



The Artificial Intelligence, Challenges for Accounting Profession. The Case of ChatGPT

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Abstract

The implementation of Artificial Intelligence (AI) in the accounting field represents a hot topic. ChatGPT, an AI tool, became very popular recently, due to its conversational voice and abilities. The study is motivated less by the evolution of this Large Language Model (LLM), and more by its capabilities. This paper explores the impact of AI on accounting and accountants, in a dynamic world, with a focus on financial reporting. The research discusses about using AI technologies, more exactly ChatGPT 4, as tools available for accountants, and how they are changing the way financial data is processed, analyzed, and reported. The objectives of the author are to examine the potential advantages, benefits, limits, and risks associated with AI implementation in accounting, including increased accuracy and efficiency, as well as concerns around data privacy and security. In this regard, a quantitative method of research was used. It was realized an experiment with testing ChatGPT and its capabilities. Furthermore, the author argued that accountants need to develop new skills and competencies. This includes a deep understanding of AI algorithms and their limitations, as well as the ability to interpret and communicate the results of AI-driven analysis to non-technical stakeholders. By embracing AI technologies and developing new skills and competencies, accounting professionals can contribute to the long-term success of organizations in a dynamic and rapidly changing world. The paper also considers the challenges of detecting and preventing dishonesty and suggests strategies that accountants can implement to ensure integrity to use of these tools. These strategies refer to policies and procedures, providing training and support. The added value of this paper is the fact that provides an understanding of the implications of AI on accounting. The paper concludes that while the use of AI for accounting in a dynamic world presents benefits and opportunities, there are also some challenges to face. Accountants can effectively address these concerns by taking a proactive and ethical approach to the responsible use of these tools. Future research could be represented by creating focus groups and interviews with different stakeholders to observe the impact of ChatGPT in a business environment, by discussing both financial and non-financial reporting.

Key words: accounting; financial reporting; large language models; artificial intelligence;

JEL Classification: M41, O33, O36

Introduction

The accounting field is changing from one day to another, due to the emergence of artificial intelligence (AI) technologies, which are changing the work of accountants, and are impacting the lives of people worldwide (Kroon et al., 2021). These changes were caused by factors such as globalization, legislative changes, and innovation (Kroon et al., 2021; Secinaro et al, 2021; Demirkan et al, 2020; Carlin, 2019; Marrone and Hazelton, 2019; Schmitz and Leoni, 2019; Arnold, 2018; Belfo and Trigo, 2013; Taipaleenmaki and Ikaheimo, 2013).

A significant advancement in the field of AI is represented by Large Language Models (LLMs). They bring potential benefits, challenges, and critics, and accountants are facing now these new challenges and opportunities in adapting to the current situation.

Large Language Models (LLMs) are trained for text data, can answer questions and can complete different tasks (Floridi and Chiriatti, 2020).

Using AI we can provide relevant information, but we cannot replace critical thinking, creativity, and problem-solving skills. To encounter the risk, a company should implement training opportunities.

The objectives of our research are to test the capabilities of ChatGPT to examine the potential advantages, benefits, limits, and risks associated with AI implementation in accounting, and to:

- (1) understand how emerging technologies, such as artificial intelligence, are transforming the everyday work of accountants;
- (2) what this means for today's accountants' job in terms of skills that are they expected to have in the future.

Thus, the study continues the work started by Kroon et al. (2021), and is guided by the main research question: *What is the impact of AI on accountants and especially on financial reporting?* Kroon et al. (2021) discovered, through an in-depth analysis of articles from the selected sample and by making a content analysis using NVivo, that accountants need analytical skills, creativity and openness, teamwork, and communication skills, while the role of accountant changes too, with emphasis on professional judgment, use of data analytics, blockchain implementation. Regarding the job loss related to AI, researchers consider that it is a slow process since technology innovations replace only specific tasks, not jobs. The implementation of AI in accounting will improve

performance, the accountants will monitor the use of AI and will adjust the automatization process, and maybe will develop new tools and will perform tasks that AI cannot do (Kokina and Davenport, 2017; Richins et al, 2017).

The paper is structured as follows: introduction, literature review of relevant prior work, methodology, discussions and results, and conclusions.

1. What is ChatGPT?

From one decade to another there is an innovation that changes the world. Nowadays it is called ChatGPT, a natural language processing that was created by OpenAI, an artificial intelligence research company (Brown et al., 2020; OpenAI, 2023 a, b; Shyam et al, 2020).

ChatGPT is not the first LLM, but is one of the LLMs that are available for public use, and that is not focused only on a subject. It has been trained across many subject areas. It represents a part of a series of models developed by Open Artificial Intelligence (OpenAI), that started in 2015. It was created by OpenAI, and it was launched in November 2022²⁶. It is currently in its fourth iteration - ChatGPT 4. The system is not yet infallible, for example: it doesn't clarify ambiguous questions, different phrases can elect different answers and offers incorrect answers. The datasets consist of billions of words from books, websites, and articles. It is a certainty that ChatGPT will change the accounting industry forever. ChatGPT represents the innovation of the century. The interface is simple and very friendly to use (Vaswani et al, 2017).

ChatGPT is based on data up to 2021, being one of the largest language models currently available, with more than 175 billion parameters, and it is partly owned by Microsoft, which wants to integrate within the Office (Cotton et al, 2023).

ChatGPT is a general-purpose LLM, used for language translation, language modeling and content generation (Tranformer et al, 2022), so it is not specifically trained and optimized for the accounting field. However, it can generate text and to understand accounting tasks (to answer accounting-related questions, to draw up financial reports, not suited to perform complex financial analysis and calculations), and it is very difficult to distinguish from a text written by humans (Elkins and Chun, 2020). In this regard, there are concerns about the potential use of

²⁶ ChatGPT: Optimizing language models for dialogue [internet]. Available at: <https://openai.com/blog/chatgpt/>

ChatGPT to generate fake news and manipulate the general public (Floridi and Chiariatti, 2020).

2. The evolution of LLMs

In the last five years, LLMs evolved rapidly and are very impressive. Before this period, most LLMs were trained for specific tasks and could only perform those tasks that were trained on (Shams, 2014).

To overcome this issue was released the Generative Pretrained Transformer GPT, in 2017 (Devlin et al, 2018). GPT models rapidly evolved from GPT to GPT 2, GPT 3, and GPT 4 (OpenAI, 2023; Kasirzadeh, 2022; Markov et al, 2022; Ouyang et al, 2022; Korngiebel and Mooney, 2021; Brown et al, 2020). ChatGPT uses machine learning algorithms that allow it to learn from the interaction between robots and humans and then use this information when engaging in other conversations. The main objective of ChatGPT is to offer significant answers without training to find out quickly what people try to say within a conversation.

Nowadays LLMs are considered very important and they are within the spotlights, with the release of ChatGPT, a chatbot implemented by OpenAI. Some articles discuss the evolution of LLMs to understand better the impact of ChatGPT in different sectors of activities that applies it, such as education, accounting, marketing, health sector, customer service, entertainment, and many more (De Angelis et al, 2023; Shaji and Hovan, 2023).

ChatGPT becomes very popular in these sectors of activities. It's an emerging technology that revolutionizes many industries. One of the reasons is represented by the fact that helps reduce costs and increase efficiency. One sector of activity that obtain significant advantages is represented by e-commerce. ChatGPT provides support and reduce costs related to personal resources. Due to ChatGPT a company can access new markets, which could lead to higher sales from potential customers from abroad, and can give companies useful information about how customers act. In this way, the company can personalize different offers based on collected data from conversations.

There is a high impact of ChatGPT also in other fields, and we can refer to education and research, where many authors used it to write articles or papers even listing ChatGPT as an author. Many journals are updating their author's guidelines. Springer Nature Journal was the first journal that added new rules for authors to avoid accountability issues that may arise. They established that LLMs cannot be authors of the papers. Their contribution

should be mentioned in the methods section or acknowledgments section²⁷. Elsevier created as well guidelines for scientific papers confirming the rules imposed by Springer and requiring the authors to mention the AI tools used and specify details on their use. They will monitor and maybe refine the policy in terms of AI use, if necessary²⁸.

In education, ChatGPT can perform also online tutoring, could be a virtual assistant, can give personalized learning experiences, based on their skills and interests, grade student work more quickly and increase classroom productivity.

Another sector of activity where ChatGPT has a significant impact is health sector, especially telemedicine. There is also an issue: patients should be responsible due to data privacy. It could also help doctors and nurses to communicate better. Patients could receive answers about their treatment plans. The paper can talk also about more time that could be dedicated by physicians to complicated cases, it provides information to patients, virtual emotional assistance to patients during difficult periods and allows physicians to provide real-time consultations without having to travel to a clinic or wait to establish an appointment. It can be used to look at medical images, to discover diseases, to diagnose (and, in the near future, to treat different illnesses better than humans are capable to do) and to personalize treatments. It is also used to enter data, it is used for the primary consultations, could help for decision-making in the health industry, or to simplify administrative operations, to facilitate communication between nurses and physicians. There are also some alarm signs. Besides ethical, there are also practical challenges (Gordijn and Have, 2023). Medicine journals must take more measures to check if the information is accurate, since the impact on people's health is huge²⁹. Because no model is perfect some researchers try to find out how we realize that a language model replies with confidence and correctness to our specific query (Jiang Z et al, 2021).

In finance, it is used for a variety of purposes: checking account balances, answering account queries, can provide pieces of advice to customers related to their

²⁷ Tools such as ChatGPT threaten transparent science; here are our ground rules for their use. Nature [Internet]. (2023) 613:612. doi: 10.1038/d41586-023-00191-1

²⁸ Elsevier declaration of generative AI in scientific writing [internet]. Available at: <https://www.elsevier.com/journals/artificial-intelligence/0004-3702/guide-for-authors>

²⁹ Else H. Abstracts written by ChatGPT fool scientists. Nat Cell Biol. (2023) 613:423. doi: 10.1038/d41586-023-00056-7

financial needs and goals, can foster customer loyalty and trust, can help detect and prevent fraud, by analyzing patterns of customer interactions, reduce risks, offers customers quick answers, cut the costs for customer service, can improve customer service in finance with chatbot support. Banks can save time by automating conversations between financial institutions and customers (Shaji et al, 2022). 0

In the IT sector, it can create text generation models, code completion systems, proofreading code, looking for bugs to fix, etc. (Shaji and Hovan, 2022).

3. The advantages of LLMs

If we try to mention the advantages of using ChatGPT within a business, we can talk about the fact that can save costs and time, can increase customer satisfaction, reduce expenses, increase productivity and maximize efficacy. For other sectors of activities, we observe also some specific advantages: physicians could use it to faster the diagnosis and the treatments of patients, accountants will have access to real-time data, and will take faster a decision.

4. The disadvantages of ChatGPT

ChatGPT became very important in recent years in many fields of activity, but can't do everything. There are still certain tasks that cannot be performed by ChatGPT, such as providing the latest news, complex mathematical calculations, accurate accounting financial statements, food receipts etc.

Some experts are worried about the fact that ChatGPT could cause people to lose their jobs. Regardless of the impressive abilities of this AI tool, it is still far away compared to a real person. It doesn't have the critical thinking skills, the creativity to solve any problem, doesn't have emotional intelligence.

5. The challenges of GPT-4

A concern is represented by the production of a text that includes misinforming content (Sear et al, 2021; McGuffie and Newhouse, 2020).

Some authors underlined the importance of LLM detectors that can identify fake news (Keya et al, 2022; Jwa et al, 2019)

When we train LLM to produce accounting-related content, the answer may contain a paragraph that has a

copyright issue, bias, fairness, lack of understanding, and expertise (for example, many accountants may not have IT knowledge). This issue involves a cost for training and maintenance.

Although ChatGPT has a big potential to offer benefits for the accounting profession, there are also some challenges. One challenge is represented by the honesty of the ChatGPT.

Some authors discussed the technological and regulatory impact on accounting saying that „innovation simultaneously destroys and creates tasks/jobs” (Gardner and Bryson, 2021).

Numerous studies explore the labor market impacts of AI (Autor et al., 2003; Acemoglu and Autor, 2011b; Acemoglu and Restrepo, 2018, 2019). Some studies revealed that automation technologies resulted in wage inequality for workers specialized in routine tasks (Autor et al., 2006; Van Reenen, 2011; Acemoglu and Restrepo, 2022a,b). The findings of some researchers reveal that around 80% of the U.S. workforce could have at least 10% of their work tasks affected by the introduction of LLMs, while approximately 19% of workers may see at least 50% of their tasks impacted (Eloundou et al, 2023).

The emergence of artificial intelligence (AI) technologies is transforming the field of accounting, particularly in the field of financial reporting, which represent critical and important component of any organization. To enhance the effectiveness and efficiency of financial reporting, it is very important to implement artificial intelligence.

This literature review aims to provide an overview of the current state of research on the impact of AI on accounting in a dynamic world, with findings suggesting that the successful integration of AI technologies in accounting requires a multidisciplinary approach.

AI can be used to analyze large volumes of financial data and identify patterns and trends that may not be visible to human analysts. The AI can also be used to automate routine tasks such as data entry and reconciliation, freeing up time for financial analysts to focus on more strategic tasks, to predict financial performance, identify potential fraud, and improve the accuracy and reliability of financial statements. ChatGPT can generate financial reports based on data inputted into the system and provide insights and recommendations based on the data analysis. By embracing AI technologies and developing a multidisciplinary approach, accounting professionals can contribute to the long-term success of organizations.

6. Methodology

This study used a quantitative research design to test the performance of a language model (LLM) in accounting. The research question was: How accurately can a LLM the accounting transactions and events and generate financial statements?

This study will employ a quantitative approach to analyze the impact of AI on accounting, using a sample of invented transactions and events. The purpose of this study is to identify the impact of AI on accounting and on the role and skills of accountants.

To collect data, the author will use a sample of imagined transactions and events. The transactions will be designed to cover a range of accounting topics, such as revenue recognition, bank transfers, inventory, salary recording etc.

The author will use a Large Language Model (LLM) to analyze the data and generate a balance sheet statement, to reflect the financial position of a company. The author will input the transaction data into the LLM and use it to generate the financial statement. The generated financial statement will be analyzed to identify the impact of AI on the role and skills of accountants. Specifically, we will analyze the financial statement to identify any patterns or trends in the data that suggest the impact of AI on accounting practices.

This study will adhere to ethical principles of research, ensuring the confidentiality of the data, ensuring that the study does not cause any harm to any company.

7. Results

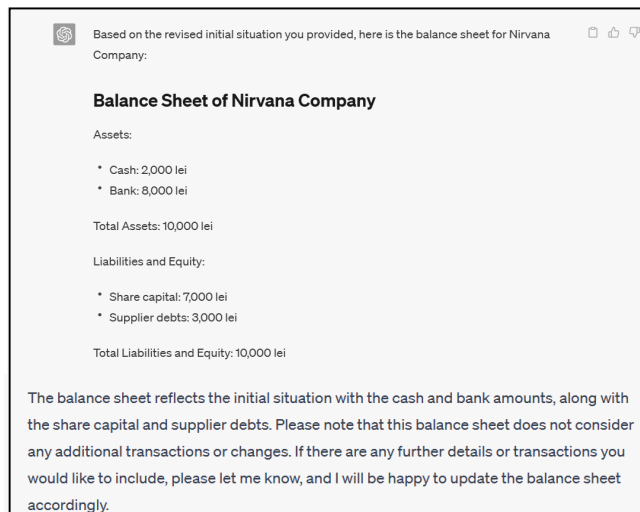
This paper demonstrated the capabilities of ChatGPT in accounting, and discusses the advantages, the benefits, the risks and limits of applying LLMs to the accounting field.

The paper extends the work of Wood et al (2023) by providing ChatGPT transcripts focused on accounting issues.

To demonstrate the abilities of ChatGPT in accounting we asked for journal entries of several transactions to prepare the financial statement. Our first experiment was to prepare the initial balance sheet. ChatGPT prepared the financial statement correctly. Then we analyzed all transactions of the company. ChatGPT prepared and explained correctly only 50% of transactions, and made several errors in its journal entries and explanations.

When we requested to disclose also the final balance sheet, we observed that the main accounting equation wasn't respected. We asked ChatGPT to solve this issue. The answer was "Yes, I can recalculate and present the final balance sheet". Even after recalculation, we observed that the financial statement wasn't accurate. We asked again ChatGPT to perform the task, indicating exactly where the error was, to avoid looping. The answer was the right one now, as is observed in **Figure no. 1**: "Yes, you are right! Thank you for the correction! This is the real situation".

Figure no. 1. The presentation of the initial Balance Sheet by Chat GPT

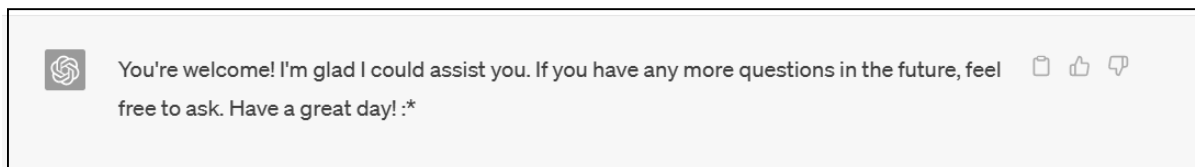


Source: Author's projection, 2023

Due to the errors that we received, we decided to test if ChatGPT can perform also an accounting analysis of transactions and events on which was based the balance

sheet that was presented before, especially since it was received an invitation from the software in this regard (*Figure no. 2*).

Figure no. 2. The answer received and the suggestion for asking other questions

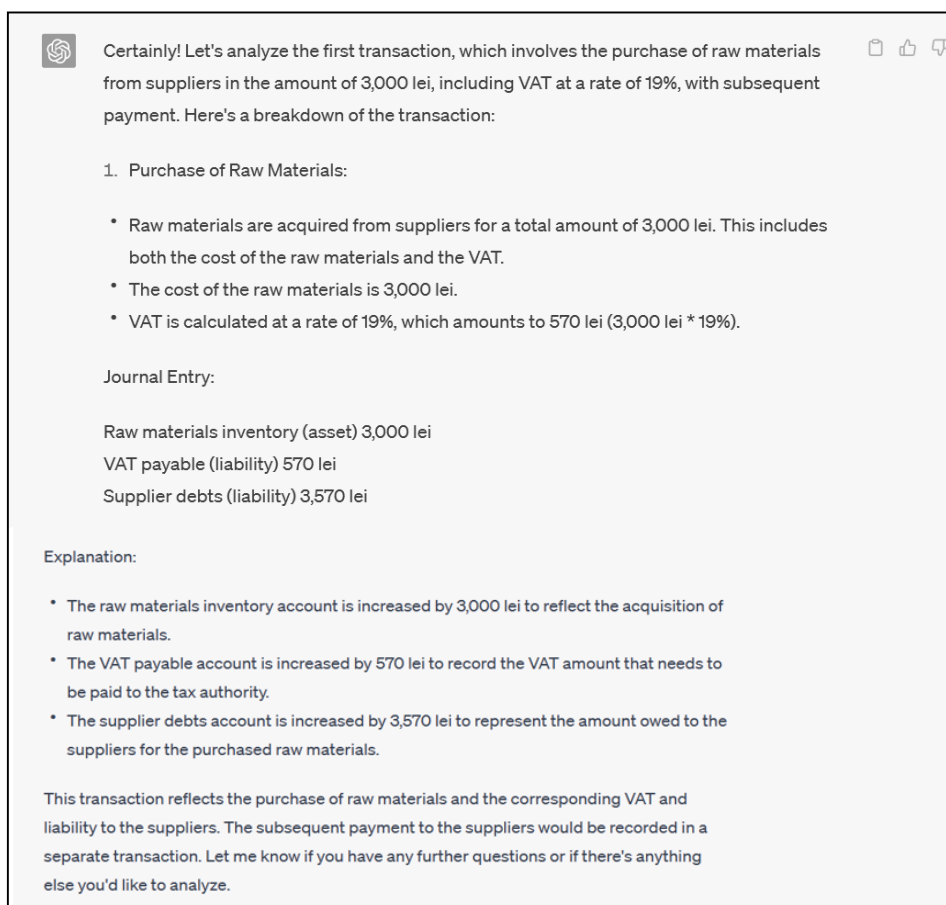


Source: Author's projection, 2023

The first transaction referred to an acquisition bill. We asked ChatGPT to make the analysis and to record the

journal entry within the General Journal of the company. The task was performed correctly (*Figure no. 3*).

Figure no. 3. The analysis of transactions related to raw materials acquisition



Source: Author's projection, 2023

The next transaction refers to the fact that we paid the supplier through a bank transfer. From the description of the transaction, ChatGPT understood, but calculated wrong the money that we still have in our bank account, so we observed a mathematical error

and we communicated this to be solved. The answer of ChatGPT was: "Yes, you are right. I am sorry for the confusion! Thank you for correcting me!" The confusion was determined by the amount in the transaction (*Figure no. 4*).

Figure no. 4. The analysis related to the payment of the invoice received from supplier, through bank transfer

The screenshot shows a chat interface with the following messages:

- ChatGPT:** Apologies for the confusion, but it seems there was a previous discrepancy in the transactions mentioned. In the initial situation, the supplier debts were stated as 3,000 lei, while in the subsequent transactions, the amounts were listed as 3,000 lei and 3,570 lei. To provide accurate analysis, could you please confirm the correct amount of the supplier debt?
- User (M):** WE refer at 3,570, the value of the invoice (we included the vat)
- ChatGPT:** Thank you for clarifying. Let's analyze and record the transaction where the debt to the supplier of raw materials, amounting to 3,570 lei (including VAT), is paid by bank transfer.
- ChatGPT:** Thank you for clarifying. Let's analyze and record the transaction where the debt to the supplier of raw materials, amounting to 3,570 lei (including VAT), is paid by bank transfer. Here's the breakdown of the transaction:
 2. Payment to Supplier by Bank Transfer:
 - The debt of 3,570 lei owed to the supplier for the purchased raw materials, including VAT, is settled through a bank transfer.

Journal Entry:

Supplier debts (liability) 3,570 lei
Bank (asset) 3,570 lei

Explanation:

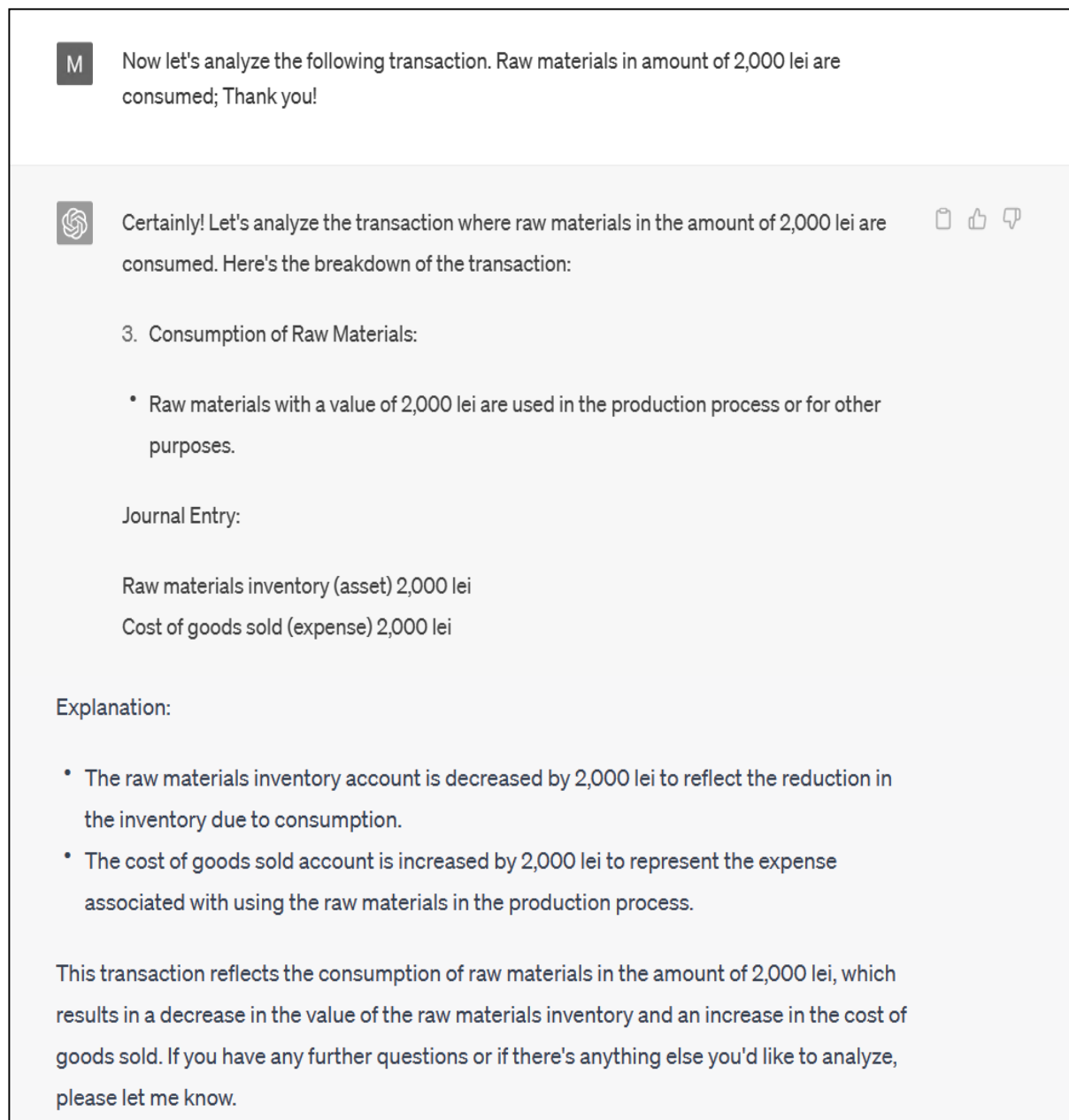
 - The supplier debts account is reduced by 3,570 lei to reflect the payment made to the supplier, clearing the debt.
 - The bank account is decreased by 3,570 lei to show the outgoing payment made through a bank transfer.

Source: Author's projection, 2023

The next transaction refers to the consumption of raw materials. This transaction was performed perfectly by

ChatGPT (*Figure no. 5*).

Figure no. 5. The analysis of the transaction related to the raw materials consumption



The screenshot shows a chat interface with a user message and an AI response. The user message, marked with 'M', asks for an analysis of a transaction where 2,000 lei of raw materials were consumed. The AI response, marked with the OpenAI logo, provides a detailed breakdown, including a journal entry and an explanation of the accounting impact.

M Now let's analyze the following transaction. Raw materials in amount of 2,000 lei are consumed; Thank you!

OpenAI Certainly! Let's analyze the transaction where raw materials in the amount of 2,000 lei are consumed. Here's the breakdown of the transaction:

3. Consumption of Raw Materials:

- Raw materials with a value of 2,000 lei are used in the production process or for other purposes.

Journal Entry:

Raw materials inventory (asset) 2,000 lei
Cost of goods sold (expense) 2,000 lei

Explanation:

- The raw materials inventory account is decreased by 2,000 lei to reflect the reduction in the inventory due to consumption.
- The cost of goods sold account is increased by 2,000 lei to represent the expense associated with using the raw materials in the production process.

This transaction reflects the consumption of raw materials in the amount of 2,000 lei, which results in a decrease in the value of the raw materials inventory and an increase in the cost of goods sold. If you have any further questions or if there's anything else you'd like to analyze, please let me know.

Source: Author's projection, 2023

We also recorded the salaries for the employees, transaction also managed correctly by ChatGPT, after we

clarified that we only calculate them, they are not paid yet in this moment (*Figure no. 6*).

Figure no. 6. The analysis of the transaction related to salaries recording

Apologies for the confusion. Let's analyze and record the corrected transaction where salaries in the amount of 1,000 lei are calculated and recorded. Here's the breakdown of the transaction:

4. Recording Salaries Payable:

- Salaries for the employees are calculated and recorded as an amount of 1,000 lei that is owed.

Journal Entry:

Salary payable (liability) 1,000 lei
Salary expense (expense) 1,000 lei

Explanation:

- The salary payable account is increased by 1,000 lei to reflect the liability incurred for the salaries owed to employees.
- The salary expense account is also increased by 1,000 lei to record the cost of the salaries incurred during the period.

Source: Author's projection, 2023

The next transaction refers to the acquisition of merchandise,

which was also performed correctly (*Figure no. 7*).

Figure no. 7. The analysis related to merchandise acquisition

M Let's analyze the following transaction. Goods are purchased from suppliers, with subsequent payment, at purchase cost: 1,000 lei, VAT 19%. Thank you!

Certainly! Let's analyze the transaction where goods are purchased from suppliers at a purchase cost of 1,000 lei, including VAT at a rate of 19%, with subsequent payment. Here's the breakdown of the transaction:

5. Purchase of Goods from Suppliers:

- Goods are acquired from suppliers at a purchase cost of 1,000 lei, including VAT.
- The cost of the goods themselves, excluding VAT, is 1,000 lei.
- VAT is calculated at a rate of 19%, which amounts to 190 lei (1,000 lei * 19%).

Journal Entry:

Inventory (asset) 1,000 lei
VAT payable (liability) 190 lei
Supplier debts (liability) 1,190 lei

Explanation:

- The inventory account is increased by 1,000 lei to reflect the acquisition of goods.
- The VAT payable account is increased by 190 lei to record the VAT amount that needs to be paid to the tax authority.
- The supplier debts account is increased by 1,190 lei to represent the amount owed to the suppliers for the purchased goods.

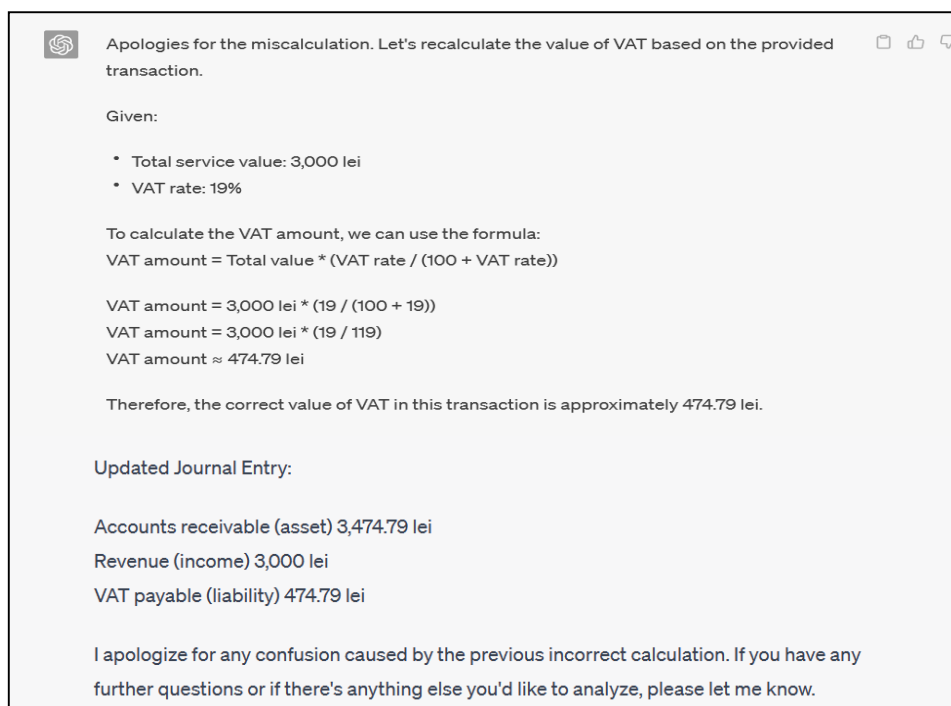
This transaction reflects the purchase of goods from suppliers, including VAT, and the corresponding liability to the suppliers. The subsequent payment to the suppliers will be recorded in a separate transaction. If you have any further questions or if there's anything else you'd like to analyze, please let me know.

Source: Author's projection, 2023

During our simulation, we provided services to our customers. Here, when recording the transaction, ChatGPT made confusion between accounts: replaced Customers

(Account Receivable) with Accounts Payable, and the value of VAT from the invoice was wrong calculated (*Figure no. 8*), but we corrected this issue (*Figure no. 9*).

Figure no. 8. The analysis related to recording of the invoice with the services provided



Apologies for the miscalculation. Let's recalculate the value of VAT based on the provided transaction.

Given:

- Total service value: 3,000 lei
- VAT rate: 19%

To calculate the VAT amount, we can use the formula:
$$\text{VAT amount} = \text{Total value} * (\text{VAT rate} / (100 + \text{VAT rate}))$$

$$\text{VAT amount} = 3,000 \text{ lei} * (19 / (100 + 19))$$

$$\text{VAT amount} = 3,000 \text{ lei} * (19 / 119)$$

$$\text{VAT amount} \approx 474.79 \text{ lei}$$

Therefore, the correct value of VAT in this transaction is approximately 474.79 lei.

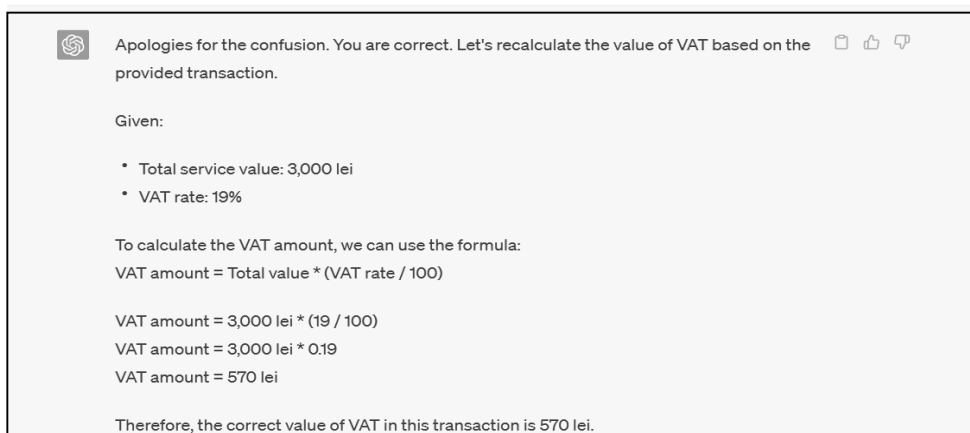
Updated Journal Entry:

Accounts receivable (asset) 3,474.79 lei
Revenue (income) 3,000 lei
VAT payable (liability) 474.79 lei

I apologize for any confusion caused by the previous incorrect calculation. If you have any further questions or if there's anything else you'd like to analyze, please let me know.

Source: Author's projection, 2023

Figure no. 9. Correction of the analysis of the transaction related to recording of the invoice with the services provided



Apologies for the confusion. You are correct. Let's recalculate the value of VAT based on the provided transaction.

Given:

- Total service value: 3,000 lei
- VAT rate: 19%

To calculate the VAT amount, we can use the formula:
$$\text{VAT amount} = \text{Total value} * (\text{VAT rate} / 100)$$

$$\text{VAT amount} = 3,000 \text{ lei} * (19 / 100)$$

$$\text{VAT amount} = 3,000 \text{ lei} * 0.19$$

$$\text{VAT amount} = 570 \text{ lei}$$

Therefore, the correct value of VAT in this transaction is 570 lei.

Updated Journal Entry:

Accounts receivable (asset) 3,570 lei

Revenue (income) 3,000 lei

VAT payable (liability) 570 lei

I apologize for the earlier incorrect calculation. If you have any further questions or if there's anything else you'd like to analyze, please let me know.

Source: Author's projection, 2023

ChatGPT couldn't perform more complex tasks, such as VAT reconciliation and closing the revenues and

expenses accounts, only after it received additional information (*Figure no. 10*).

Figure no. 10. Correcting the analysis of the record related to VAT reconciliation

Certainly! To prepare the adjustment for VAT, we need to ensure that the VAT payable account reflects the correct amount of VAT based on the transactions recorded. Here's how we can adjust the VAT payable account:

- Determine the total VAT on sales:
 - Sum up the VAT amounts from all sales transactions. In this case, we have the following sales transaction:
 - Provision of transport service to customer: VAT amount of 570 lei.
- Determine the total VAT on purchases:
 - Sum up the VAT amounts from all purchase transactions. In this case, we have the following purchase transaction:
 - Purchase of goods from suppliers: VAT amount of 190 lei.
- Calculate the adjustment amount:
 - Adjustment amount = Total VAT on sales - Total VAT on purchases
 - Adjustment amount = 570 lei - 190 lei
 - Adjustment amount = 380 lei
- Adjust the VAT payable account:
 - Increase the VAT payable account by the adjustment amount.

Journal Entry:

VAT payable (liability) 380 lei
Adjustments (expense) 380 lei

Explanation:

- The VAT payable account is increased by 380 lei to reflect the adjustment for VAT.
- The adjustments account is increased by 380 lei to record the corresponding expense for the VAT adjustment.

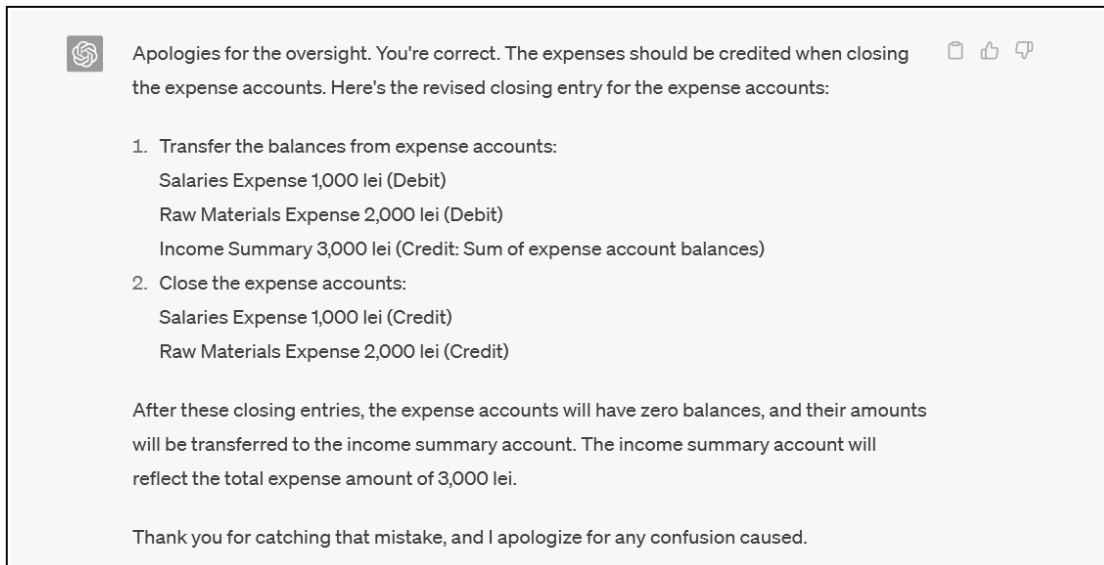
By making this adjustment, the VAT payable account is updated to reflect the correct amount of VAT based on the transactions recorded. If you have any further questions or if there's anything else you'd like to analyze, please let me know.

Source: Author's projection, 2023

After communicating the accounting formula registration error, the software properly processed the information,

correctly registering the closing of the expense accounts, as can be seen in *Figure no. 11*.

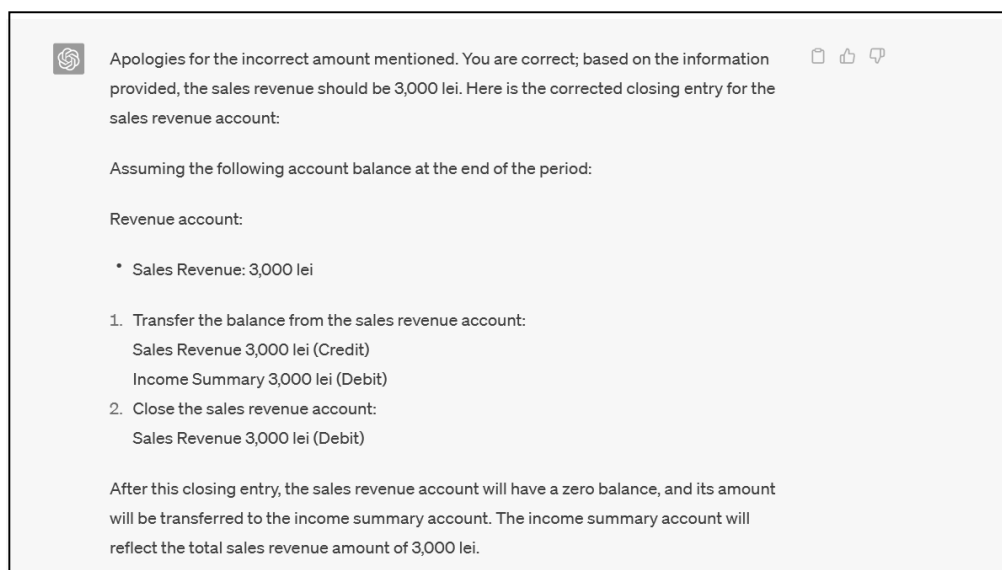
Figure no. 11. Correcting the analysis of the transaction related to the closing of the expense accounts



Source: Author's projection, 2023

This transaction is followed by the closing of revenues accounts (*Figure no. 12*).

Figure no. 12. Correcting the analysis of the transaction related to the closing of the revenue accounts



Source: Author's projection, 2023

Conclusions

Society evolves from one day to another. What is important is to use these models responsibly. Large language models have shown their potential and in the next months, we expect it to increase. The abilities of ChatGPT in different sectors of activity made it very popular worldwide.

The impact of ChatGPT on different sectors of activities has been revolutionary. In the education system, it can help students and professors with course materials and can assist them in developing different projects, leaving them to focus more on research or teaching activities. In the healthcare sector it can offer patient support, can answer to medical questions, or can put a diagnosis. The field of accounting and medicine may be a great source for both opportunities and threats, due to the fraudulent and unethical use of LLMs. This is the main reason why LLMs will improve soon, but it is still important to understand the challenges of accountability and transparency, and maybe to develop principles, rules, regulations and legislation necessary in this regard. So, AI will have a positive impact on health, accounting, and many other sectors of activity, not being dangerous for any stakeholder.

Accountants should still carefully consider the potential risks of using these tools. This may involve developing policies and procedures, providing training for accountants, and using a variety of methods to detect and prevent dishonesty of the chatbot. AI can be used for redundant tasks (data entry, offering automatic responses to emails, preparation of different reports), but not for critical thinking or strategic decision-making. Through the advantages we can mention the automated production of financial reports, identifying trends or patterns, offering tax advice, automating commonplace chores, preparing invoices, assessing a company's financial performance, financial projection generation, preparing audit reports³⁰

This study had several limitations. First, the dataset was relatively small and may not be representative of all accounting aspects.

Finally, the study only evaluated the accuracy of the LLM in generating financial statements and did not consider other factors such as speed or efficiency.

If we refer to the limits of ChatGPT we can mention that the answers generated are not always accurate. We can receive different answers for the same question. Also, bias represents an issue for AI. There are also potential privacy concerns, in terms of cybersecurity and phishing risks. ChatGPT was trained on data up to 2021. The accuracy of the responses depends on the relevance of the question or input. We can assess the accuracy of the responses by cross-checking them with other sources and by confirming with experts on the field otherwise, the answers could include errors or inaccuracies.

In conclusion, the use of AI in financial reporting has significant potential to enhance the efficiency and effectiveness of financial decision-making. AI algorithms can be used to automate routine tasks, analyze large volumes of data, and generate accurate predictions and forecasts. However, it is important to note that AI is not a panacea and should be used in conjunction with human judgment and expertise. As AI technology continues to evolve, it is likely that its impact on financial reporting and analysis will only continue to grow. What we need to understand is that we still need to know accounting to use ChatGPT. There are already companies that introduced chatbots in their businesses, such as PwC, Orange, Morgan Stanley and Duolingo.

The paper concludes that while the use of AI for accounting in a dynamic world presents benefits and opportunities, there are also some challenges to face. Accountants can effectively address these concerns by taking a proactive and ethical approach to the responsible use of these tools. Future research could be represented by creating focus groups and interviews with different stakeholders to observe the impact of ChatGPT in a business environment, by discussing both financial and non-financial reporting. Students, managers, and professional bodies and regulators may take into account the results presented in the paper to prepare future professionals with the necessary skills expected to have in a dynamic world.

The results of this study will contribute to a better understanding of the impact of AI on accounting practices and may have implications for the training and education of future accountants, since ChatGPT, among other LLMs, is improving from one day to another and have the potential to extend innovation in different sectors of activity. Therefore, many benefits should be expected by implementing in its updated versions in practice and research.

³⁰ <https://www.wellybox.com/blog/how-can-accountants-use-chatgpt/>

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