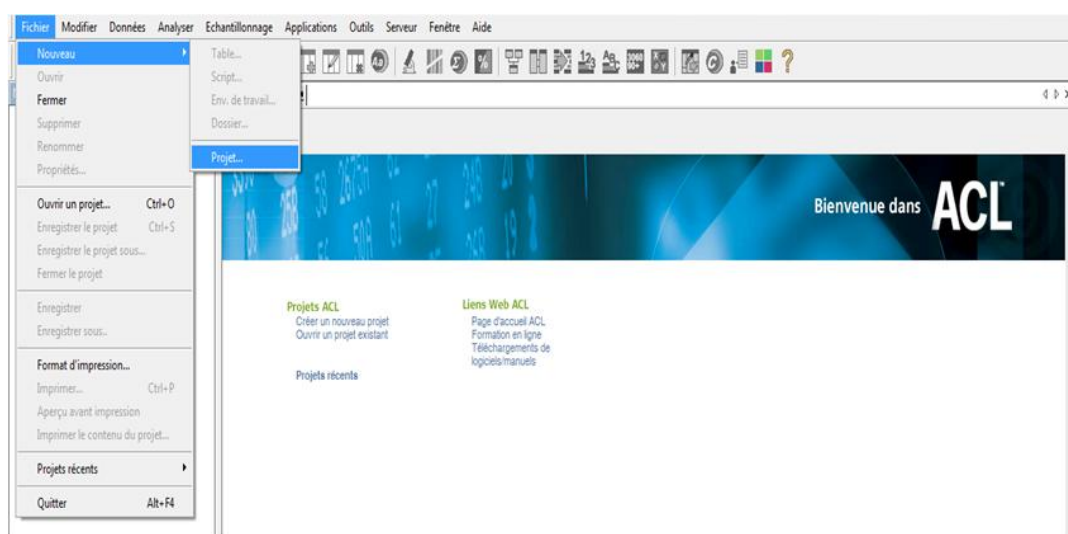
-Settings and Customisation: The user can customise the user interface according to their needs. Settings can be adjusted and personal preferences defined to improve the user experience.

-Browsing and Navigation: The user interface provides tools for easily navigating between data and files, making it easy for the user to move between many sources and analyse them.

-Interaction and Visual Analysis: The user interface allows users to analyse data and create visual reports, such as graphs and statistical charts, helping to interpret data better.

-Batch Processing: Some electronic auditing programmes provide an interface for batch processing, where the user can automatically execute a series of commands on large groups of data without manual intervention.

-Help and Documentation: The ACL programme includes manuals and documentation for users to help them understand and use the tools and functions available in the programme.



Source: <https://ae.linkedin.com/pulse/audit-command-language-ben-ali>

The auditor benefits from an electronic auditing programme such as ACL (Audit Command Language) when performing auditing operations and data analysis.

1.2 Use of the ACL Programme: How the Auditor Can Use the Programme (ACL Analytics, 2023):

-Importing Data: The auditor begins by loading data files from various sources such as databases, Excel spreadsheets, text files, etc.

-Data Analysis: Using the commands available in the ACL programme, the auditor can perform various analyses on the data. For example, they can execute queries to extract data that matches specific conditions.

-Verification Tests: The auditor can perform verification tests on the data using specified checks and rules. They can detect differences, errors, and inquire about them.

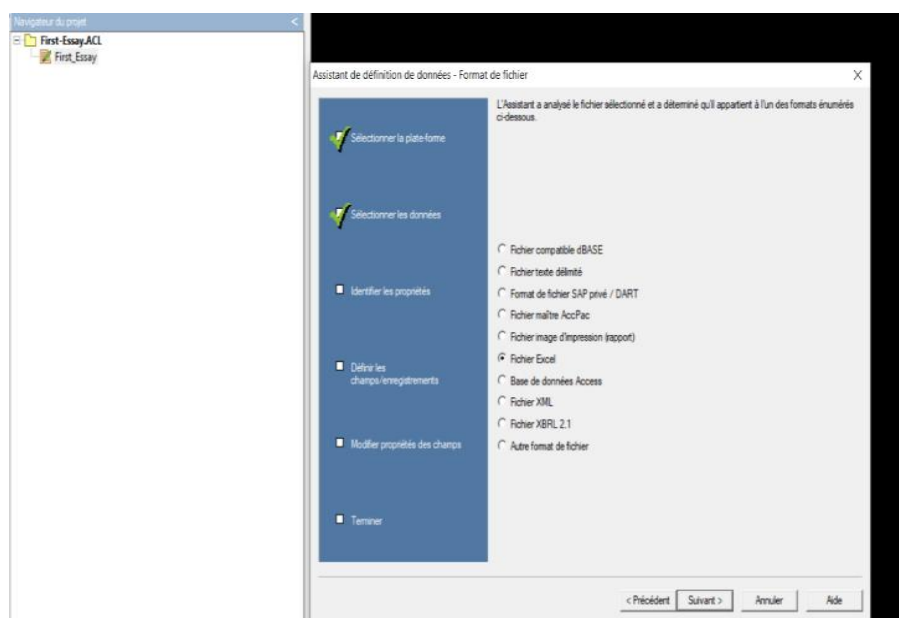
-Application of Statistical Methods: The auditor can use the statistical tools available in the ACL programme to analyse data and reveal patterns and trends.

-Report Preparation: The auditor can create reports illustrating the results of the analyses and tests they have conducted. They can generate detailed reports showing results and conclusions.

-Use of Periodic Queries: The auditor can set up specific queries to extract the same type of data periodically, facilitating process monitoring and detecting changes.

-Compliance Monitoring and Legal Reasoning: The auditor can use the ACL programme to verify compliance with laws and regulations and monitor any potential violations.

-Risk Analysis: Using the available data and analysis tools, the auditor can identify potential risks and provide assessments regarding them.



Source:

<https://ae.linkedin.com/pulse/audit-command-language-ben-ali>

The auditor uses the ACL (Audit Command Language) programme to detect and prevent creative accounting practices by executing the following steps (ACL Analytics, 2023):

-Data Analysis: The auditor loads the financial and accounting dataset into the ACL programme. This data includes the accounts and financial transactions being examined.

-Data Querying: Using the query language available in ACL, the auditor can create specific queries for the data. They can use these queries to examine the data for unusual or suspicious patterns.

-Detection of Changes and Variances: The auditor can use ACL to compare data across different periods, allowing for the detection of any unjustified changes in financial data. This can include an unjustified increase in expenses or unexpected changes in revenues.

-Use of Analytical Techniques: The auditor can use the advanced analytical techniques available in ACL to analyse the data. For example, they can apply standard deviation analysis to identify abnormal transactions.

-Transaction and Operation Analysis: Using ACL, the auditor can analyse financial transactions and operations to detect any unusual patterns. They can monitor purchasing and sales operations to verify the existence of any illegitimate practices.

-Creation of Detailed Reports: The auditor uses ACL to create detailed reports showing conclusions and results based on data analysis. These reports help document findings and guide necessary actions.

-Continuous Monitoring: The ACL programme can also be used to set up a continuous monitoring system for data. It can execute queries periodically and automatically to examine data and detect any unusual patterns immediately.

Conclusion:

This study has provided a scientific treatment of the impact of electronic auditing applications on enhancing the reliability of accounting information and mitigating accounting manipulation practices, with a focus on the ACL (Audit Command Language) programme as one of the most prominent electronic auditing applications used in financial data analysis and supporting audit procedures. The study also addressed the relationship between employing modern digital technologies and improving the quality of the audit process, and their role in enhancing the credibility of accounting information and mitigating practices that affect the fairness and transparency of financial reports.

The study reviewed how electronic auditing applications, particularly the ACL programme, are employed in performing audit procedures and analysing financial data using advanced techniques that enable the auditor to process large volumes of data with high efficiency, detect errors and material misstatements, and monitor unusual patterns that may indicate the existence of accounting manipulation practices. This contributes to raising the quality of audit evidence and improving risk assessment.

The study also highlighted the technical characteristics of the ACL programme and its capabilities in conducting analytical and control tests, linking data from multiple sources, and detecting abnormal transactions. This enhances the auditor's ability to assess the reliability of accounting information more accurately compared to traditional audit methods.

The study's findings confirm that employing the ACL programme within electronic auditing applications represents one of the effective mechanisms for supporting audit quality, enhancing the reliability of accounting information, and mitigating accounting manipulation practices. This contributes to consolidating the principles of transparency and governance, and increasing the confidence of investors and stakeholders in financial reports.

Key Findings of the Study

The study reached a set of findings, the most important of which are:

1. Electronic auditing applications, particularly the ACL programme, represent one of the modern tools that contribute to developing the quality of the audit process and improving its efficiency in the digital business environment.

2. The ACL programme contributes to enhancing the reliability of accounting information by accurately analysing financial data, verifying its integrity and completeness, and extracting reliable electronic audit evidence.
3. The ACL programme is characterised by its ability to process and analyse large volumes of financial data with high efficiency, thereby increasing the effectiveness of audit procedures and reducing the time and effort required to complete them.
4. The ACL programme provides an advanced set of analytical tools that enable the auditor to detect errors and material misstatements, and monitor unusual patterns and indicators of accounting manipulation.
5. The use of the ACL programme contributes to improving the quality of audit evidence, enhancing the accuracy of risk assessment, and supporting the effectiveness of internal control systems.
6. Employing electronic auditing applications helps mitigate accounting manipulation practices by enhancing the auditor's ability to detect practices that affect the fairness and reliability of financial reports.
7. Reliance on the ACL programme leads to improving the quality of financial reports, enhancing the level of transparency and disclosure, and increasing the confidence of financial statement users in accounting information.
8. The application of auditing using the ACL programme depends on interconnected stages including data collection, verification of its integrity, analysis, execution of electronic tests, and interpretation of results to support the issuance of a more accurate professional opinion.
9. The ACL programme enhances the professional role of the auditor by expanding the scope of examination and improving the ability to detect risks and deviations that may not be detectable using traditional audit methods.
10. The effective use of the ACL programme confirms the importance of transitioning towards electronic auditing applications as an effective means of enhancing the reliability of accounting information, supporting audit quality, and mitigating accounting manipulation practices.

These findings highlight the importance of electronic auditing applications, particularly the ACL programme, in developing the professional practice of auditing, enhancing the quality of accounting information, and supporting transparency and integrity in the business environment.

Proposed Recommendations:

Based on the study's findings, the following recommendations can be presented:

1. Enhance the use of electronic auditing applications, particularly the ACL programme, in audit firms and economic institutions to support the quality of audit processes.
2. Develop training programmes for auditors to enable them to professionally use electronic auditing applications and modern data analysis techniques.
3. Integrate the ACL programme with traditional audit procedures to achieve integration between manual and electronic methods, and raise the efficiency of detecting errors and material misstatements.
4. Encourage institutions to adopt accounting information systems compatible with electronic auditing applications to enhance the reliability of accounting information and the quality of financial reports.
5. Expand the use of electronic analysis tools for early detection of indicators of accounting manipulation and continuous risk assessment.
6. Provide technical support and regular updates for electronic auditing applications, ensuring they keep pace with technical developments and modern professional standards.

7. Enhance commitment to professional ethics and international auditing standards when using electronic auditing applications, to achieve the highest levels of objectivity, independence, and credibility in the audit process.
8. Encourage further applied studies on the use of the ACL programme and other electronic auditing applications, and measure their impact on improving the reliability of accounting information and mitigating accounting manipulation practices across various economic sectors.

References:

Arabic References:

1. Abu Ghayyah, T. (2009). *Modern trends in control and review of electronic information systems*. Cairo: Book Distribution Centre.
2. Amin, M., & Khadija, B. (2016). *The importance of electronic auditing in enhancing the performance of electronic government*. Namaa Journal of Economics and Trade, (1).
3. Al-Ara, F. (2011). *Factors influencing the practice of creative accounting: An applied study on joint stock companies listed on the Amman Stock Exchange*. Economic and Financial Studies.
4. Al-Dhunaybat, A. (2015). *Auditing in light of international standards*. Jordan: Dar Wael for Publishing and Distribution.
5. Al-Naqdi, I. (2020). *Creative accounting: An applied study on companies listed on the Saudi Stock Exchange*. Journal of Economic and Financial Studies, 5(4).
6. Al-Nashwan, I. (2014). *The impact of using electronic auditing on improving the quality of accounting information*. Accounting Thought, 18(4).
7. Arens, A., & Loebbecke, J. (2009). *Auditing: An integrated approach*. Saudi Arabia: Dar Al-Mareekh for Publishing.
8. Fatima, A. (2011). *Factors influencing the practice of creative accounting: An applied study on joint stock companies listed on the Jordanian securities market*. Economic and Financial Studies.
9. Ghabayen, A. (2012). *The impact of using concurrent auditing techniques on improving audit quality from the perspective of external auditors*. Master's Thesis. Jordan.
10. Hamdouna, T. (2008). *The extent of using information technology in the auditing process (electronic auditing) in Palestine and its impact on obtaining high-quality evidence supporting the auditor's neutral professional opinion on the fairness of financial statements*. Islamic University Journal for Humanities Research, 14(2).
11. Hamdouna, T. (2008). *The extent of using information technology in the auditing process (electronic auditing)*. Islamic University Journal for Humanities Research, 16(1), 927-928.
12. Hussein, F., & Fares, J. (2011). *Methods of creative accounting in the income statement and statement of financial position in industrial companies*. Journal of the College of Baghdad for Economic Sciences, (27).
13. Iqbal, O., & Abdul Mun'im, O. (2010). *The role of creative accounting in the emergence of the global financial crisis and the loss of reliability in financial data*. Journal of Economic and Administrative Research, (8).
14. Jarrar, A. (2006). *Developing a strategy to reduce the negative effects of using creative accounting in Jordanian public joint stock companies: A field study*. Master's Thesis. Faculty of Graduate Administrative and Financial Studies, Jordan: Dar Al-Maseera.
15. Jum'a, A. (2012). *Introduction to auditing and assurance according to international auditing standards*. Jordan: Dar Safaa for Publishing and Distribution.
16. Sabiha, B. (2015). *The impact of electronic auditing on raising the independence and efficiency of the internal auditor*. Journal of Economic and Administrative Sciences, 12(84).

Foreign References:

17. ACL. (2023, August 19). www.acl.com . Retrieved from <https://www.acl.com/products/acl-analytics>
18. ACL Analytics. (2023, August 29). *Introduction to ACL Analytics* . Retrieved from SAF Business Analytics: <https://www.youtube.com/watch?v=CBtmxxLwusg&t=292s>
19. Adamikova, E., & Tatiana, C. (2021). *Creative accounting and the possibility of its detection in the evaluation of the company by expert*. Journal of Risk and Financial Management .
20. Al-Olimat, H. S., & Al Shbail, H. A. (2021). *The effect of creative accounting practices on financial statements quality*. Research Journal of Finance and Accounting , 12(4).
21. Arbutus Analyzer. (2023, August 28). *Powerful Analytics on Your Desktop* . Retrieved from arbutussoftware.com/en/analyzer: <https://www.arbutussoftware.com/en/analyzer>
22. Arens, A. A., Elder, R. J., & Beasley, M. S. (2014). *Auditing and assurance services* (15th ed).
23. Arens, A. A., Elder, R. J., Beasley, M. S., & Hogan, C. E. (2017). *Auditing and assurance services* (16th ed).
24. Axxess CCH. (2023, August 28). *How do I use the Return Dashboard for CCH Axxess™* . Retrieved from support.cch.com/kb/solution/: <https://support.cch.com/kb/solution/000220624/How-do-I-use-the-Return-Dashboard-for-CCH-Axxess-Tax?IsNewArticle=True>
25. Bagranoff, N., Simkin, M., & Norman, C. (2010). *Accounting information systems* (11th ed).
26. Bhasin, M. L. (2016). *Creative accounting: Nature, causes and ethics*. Journal of Business Management and Social Sciences Research , 5(2).
27. Brijesh, Y. (2014). *Creative accounting: An empirical study from professional prospective*. International Journal of Management and Social Sciences Research , (03).
28. Caseware. (2023, August 28). *Caseware* . Retrieved from *Caseware IDEA*: <https://www.caseware.com/products/idea>
29. Coderre, D. (2009). *Fraud analysis techniques using ACL* . Wiley.
30. Durana, P., Roman, B., Veronika, M., & Miroslav, K. (2022). *The use of Beneish M-scores to reveal creative accounting*. Equilibrium. Quarterly Journal of Economics and Economic Policy , 17(3), 481.
31. Galvanise Diligent. (2023, August 28). *We've got you covered - no matter your area of expertise* . Retrieved from Galvanise is Now Diligent: <https://www.wegalvanize.com/use-cases>
32. IDEA. (2023, August 28). *Interactive Data Extraction and Analysis (IDEA)* . Retrieved from U.S Department of Veterans Affairs: <https://www.oit.va.gov/Services/TRM/ToolPage.aspx?tid=11215>
33. Madan, L. B. (2016). *Survey of creative accounting practices*. Wulfenia Journal Klagenfurt , (23).
34. Mulford, C. W., & Comiskey, E. E. (2002). *Creative cash flow reporting: Uncovering sustainable financial performance* . John Wiley & Sons.
35. Mulford, C., & Comiskey, P. (2002). *The financial numbers game (Detecting creative accounting practices)* . John Wiley & Sons.
36. Nofan, H. A., & Mohanned, O. A. (2021). *The mediating effect of external audit quality on the relationship between corporate governance and creative accounting*. International Journal of Financial Research , (12).
37. Oliver, L. (2003). *Creative accounting, fraud, and international accounting scandals* . John Wiley & Sons.
38. Power Bi. (2023, August 29). *Turn your data into immediate impact* . Retrieved from Microsoft: <https://powerbi.microsoft.com/en-us>
39. TeamMate Audit Solutions. (2023, August 28). *About Wolters Kluwer* . Retrieved from TeamMate Audit Solutions: <https://www.wolterskluwer.com/en/solutions/teammate>