The impact of the utilize of modern technologies and their implications on the accounting and auditing profession

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Abstract
The process of auditing based on the electronic data processors and the era of informatics have been analyzed accordingly. In this study, electronic accounting systems have become the availability of information in a large amount and at a high speed with a great degree of efficiency and accuracy more than before. The research aims to shed light on modern technologies and their effects on the accounting and auditing profession. To achieve this goal, the descriptive analytical approach was followed due to its suitability to the nature of the research. Where a scientific questionnaire was designed and distributed to a sample of (110) individuals on the research sample, which included accounting and auditing specializations. Where the research community was represented by audit offices, banks, and auditors working in academic institutions. The practical side of the research relied on statistical analysis by testing the degree of validity of the data to find out the possibility of generalizing these results. One of the most important of these conclusions is that the techniques of modern technologies work to bring about changes in the concepts and principles of designing accounting information systems, and improve the quality of reports. Reducing the issuance of personal judgments and preparing accounting estimates, and the occurrence of fundamental changes in the organization. As well as, planning of the audit process, risk assessment and analytical audit procedures, and the emergence of new areas such as accurate by exception, auto-auditing, and financial analysis of big data. Based on the results of the research, he recommended the need for accounting and auditing to adapt at the same pace to developments in the corporate business environment as a result of increasing the adoption of modern technologies. The departments of economic units take cybersecurity issues into account when strategic planning.

Keywords : modern technologies; accounting and auditing profession; IOT; electronic accounting

* بحث مستر من رسالة ماجستير .
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1. Introduction
   Today's world is witnessing major developments in the business environment as a result of the emergence of the revolution and modern technologies that provide great opportunities for human societies. Which prompts us to rethink how our fields of life and our scientific disciplines have evolved. So that we can use it in a positive way.
   The introduction of modern technological developments in distributed digital accounting accounts can provide not only reliable and honest accounting methods. As well as, systems for recording transactions as a starting point for the development of the accounting profession were developed (Kend et al, 2020). But it also paves the way for the audit profession in the direction of development, as well as the existence of many elements that still affect the audit profession in a mysterious way. As these techniques can represent an innovative entry in this field and can fundamentally change the current practice of auditing. It is worth noting to explore the potential of these techniques and the challenges faced by the auditing profession. And an analysis of the possibility of transformation towards this field (Schmitz et al, 2019). As the current practices in the field of accounting. Auditing includes focusing on some aspects that have lost their importance with the transition to the environment of technological developments (Munoko et al, 2020). It also ignores some other aspects that focus on is a vital necessity in this complex technological environment.
   The research was divided into four sections, the first of which included the research methodology. As for the second aspect, the theoretical side dealt with the impact of modern technologies on the accounting and auditing profession. The third aspect was devoted to analyzing the results and testing the research hypotheses. The fourth aspect included conclusions and recommendations.

The first aspect: research methodology
First-Research problem: The response of accounting and auditing to recent technical developments is usually late compared to other fields. This has been a fundamental problem for a long time. This problem is exacerbated by modern technologies that bring with them methods capable of making radical changes in the fields of accounting and auditing. However, the term "new technologies" is still ambiguous, especially in theory. Especially with regard to linking it with the fields of accounting and auditing.
Second-The importance of research: The theoretical importance of this research is that it adds new knowledge to researchers about the importance of modern technologies and its role in improving the audit quality of economic units. As well as enlightening the need to keep up with awareness of the developments of modern technology to increase the efficiency and effectiveness of the role of accounting and auditing. Thus, it contributes to removing the sharpness and difficulty of the beginning.
Third - research objectives
1. Learn about the accounting practices of modern technologies and their impact on the current auditing model, and identify the measures that should be taken by professional organizations to keep pace with technological developments.
2. Integration of modern technologies in the audit work works to provide information in a timely manner and to simplify the process of preparing the auditor for his high-quality report.
3. Integration of modern technologies in the audit work will improve the quality of the audit process.
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Fourth-Research hypotheses
The main hypothesis: There is a statistically significant correlation between modern technologies and the profession of accounting and auditing.

The second main hypothesis: There is a statistically significant effect of modern techniques on the accounting and auditing profession.

Fifth-The research sample
The research sample was divided into three categories, as some auditing offices operating in Baghdad auditors working in banks, and auditors working in academic institutions were selected to conduct the practical side of the research in order to serve the research. (110) questionnaires were distributed to the research sample, (102) of them were retrieved and could be analyzed, which represents (94.8%). As for the remaining (8) questionnaires, they were not suitable for analysis, with a rate of (5.2%).

The second section - modern techniques in auditing
First: the concept of modern technologies:
The revolution of modern technologies began with the beginning of the second millennium, and is continuing until now, and it is called Disruptive technologies. It revolutionizes the usual and brings the new. The term Fourth Industrial Revolution is considered comprehensive. It is used to describe a group of related technical developments that provide a basis for increasing the digitization of the business environment. It is a revolution led by a number of main engines. In other words, it cannot be reduced to a single technology. This revolution is driven by a wide range of technological trends building on each other to create an economic, social and political transformation (Gulin et al, 2019).

Second - the impact of modern technologies on the profession of accounting and auditing.

Today, modern technologies automate routine accounting activities. This is what made some predict the extinction of the accounting profession. According to research conducted by (Zhang et al, 2018), accountants and auditors are second only to telemarketers in termination risk. Even if it wasn't scary enough at the time, it has evolved with the increase in automation. In an article entitled (The Top 5 Jobs Robots Will Take First). The researcher indicates that the accounting job will be fully automated (Zhang et al, 2020). While some were less pessimistic, they pointed to the erosion of traditional accounting functions and the increase in demand for skilled accountants to perform modern accounting functions affected by these modern technologies (Thottoli et al, 2019). However, these technologies cannot replace the emotional intelligence and critical thinking capabilities of humans in the near future (Liu et al, 2019). Notwithstanding the fact that some research tends to exaggerate the magnitude of change and the speed with which this change will occur. But this does not mean that there is no change, it is indeed possible that some accountants will lose their jobs if they do not hone their skills appropriately. The changes resulting from the increased adoption of Fourth Industrial Revolution technologies do not merely require feedback from accountants. It requires accountants to be proactive in making technical improvements, and in general the impact of modern technologies on accounting and auditing can be summarized in the following points (Smith et al, 2020):

1. Defocusing from data entry, and focusing on data, its content, analytics, and its true value. Any addition of values to the results of the accounting system.

2. Providing information in real time.
The impact of modern technologies on accounting and auditing can be summarized as follows:

1- The impact of the block chain on the fields of accounting and auditing: through the block chain systems that unify the processing of transactions. Many economic units and auditors will be able to provide reasonable assurance to users of blockchain technology. Auditors will be able to adapt to potential future roles with a combination of skills, independence, credibility and experience. There are some professional and organizational challenges for the auditor before taking on these potential roles. The following is an explanation of the possible new roles of auditors under the accounting system based on block chain technology (Tiron-Tudor et al., 2022):

a. Reviewing smart contracts: Smart contracts can be integrated into blockchains to implement automated business processes. In addition, auditors can test the interface between smart contracts and external data sources that raise business risks without an independent assessment, and users of blockchain technology face risks of bugs or unknown vulnerabilities.

B. Blockchain Structure Validation Services: Before launching a new Blockchain application and subscribing to Blockchain applications, users of the system may wish to independently verify the stability and robustness of the system structure. Rather than having each participant perform their own due diligence, it may be more effective to hire an auditor to achieve these goals.

C. Contract Monitoring Service: This function consists in verifying the identity and data of the participants before allowing them to enter the block chain (55: 2018, Ortman). If this function is provided through the existing contract in the block chain, this leads to the loss of an important advantage, which is the weakness of mutual trust between the participants. Therefore, this role will be assigned to an external auditor to build trust in the entire block chain, and care must be taken when setting their legal duties and responsibilities (Abdennadher et al, 2022).

2- The impact of the Internet of Things on the profession of accounting and auditing: The technology of the Internet of Things uses advanced sensors and chips integrated into the elements, products, and devices that surround humans. These digital sensors transmit valuable data and information in real time about how humans interact with their surroundings and how they make their daily decisions. The data and information collected are used to enhance the design and production of tools, devices and technologies used by humans with the aim of improving all aspects of life (Altameemi et al., 2021). The Internet of Things provides a common language and integration of data and software that helps scientists and inventors perform the necessary analyzes to develop a specific field (Bonyuet, 2020).

Currently, many economic units trust their own accounting systems and ERP systems. The economic units are sufficiently aware of the mechanism of action of these systems and have internal controls to manage risk. The accounting profession is practiced comfortably and produces accounting reports that contain correct figures, and the data comes from a small number of known data sources. But in the future of the Internet of Things (IOT) data will come from many sources (Byrnes et al, 2018; Al-Khoury et al., 2022).
The impact of big data on the accounting and auditing profession:
The term big data is a huge set of complex and highly interwoven data such as text
messages, tweets on Twitter, likes on a specific post, weather news, stock trading
volume, and other data that is published through social networking sites. Which
makes it difficult to process and manage using one of the database tools or traditional
methods of data processing (Lombardi et al., 2022; Alzabari et al., 2019). It is growing
at a very fast pace, and on its way to more. Every day more and more data entry tools
are added such as smartphones, locators, geospatial sensors, traffic data readers, social
insurance readers, and information inputs for pupils, students, workers and employees
all over the world. This big data has important implications for accounting. Where
new types of data can be obtained (CGMA et al., 2018; Brender et al., 2018). Text,
video and audio information can contribute to improving financial reporting,
enhancing transparency to various stakeholders, and developing accounting standards.

In general, the impact of this technology on accounting can be
summarized as follows (Sheldon, 2019, Moll et al., 2019):
1. It enables the accountant to deal with variable and sometimes conflicting data, and
   structured and unstructured data.
2. Contribute to making predictions and choosing between alternatives.
3. It is difficult to identify useful data for accounting use in the midst of this huge
   amount of data.
4. Improve the transparency and integrity of financial reports.
5. Contribute to achieving environmental and social disclosure and reporting on
   sustainability and governance.

The third aspect - analysis of the results of the research test
First: Tests of validity and reliability of the questionnaire
Validity tests are applied to the extent of the efficiency and accuracy of the
paragraphs of the research questionnaire in representing the subject of the research,
which states (the impact of the use of modern technologies and their implications on
the profession of accounting and auditing). This is done by using the confirmatory
constructive validity method. The researcher applies the reliability test to the data
based on Cronbach's alpha stability coefficient to confirm the reliability of the data
obtained from the sample's answers to the research questionnaire paragraphs. The
results of applying these tests were as follows:
1- The confirmatory constructive validity test by means of the confirmatory factor
analysis of the research questionnaire items:
The application of the confirmatory factor analysis method requires that the size of
the studied sample be sufficient for its application. This is based on calculating the
value of the (KMO) scale. The size of the studied sample will be sufficient to apply
the confirmatory factor analysis when the value of the measure (KMO) exceeds the
value of (0.500). After calculating the value of the (KMO) measure from the research
data. The analysis data showed that the size of the studied sample is sufficient to
apply the confirmatory factor analysis method with high efficiency and as
documented in the following table (1).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blockchain technology</td>
<td>All scale values were more than (0.500). This confirms the possibility of</td>
</tr>
<tr>
<td>Accounting and auditing</td>
<td>applying the confirmatory factor analysis method to the data obtained</td>
</tr>
<tr>
<td>profession</td>
<td>from the answers of the studied sample with high efficiency.</td>
</tr>
</tbody>
</table>

Table 1. KMO Test Results
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Table (2) above achieves that the value of the measure (KMO) was recorded for each of the new technologies (0.669). Accounting and auditing profession (0.637). After ascertaining that the sample size is sufficient for the application of the confirmatory factor analysis. It should be verified that the second condition that must be available in the research data is met before applying the method of the confirmatory factor analysis. This requires the presence of significant correlations between the paragraphs within (modern technologies, the profession of accounting and auditing). This is based on the application of the Bartlett Test method, as it is inferred from Table (2) through the data of the statistical analysis. There are significant correlations between the paragraphs within the research variables (modern technologies, accounting and auditing profession).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi-Square Value</th>
<th>Probability Value Sig</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern techniques</td>
<td>670.640</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Accounting and auditing profession</td>
<td>645.391</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

2- Descriptive analysis of the level of sample responses to paragraphs as the independent variable.

It can be concluded from Table (3) that the value of the weighted arithmetic mean for the variable of modern technologies amounted to (3.761), which is greater than the value of the hypothetical mean (3). The value of the weighted arithmetic mean for this variable was within the category between (3.4 to less than 4.2) in the gradients of the respondents' strength matrix. To document this, the level of the sample's answers to all the paragraphs of modern technologies tended towards agreement. And with a high level and a standard deviation of the variable of modern technologies, it was recorded (1.292). And a standard coefficient of difference amounted to (34.91%), which shows the homogeneity of the sample's answers regarding the items of modern technologies. Modern technologies were of relative importance (74.53%). Which shows the agreement of about three-quarters of the research sample that the accountants and auditors of the research sample are very interested in the need to employ modern technologies in the Iraqi auditors sector. It can also be concluded from Table (5) that the levels of importance of the paragraphs within the variable of modern technologies were distributed among the lowest standard coefficient of difference level recorded in paragraph (5). It reached (20.27%) among all items of modern technologies, which documents the presence of higher homogeneity between the respondents' answers regarding item (5) within all items of the independent variable, with a strong response to item (5). It scored (79.02%), which confirms the agreement of more than three-quarters of the research sample that auditing based on modern technologies leads to continuous auditing instead of auditing at the end of the year. While table (5) confirms that paragraph (11) recorded the largest level of standard difference coefficient of (46.65%) among all paragraphs of modern technologies, which documents the existence of homogeneity.

Table 3. The level of the studied sample's responses to the items of modern technologies.
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<table>
<thead>
<tr>
<th>Items</th>
<th>Weighted arithmetic mean</th>
<th>standard deviation</th>
<th>Relative importance %</th>
<th>coefficient of difference %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern technologies contribute to improving the capability and ability of auditing firms to audit the various activities in the economic units in real time.</td>
<td>3.677</td>
<td>1.344</td>
<td>73.53%</td>
<td>36.55%</td>
</tr>
<tr>
<td>Registration, balance and deportation are automatic when using modern technologies.</td>
<td>3.755</td>
<td>1.123</td>
<td>81.57%</td>
<td>27.53%</td>
</tr>
<tr>
<td>The use of modern techniques in accounting systems leads to the availability of sufficiently reliable audit evidence.</td>
<td>3.52</td>
<td>1.336</td>
<td>75.29%</td>
<td>35.50%</td>
</tr>
<tr>
<td>New technologies have the potential to positively change the roles of accountants and auditors.</td>
<td>3.951</td>
<td>1.411</td>
<td>68.82%</td>
<td>41.01%</td>
</tr>
<tr>
<td>An audit based on modern technologies leads to a continuous audit rather than an audit done at the end of the year.</td>
<td>4.039</td>
<td>0.801</td>
<td>79.02%</td>
<td>20.27%</td>
</tr>
<tr>
<td>Modern technologies have the potential to reduce auditors' workload and improve existing processes.</td>
<td>3.441</td>
<td>1.393</td>
<td>72.35%</td>
<td>38.52%</td>
</tr>
<tr>
<td>Modern technologies affect audit risks by reducing human errors and replacing manual examination with electronic systems.</td>
<td>3.216</td>
<td>1.447</td>
<td>70.39%</td>
<td>41.11%</td>
</tr>
<tr>
<td>Modern technologies help the auditor to use better methods to collect evidence and clues.</td>
<td>3.735</td>
<td>1.335</td>
<td>73.73%</td>
<td>36.21%</td>
</tr>
<tr>
<td>Modern techniques address the problems related to the loss of documentary evidence and the lack of an audit trail.</td>
<td>3.569</td>
<td>1.352</td>
<td>73.33%</td>
<td>36.88%</td>
</tr>
<tr>
<td>Modern technologies contribute to reducing the costs of storing financial information.</td>
<td>3.873</td>
<td>1.233</td>
<td>76.86%</td>
<td>32.08%</td>
</tr>
<tr>
<td>The adoption of modern technologies by economic units contributes to achieving data integration and increasing its quality.</td>
<td>3.941</td>
<td>1.5</td>
<td>64.31%</td>
<td>46.65%</td>
</tr>
<tr>
<td>Modern techniques enable the auditor to deal with variable and sometimes conflicting data, and structured and unstructured data at other times.</td>
<td>3.892</td>
<td>1.242</td>
<td>77.84%</td>
<td>31.91%</td>
</tr>
<tr>
<td>The auditor needs to adapt and upgrade technological skills</td>
<td>3.667</td>
<td>1.308</td>
<td>75.10%</td>
<td>34.84%</td>
</tr>
<tr>
<td>Modern technologies contribute to increasing the demand for skilled auditors to perform modern functions affected by this technology.</td>
<td>3.843</td>
<td>1.25</td>
<td>77.84%</td>
<td>32.12%</td>
</tr>
<tr>
<td>Modern technologies provide an opportunity for auditors to provide administrative advice on the ability of this technology to provide complete, accurate, updated and verifiable records.</td>
<td>3.804</td>
<td>1.166</td>
<td>77.45%</td>
<td>30.11%</td>
</tr>
<tr>
<td>New technologies will reduce the role of traditional accounting.</td>
<td>3.892</td>
<td>1.374</td>
<td>73.33%</td>
<td>37.47%</td>
</tr>
<tr>
<td>Modern technologies help with the ability to perform some complex audits more easily.</td>
<td>3.735</td>
<td>1.352</td>
<td>71.96%</td>
<td>37.57%</td>
</tr>
<tr>
<td>Modern technologies allow auditing all customer data instead of sampling</td>
<td>3.863</td>
<td>1.312</td>
<td>74.71%</td>
<td>35.12%</td>
</tr>
<tr>
<td>Modern techniques help the auditor to reduce the issuance of personal judgments and the preparation of accounting estimates.</td>
<td>3.892</td>
<td>1.24</td>
<td>78.43%</td>
<td>31.63%</td>
</tr>
<tr>
<td>Modern technologies and their impact on the auditing profession</td>
<td>3.761</td>
<td>1.292</td>
<td>74.53%</td>
<td>34.91%</td>
</tr>
</tbody>
</table>
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The fourth aspect: conclusions and recommendations

First - conclusions
1. Reducing the traditional manual tasks of the accountant and auditor to a large extent and replacing them with analytical and advisory tasks. And the exchange of roles between humans and robots in conducting many accounting treatment and internal control procedures.
2. Modern technologies improve the quality of financial reports by raising the characteristics of reliability and relevance and increasing the quality of accounting information.
3. Intertwined relations between management, accounting and auditing as a result of the high degree of integration between modern technologies.
4. Modern technologies reduce the issuance of personal judgments and the preparation of estimates by the accountant and the auditor as a result of increasing the percentage of accuracy and confidence.
5. New technologies require updating some international accounting standards or issuing new ones.
6. Modern technologies change the means and tools for collecting evidence during the audit process, with changes in the forms of evidence itself.

Second - Recommendations
1. All stakeholders in the public and private sectors, academia and in all fields should hone their skills to deal with the new formats. Human-machine interaction and understanding of new concepts and practices.
2. The need for the accounting and auditing profession to adapt at the same pace to developments in the business environment of economic units that adopt modern technologies.
3. Submit proposals for modern accounting models that combine steadfast traditional techniques with emerging modern techniques.
4. The rapid response by international professional organizations specialized in organizing accounting and auditing to recent technical developments.
5. Developing clear theoretical and practical frameworks for auditing by exception, real-time accounting, instant and automatic auditing, and financial analysis of big data.
6. The bank should look at the new types of risks arising from the use of modern technologies, evaluate them and reduce them.
7. Bank managements should take cybersecurity issues into consideration when strategic planning.

References
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(أثر استخدام التقنيات الحديثة وانعكاساتها على مهنة المحاسبة والتدقيق)

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المستخلص

تلعب تقنيات الحوسبة دوراً هاماً ومؤثراً في عملية التدقيق، لكون الإجراءات والأساليب التقليدية لم تعد تتاسب عملية التدقيق في ظل المعاملات الإلكترونية للبيانات وعصر المعلومات التي أصبحت فيها النظام المحاسبية الإلكترونية توفر المعلومات بكافيرة سرعة عالية، وبدوره كبيرة من الكفاءة والدقة أكثر من ذي قبل. يهدف البحث إلى تسليط الضوء على تقنيات الحوسبة وأثرها على مهنة المحاسبة والتدقيق، ولتحقيق هذا الهدف تم إتباع المنهج الوصفي التحليلي لطبيعة البحث، حيث تم تصميم وتوزيع استبانة علمية محكمة على عينه مكونة من (110) فردآ على عينة البحث والتي شملت الاختصاصات المحاسبية والتدقية، حيث تمثل مجتمع البحث بمكاتب التدقيق والمصارف والمحلين العاملين في الهياكل الادارية. واعتمد الجانب العمل على التحليل الإحصائي باختبار درجة الصدق للبيانات لاحراز مدى إمكانية تعميم تلك النتائج ومن أهم تلك الاستنتاجات أن تقنيات الحوسبة الحديثة تعمل على إحداث تغييرات في مفاهيم ومبادئ تصميم نظم المعلومات المحاسبية، وتحسين جودة التقارير، والقليل من إصدار الأحكام الشخصية واعداد التقارير المحاسبية، وحدوث تغييرات جوهرية في تنظيم وتحليلية عملية التدقيق وتشييد المخاطر وإجراءات التدقيق التحليلية، وبرز مجالات جديدة كدللفيك بالاستناد إلى الأدلة التسجيلية، والتحليل المالي للبيانات الضخمة، وبناءً على ما أسفر عنه البحث من نتائج أوصى بضرورة أن تتكيف المحاسبة والتدقيق وبنفس الوثيرة مع التطورات التي تطرأ على بيئة أعمال الشركات نتيجة زيادة تنفيذ تقنيات الحوسبة، وأن تأخذ إدارات الوحدات الاقتصادية فضايا الأمن السيبراني في الاعتبار عند التخطيط الاستراتيجي.

الكلمات الإفتتاحية: سلسلة الكتل، انترنت الإشاعه، البيانات الضخمة