



USE OF ARTIFICIAL INTELLIGENCE IN ACCOUNTING AND FINANCE TO BRING SUSTAINABILITY THROUGH DIGITIZATION: BENEFITS AND THREATS

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Abstract:

The development in the Area of digitization has promoted many changes in the field of modern accounting. Artificial Intelligence (AI) is one of the important tool of digitisation which is used to help the industry in meeting the changing expectation of customers, suppliers, vendors and partners by involving new technologies. This Paper examines the use of Artificial Intelligence in Finance and Accounting sector. The Result shows that on Primary level Artificial Intelligence makes the Accounting Professionals free from lower-level repetitive work and improve the focus on providing important information to support business decisions. It also Provides base for improving Accounting Theory, Value Creation and Management Intelligence Mechanism in an organisation. The collaboration of Theory and digital tool like AI promotes the overall development of Accounting Theory. This Study also explain how AI can be used to improve Financial Expertise of Accounting Professional by enabling the processing and automated authorization of documents. This Study aims at analysing Accounting Professional perceptions regarding the main benefits and disadvantages of using Artificial Intelligence in accounting processes

Keywords: *AI- Artificial Intelligence, Digitisation, Accounting and Finance, Automated Documents, New Technologies.*

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Introduction:

Accounting is Classified as an Information System which Provides Information to users of information. In today's era of digitisation this information system is allined with information technologies to increase its productivity. Accountants are known as information providers and they must improve their efficiency and productivity of their tasks by

involving new technologies in their daily operations. From last many few decades Accounting professional are using technologies to simplify Complexity of documentation and make effective and strategic decisions. The Latest Advancement in Technologies is Use of Artificial Intelligence in each Sector to Simplify the work of professionals.



Currently, accounting literature is focusing on the importance of AI in the accounting field.

“Artificial Intelligence” is Intelligence that is exhibited by Machines. When a Machine mimics human like behavior like Learning, Planning, Reasoning, Problem- Solving etc. then it falls under the category of Artificial Intelligence. Artificial Intelligence is that flexible agent which perceives its environment and take actions that maximizes its chances of success at some goal. The Main objective of Artificial Intelligence is to discover the ways to perform complex human actions and show how computer technologies can work as human world.

Literature Review:

As this study’s one of the objects is to analyse perceptions of accounting practitioners regarding both the advantages and disadvantages, we analysed the relevant literature to identify those with greater importance.

Sutton, S.G.; Holt, M.; Arnold, V. in his study of “The reports of my death are greatly exaggerated”— Artificial intelligence research in accounting has stated the benefits and challenges of using AI in the accounting profession continue to be a subject of interest because of the complexity of AI’s many branches. As this study’s one of the object is to analyse perceptions of accounting practitioners regarding both the advantages and disadvantages, we analysed the relevant literature to identify those with greater importance.

Issa, H.; Sun, T.; Vasarhelyi, has stated in their study about “Research ideas for artificial intelligence in auditing: The formalization of audit and workforce supplementation” One of the main advantages that AI brings to the accounting field is represented by the reduced process time.

Askary, S.; Abu-Ghazaleh, N.; Tahat, Y in their study about “Artificial Intelligence and reliability” has stated that AI-based solutions can independently conduct several tasks, and the practitioners can focus more on activities with a higher added value. Moreover, AI can significantly reduce the error rate, thus improving the reliability

Detection of Fraud is still is an essential topic in the accounting area and Zhang, Y.; Xiong, F.; Xie, Y.; Fan, X.; Gu, H in their study about “The Impact of Artificial Intelligence and Blockchain on the Accounting Profession” has analysed and concluded that with the help of AI-based solutions such as machine learning techniques, practitioners could identify possible cases of fraud in a timelier manner.

Research Methodology:

The adaption of Artificial Intelligence in accounting processes shows that activities are transforming, and Accounting Profession is enabling innovative techniques in the profession.

● Objectives of the Study:

The main objectives of this paper is as Follows:

1. use of Artificial Intelligence in Finance and Accounting sector.
2. How AI can be used to improve Financial Expertise of Accounting Professional.
3. Analysing the Accounting Professional perceptions regarding the main benefits and disadvantages of using Artificial Intelligence in accounting processes.
4. Analysing whether the accounting professions consider Artificial as a threat.

● Research Hypothesis:

HO-1 There is no difference between Artificial Intelligence and Traditional Accounting Methods in improve Financial Expertise of



Accounting Professional.

HA-1 Artificial Intelligence can be used to improve Financial Expertise of Accounting Professional.

HO-2 There is no difference in using Artificial Intelligence in accounting processes according to Accounting Professional perception

HA-2 There is a significant benefit of Artificial Intelligence in accounting processes according to Accounting Professional perception.

- **Data Collection and Sample Design:**

In order to collect the data, we used a questionnaire method of Collecting Primary data and used Secondary data as well. The questionnaire was sent to the respondents via professional social media platforms and by email, targeting Practitioner Accounting Professionals. The total number of participants was 108, from which we excluded 5 due to incomplete responses. The survey had 08 questions in total, and in terms of the type of items, the majority was represented as categorical and rating questions for which we used matrixes and a Likertscale rating with 5 points (1—Strongly disagree/Not important; 5—Strongly agree/Very important)

How Artificial Intelligence can be used to simplify the complexity in Accounting and Finance Sector:

The broad issues where the technologies can help accountants includes:

- Providing data which is easily available and accessible to support decision making process.
- Introduce new ideas based on data analysis supported by Information technology.

- Focus on planning, execution, problem-solving, decision- making, relationship building etc.

Technologies which are driven by Artificial Intelligence gives important improvement in all areas of accounting. Artificial Intelligence enables accounting professionals to automated authorization of documents with which they can enhance their internal accounting processes such as procurement and purchasing, vouching, income and expenses reports, purchase orders account receivable and payable etc.

Artificial Intelligence Model perform their task in such way that it will help in extracting the data from incomes images and automatically classify it according to expenditure categories, after that it generate reports so it can be analysed for taking decisions. This process will lead to minimize the risk of fraud.

Analysis of the Accounting Professional perceptions regarding the main benefits and disadvantages of using Artificial Intelligence in accounting processes:

To Achieve the study's objective the data was collected and analysed. By analysing the data collected, we discovered that, from the 103 valid responses, 57 participants admitted that they use AI solutions in their professional activities, and 34 revealed they do not use any AI-based solutions, and the rest 12 stated that they do not have enough knowledge regarding the Artificial Intelligence Model used so they cannot admit if they are using AI or not. As the objectives of this study were focused on the perceptions of practitioners regarding AI, we decided to exclude the 12 Professions who was not aware about AI from our Study.



To achieve the research objectives, we analysed the data about assessments of the benefits and risks perceived by both AI users and non-As shown in Table 1, the Accounting Professionals considered that almost all the benefits of Artificial Intelligence in Accounting and Finance Sector are above average and disadvantages asked in the questionnaires had below average importance.

Table 1. Descriptive statistics—perceived benefits and challenges

| Benefits/ Disadvantage | n | Minimum | Maximum | Mean | Std. Deviation | Variance |
|--|----|---------|---------|--------|----------------|----------|
| Reduced process time (BEN1) | 91 | 1.00 | 5.00 | 3.9560 | 0.91787 | 0.842 |
| Reduced error rate BEN2 | 91 | 1.00 | 5.00 | 3.7582 | 0.93501 | 0.874 |
| Reduced fraud risk (BEN3) | 91 | 1.00 | 5.00 | 3.7473 | 1.01755 | 1.035 |
| Improved predictions (BEN4) | 91 | 1.00 | 5.00 | 3.6923 | 0.91521 | 0.838 |
| Increased reporting quality (BEN5) | 91 | 1.00 | 5.00 | 3.7082 | 0.98660 | 0.973 |
| Increased data leakage risk (DIS1) | 91 | 1.00 | 5.00 | 3.0659 | 1.13335 | 1.284 |
| Reduced professional scepticism (DIS2) | 91 | 1.00 | 5.00 | 3.0989 | 1.02258 | 1.046 |
| Lack of knowledge (DIS 3) | 91 | 1.00 | 5.00 | 3.3297 | 1.01165 | 1.023 |
| Algorithmic Subjectivity (DIS 4) | 91 | 1.00 | 5.00 | 2.9560 | 1.02102 | 1.042 |
| Compatibility issues (DIS 5) | 91 | 1.00 | 5.00 | 3.2967 | 1.11050 | 1.233 |

Source: Our own processing based on the data collected

For Hypothesis Testing As the Mann–Whitney U test has been used , we used the nonparametric Levene’s test of the homogeneity of variance, and the results can be observed in Table 2 and 3. Since all p-values are greater than 0.05, Null Hypothesis (HO) is rejected and Alternative Hypothesis (HA) Accepted

Table 2: Hypothesis Testing

| Variable | | Levene Statistic | df1 | df2 | Sig. |
|---------------|-------------------------|------------------|-----|-------|-------|
| Benefits | Based on | 0.039 | 1 | 89.00 | 0.844 |
| | Median with adjusted df | 0.039 | 1 | 87.93 | 0.844 |
| Disadvantages | Based on | 0.002 | 1 | 89.00 | 0.878 |
| | Median with adjusted df | 0.002 | 1 | 88.97 | 0.878 |

Source: Our own processing based on the data collected

As observed from the above table there were no significant differences between AI users and non-users in terms of the their said benefits. This outcome can be explained by the fact that, even though not all the participants in the study have used AI in their professional activities, they are aware of the benefits brought by the solutions in the accounting processes..



Table 3: Hypothesis Testing - Mann-Whitney U Test

| Variable | User | Mean Rank | Sun of Rank | Mann-Whitney U | Z | Significance Level (2 Tailed) |
|---------------|--------------|-----------|-------------|----------------|-------|-------------------------------|
| Benefits | Non users 34 | 43.22 | 1469.50 | 874.50 | -0.82 | 0.41 |
| | Users 57 | 47.66 | 2716.50 | | | |
| Disadvantages | Non users 34 | 49.63 | 1687.50 | 845.50 | -1.05 | 0.29 |
| | Users 57 | 43.83 | 2498.50 | | | |

Another question was asked for assessing their perceptions regarding the appropriateness of AI in accounting using a 5-point Likert scale (1—Not appropriate; 5—Extremely appropriate). After testing the homogeneity assumption (based on $p = 0.948$).

Conclusion:

This Study was conducted with the view to Assess the perception of the accounting professionals regarding the main benefits and challenges of using AI-based solutions in accounting processes and to evaluate whether the adaption of AI increases the pressure among the professionals regarding the replacement of professionals. The Study stated that professions consider all of the benefits and challenges assessed as having an above average significance; however, there were no statistically significant differences between the AI users and non-users. Moreover, most of the Professionals do not consider AI a threat to their employability as long as they continue to improve their knowledge and skills to efficiently use AI-based technologies. The study contributes to our understanding of accountants' perceptions regarding the benefits and challenges of AI, as they play a vital role in the companies. According to our Study there is right way to strive a balance between human brain power and modern technologies and right way to strike a

median/based on median and with adjusted $df = 0.354$), we performed another Mann–Whitney U test that revealed no significant differences between AI users ($Md = 4, n = 57$) and non-users ($Md = 4, n = 34$), $U = 961.50, z = -0.065, p$

balance is using AI- based Solutions which will make work easier for humans.

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