

ASSESSING THE INTEGRATION OF CHATGPT IN IT AUDITS THAT SUPPORT FINANCIAL STATEMENT AUDITS

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ABSTRACT

Artificial intelligence (AI) has brought significant changes in many fields, including the audit sector. Generative AI, a type of AI, leverages deep learning models to generate human-like content like images and words. ChatGPT, a type of generative AI, is a language model capable of revolutionizing information technology (IT) audits in support of financial statement (FS) audits. This paper highlights and examines advantages and disadvantages of incorporating ChatGPT into IT audits that support FS audits. ChatGPT offers benefits such as efficiency, precision, and speed, which are vital in the IT audit process. However, it also comes with challenges that need to be addressed. This paper contributes to the growing body of knowledge related to the use of ChatGPT in IT audits that support FS audits. The paper further provides insights into how audit firms can effectively adopt ChatGPT to improve the quality, efficiency, and effectiveness of their IT and FS audits.

KEYWORDS

Artificial Intelligence, generative artificial Intelligence, ChatGPT, information technology audits, financial statement audits

1. INTRODUCTION

The emergence of artificial intelligence (AI) has brought about significant changes in various fields, including the audit sector. Generative AI is a type of AI that can leverage deep learning models to generate human-like content such as images and words in response to complex and varied prompts [1]. ChatGPT, a type of generative AI, was launched in 2022 as ChatGPT 3.5, a free version of an OpenAI nonprofit research laboratory. ChatGPT 3.5 (hereafter denoted as ‘ChatGPT’) is a platform capable of engaging in, and refining, natural language conversations toward a desired length, level of detail, style, and language [2]. It refers to a language model with the capacity to revolutionize information technology (IT) audits that aid in financial statement (FS) audits.

As the audit industry continues to progress, the utilization of generative AI tools like ChatGPT will become increasingly common. While these tools provide considerable advantages, such as enhanced accuracy and efficiency, they also present potential disadvantages, including data security concerns and the requirement for specialized training. The purpose of this paper is to highlight and examine the advantages and disadvantages of incorporating ChatGPT into IT audits that support FS audits (hereafter referred to as “IT audits”). The inclusion of ChatGPT in IT audits signifies a major shift in the manner auditors perform their tasks. ChatGPT offers benefits such as efficiency, precision, and speed, which are vital in the audit process. However, like all emergent technologies, it also comes with challenges that need to be addressed.

1.1. What is AI?

AI is a branch of computer science that focuses on creating intelligent machines capable of performing tasks that typically require human intelligence [3]. These tasks include learning, reasoning, problem-solving, and decision-making. Through natural language processing, these intelligent systems are capable of understanding, communicating, and processing human language [21]. The main objective of AI is to develop machines that can understand their environment, comprehend natural language, and adapt to new situations, ultimately enhancing human capabilities and improving efficiency in various industries. AI encompasses a wide range of technologies and techniques, such as machine learning, natural language processing, computer vision, and robotics [3].

Machine learning is a crucial element for the advancement of AI as it enables algorithms to learn from data and make predictions or decisions without being explicitly programmed [3]. This ability to learn and improve from experience distinguishes AI from conventional computer programs. AI has been implemented in various sectors, including healthcare, finance, transportation, manufacturing, and entertainment [3]. In healthcare, for instance, AI has been used for disease diagnosis, medical image analysis, and personalized treatment strategies. In finance, AI algorithms have been used for detecting fraud, assessing risk, and executing algorithmic trading. Examples of AI applications in transportation and daily life include autonomous vehicles, virtual assistants, and smart home devices [3].

Overall, AI is a powerful tool with great potential and benefits, but it also raises important ethical and societal concerns. Issues such as job redundancy, privacy violations, biased algorithms, and potential misuse of AI technology must be carefully addressed [3]. As AI continues to advance, it's essential to find a balance between innovation and responsible development, ensuring that the AI systems are designed and used in a way that benefits humanity.

1.2. What is ChatGPT?

According to [4], ChatGPT is an advanced language model that has been developed by OpenAI, a renowned organization known for its research on artificial intelligence. This model is designed to provide human-like responses by analyzing and processing the input it receives from users. ChatGPT employs a powerful deep learning technique called transformer models, which enables it to generate contextually relevant and coherent responses [4]. This language model is widely recognized for its ability to engage in natural-sounding conversational interactions and provide informative responses, making it an exceptional tool for various applications. The creation of ChatGPT is a remarkable achievement in the field of natural language processing and AI research. This language model has undergone extensive training using a vast amount of text data from the internet, which has helped it to learn patterns, grammar, and context. Due to its thorough training, ChatGPT can produce text that is coherent and contextually appropriate, making it an invaluable tool for many applications such as customer support, content creation, and virtual assistants [4].

ChatGPT has shown remarkable proficiency in comprehending and responding to diverse prompts and inquiries. It can participate in substantial dialogues, respond to factual questions, elucidate concepts, and even propose inventive ideas. However, it is crucial to acknowledge that ChatGPT has its constraints. It may occasionally generate inaccurate or illogical replies, and it can react differently to minor alterations in input wording, resulting in inconsistent responses [4]. OpenAI is persistently striving to enhance and refine the model to mitigate these shortcomings. Specifically, OpenAI has taken steps to promote the responsible utilization of ChatGPT by introducing safety precautions and have integrated a moderation mechanism to inhibit the

production of unsuitable or damaging content [4]. OpenAI also invites user input to detect and tackle any potential biases or problems that might occur. Through active engagement with the user community, OpenAI strives to develop a stronger and more dependable AI system that can be used efficiently and morally across different fields.

1.3. AI in Information Technology (IT) Audits

AI has become a vital tool in IT audits supporting FS audits, transforming auditors' work by improving precision, speed, and efficiency [5] [6]. An IT audit, as defined by [14], refers to a structured, impartial assessment of IT controls to verify their alignment with standards, guidelines, policies, and procedures. IT audits aim to ensure the protection of assets, preservation of data integrity, efficient operations, and the attainment of organizational goals or objectives through activities such as information gathering, processing, storage, distribution, and utilization alongside related technologies. Financial statement audits, on the other hand, involve activities and procedures for examining financial information and rendering an opinion on the fairness of such financial information [14].

The capacity of AI to scrutinize large data sets swiftly and accurately has made it indispensable in the audit process. A specific instance of AI application in IT audits is the use of machine learning algorithms to spot irregularities in financial data. Conventional audit methods, which involve random transaction sampling, can overlook anomalies in non-sampled data [6]. In contrast, AI can examine all transactions, pinpointing anomalies that could suggest fraud or mistakes [5]. For example, an AI system could highlight unusual patterns in expense reports or spot inconsistencies in revenue recognition, potentially signalling financial misstatements.

In conducting IT audits supporting FS audits, AI has also become an essential tool in scrutinizing contracts and agreements through Natural Language Processing (NLP) [5]. This is important because contract terms can significantly impact financial reports. Manually examining these documents can be time-consuming and error-prone, but AI can quickly and accurately analyze these documents. It can extract essential terms and conditions that affect financial reports and assist auditors in predicting financial trends based on past data [5]. For instance, AI can anticipate future income or costs based on previous patterns, making it easier for auditors to assess the plausibility of management's estimates in the financial reports.

In line with the above, AI has been applied in IT audits via predictive analytics. By examining past financial records, AI can forecast future financial outcomes enabling auditors to spot potential threats and concerns before they escalate into major issues [5]. For example, Deloitte has created an AI instrument, CortexAI, that employs predictive analytics to project future financial results using historical data [7]. Moreover, AI can be employed to oversee and scrutinize the actions and activities of employees within a company's IT infrastructure. By examining user access records, AI systems can detect abnormal or unapproved access attempts, which may suggest internal threats or unauthorized entry to confidential financial information [5]. This active surveillance can assist auditors in recognizing and reducing risks associated with data leaks or unauthorized entry to financial data.

Overall, AI has significantly enhanced the speed and precision of audits in general, including IT audits, and has enabled auditors to review all data instead of just a sample, resulting in a more thorough and reliable audit [5]. As AI technology continues to advance, its role in IT and FS audits is expected to expand, further revolutionizing the auditing field.

1.4. ChatGPT in IT Audits

The AI model, Generative Pretrained Transformer (GPT), created by OpenAI, has been instrumental in IT audits that aid FS audits in several ways. The model automates data extraction and analysis, a process that is traditionally labour-intensive and susceptible to human error [5]. In an IT audit, large data sets are scrutinized for anomalies or inconsistencies [8]. With ChatGPT, this process is automated, enhancing speed and precision [5]. For instance, an auditor could employ ChatGPT to pull data from a company's financial system and scrutinize it for unusual transactions that may suggest fraud or mistakes. ChatGPT also enhances communication between auditors and stakeholders. Auditors often have to simplify complex technical matters for non-technical stakeholders. ChatGPT can generate comprehensible explanations of these matters, facilitating stakeholders' understanding of the audit process and its results [5]. For example, an auditor could use ChatGPT to create a report elucidating the design and operation of a specific IT control and how it reduces risks.

Another example of how ChatGPT has been used in IT audits that support FS audits is in the identification of potential risks and control weaknesses. Auditors can utilize ChatGPT to analyze and interpret large volumes of data related to a company's IT systems and processes. By inputting relevant information and prompts, auditors can receive insights and recommendations from ChatGPT regarding potential risks and control deficiencies [5]. For instance, auditors can use ChatGPT to assess the effectiveness of IT controls in mitigating cybersecurity risks. By providing information about the company's IT infrastructure, security protocols, and potential vulnerabilities, auditors can also receive feedback from ChatGPT on the adequacy of existing controls and suggestions for improvement. This can help auditors identify areas where the company's IT systems may be susceptible to cyber threats and develop strategies to strengthen security measures.

Additionally, ChatGPT can assist auditors in evaluating compliance with regulatory requirements and industry standards. Auditors can input relevant regulations and standards into ChatGPT, along with information about the company's IT systems and processes. Chat GPT can then provide insights on whether the company's IT practices align with the specified requirements and highlight any areas of non-compliance. This can help auditors identify gaps in regulatory compliance and recommend corrective actions to ensure adherence to applicable standards. Lastly, Chat GPT can be used to enhance the audit documentation process. Good documentation is crucial in an audit, as it provides evidence of the auditor's findings and conclusions [6]. Chat GPT can be used to generate detailed, accurate documentation of the audit process, reducing the risk of errors and omissions [5]. For example, an auditor could use Chat GPT to document the testing procedures used and the results obtained, providing a clear audit trail.

Overall, Chat GPT has been used in IT audits that support FS audits to automate data analysis, improve communication, and enhance documentation. These uses not only improve the efficiency and accuracy of the audit process but also enhance its transparency and accountability.

2. BENEFITS OF INTEGRATING CHATGPT IN IT AUDITS

Many sectors are being transformed by AI, including the auditing industry. ChatGPT presents a multitude of positive impacts and strengths for IT auditors conducting FS audits. Utilizing ChatGPT's features allows auditors to optimize their procedures, improve precision, and create more detailed audit reports. This section will now outline these positive impacts and strengths, offering a thorough comprehension of ChatGPT's potential when employed in IT audits.

2.1. Enhanced Productivity

ChatGPT can greatly boost productivity by automating mundane tasks such as gathering data, analyzing it, and generating reports, allowing auditors to focus on more intricate tasks [9]. The automation process also minimizes the possibility of human mistakes, resulting in more precise audit outcomes.

A significant advantage of employing ChatGPT in IT audits that aid FS audits is the substantial improvement in productivity. ChatGPT can automate mundane tasks that typically consume a lot of auditors' time, such as gathering and analyzing data, as well as creating reports [9]. By utilizing its natural language processing abilities, ChatGPT can process large data volumes swiftly and accurately, saving auditors precious time and effort. For instance, auditors often have to pull information from various sources like financial systems, databases, and spreadsheets during data collection. This process can be monotonous and susceptible to mistakes. However, ChatGPT can be set up to automate this task by pulling relevant data from multiple sources and organizing it into a structured format [9]. This automation not only saves time but also minimizes the risk of human error that might occur during manual data collection.

Similarly, ChatGPT can simplify the process of data analysis. The model is capable of examining intricate financial data, spotting patterns, and identifying irregularities more effectively than manual methods [9]. This enables auditors to concentrate on interpreting the findings and pinpointing potential risks or control weaknesses, instead of investing too much time in data processing. Additionally, ChatGPT can automate the creation of reports, a crucial part of the audit process. It can produce thorough and uniform reports based on the conducted analysis, guaranteeing consistency and precision in reporting [9]. This removes the necessity for auditors to manually assemble and format the audit results, saving considerable time and effort. Of course, with these tasks being completed more efficiently, employees can meet deadlines more effectively, leading to improved timeliness in delivering audit reports and recommendations [9]. This can enhance client satisfaction and strengthen the reputation of the auditing firm.

ChatGPT improves the efficiency of IT audits, which allows auditors to utilize their time and resources more effectively. Based on [9], by automating routine tasks and simplifying data analysis and reporting, auditors can concentrate on more important tasks such as in-depth analysis, risk assessment, and providing crucial insights to stakeholders. As a result, IT audits are not only more efficient but also more impactful, resulting in stronger FS audits.

2.2. Accuracy and Reliability

The proficiency of ChatGPT in enhancing the precision and trustworthiness of IT audits is derived from its superior language processing abilities and its capability to scrutinize large data quantities. These features allow ChatGPT to foster more accurate and reliable audit results [10]. One method through which ChatGPT boosts precision is via its automated data analysis. Auditors often face difficulties when examining large datasets, as manual analysis can be prone to mistakes and is time-consuming. Conversely, ChatGPT can rapidly process and scrutinize large data volumes, detecting patterns, trends, and irregularities that could signify potential risks or control inadequacies [10]. This automated analysis minimizes the chance of human error and guarantees a more thorough investigation of the data, resulting in more precise audit conclusions [10].

Moreover, the real-time surveillance capabilities of ChatGPT significantly enhance the dependability of IT audits. Traditional audits are usually performed at intervals, which implies that problems that arise between audits might remain unnoticed for a long duration. ChatGPT,

however, can monitor systems, applications, and data flows continuously, promptly notifying auditors of any anomalies or potential threats as they occur [10]. This immediate surveillance allows auditors to rectify issues swiftly, reducing the organization's impact and improving the audit process's trustworthiness. Another area where ChatGPT boosts precision is in the interpretation of intricate regulations and standards. IT audits necessitate a profound comprehension of various regulatory frameworks and industry standards [8]. However, keeping abreast with the constantly changing regulations can be daunting. ChatGPT can be programmed with the latest regulations and standards, offering auditors precise and consistent interpretations [10]. This ensures that audits are performed in accordance with the most recent requirements, lowering the risk of non-compliance and improving the audit findings' reliability.

Lastly, ChatGPT's ability to provide consistent interpretations and analysis across different audits and auditors contributes to the overall reliability of IT audits. Human auditors may have variations in their interpretations and approaches, leading to inconsistencies in audit results. ChatGPT, being an AI model, provides a standardized and consistent approach to data analysis, interpretation of regulations, and identification of risks [10]. This consistency ensures that audits are conducted in a uniform manner, enhancing the reliability and comparability of audit outcomes.

ChatGPT's automated data analysis, real-time monitoring, accurate interpretation of regulations, and consistent approach contribute to the improved accuracy and reliability of IT audits. By leveraging its advanced language processing capabilities, ChatGPT enhances the precision of data analysis, reduces the risk of human error, and ensures audits are conducted in compliance with the latest requirements [10]. Additionally, ChatGPT's real-time monitoring capabilities enable auditors to promptly address emerging risks, further enhancing the reliability of the audit process. Overall, the utilization of ChatGPT in IT audits leads to more accurate and reliable audit findings, providing organizations and stakeholders with greater confidence in the integrity of their FS and IT systems.

2.3. Communication and Collaboration

ChatGPT's ability to facilitate more effective communication and collaboration among audit team members is rooted in its advanced language processing capabilities and its capacity to provide relevant and timely information. By leveraging these capabilities, ChatGPT can contribute to more effective and efficient collaboration within the audit team.

ChatGPT significantly improves communication by acting as a unified communication platform. It can be programmed to comprehend and answer team members' inquiries, offering a dependable and consistent information source [11]. This eradicates the need for individual information searches by team members, saving precious time and guaranteeing everyone has access to the same accurate data. With ChatGPT as a communication hub, team members can swiftly and easily acquire the information they require, promoting superior collaboration and minimizing potential miscommunication [11]. Furthermore, ChatGPT can be employed to deliver updates, reminders, and notifications to the audit team. It can dispatch automated messages to team members, keeping them updated and synchronized on crucial tasks, deadlines, and milestones [11]. This contributes to maintaining a high level of organization and coordination within the team, ensuring everyone is aligned and working towards shared objectives. By utilizing ChatGPT's capability to provide timely updates and reminders, the audit team can remain focused and productive, reducing the chance of overlooking critical deadlines or tasks [11].

According to [11], ChatGPT can also be instrumental in the audit team's decision-making processes. It can sift through large data sets and offer insights and suggestions based on the given

information. This allows auditors to make well-informed decisions by taking into account various factors and viewpoints. Utilizing ChatGPT's analytical prowess, the team can gain from data-driven insights, resulting in more efficient and informed decision-making [11]. Moreover, ChatGPT can serve as a facilitator in discussions and foster effective teamwork. It can maintain the focus of the conversation by supplying pertinent information, clarifications, or elucidations when required [11]. This can avert misinterpretations and ensure that discussions remain on course, leading to more productive and effective teamwork. ChatGPT can also aid in settling conflicts or inconsistencies by offering unbiased information and insights, assisting the team in achieving agreement and making headway [11]. Finally, ChatGPT can be employed for training within the audit team. It can provide detailed explanations, respond to queries, and give advice on audit methodologies, procedures, or technical concepts [11]. This can be especially beneficial for new team members or those aiming to boost their knowledge and skills. By using ChatGPT as a training tool, the team can enhance their collective expertise, leading to superior audits and professional development.

ChatGPT's ability to serve as a centralized communication tool, aid in decision-making, facilitate discussions, and provide training contributes to better communication and collaboration among audit team members. By leveraging ChatGPT's capabilities, the team can enhance their efficiency, effectiveness, and knowledge-sharing, ultimately leading to improved audit outcomes and a more cohesive and productive working environment [11].

2.4. Continuous Auditing and Real-Time Monitoring

ChatGPT's ability to support continuous auditing and real-time monitoring is rooted in its advanced language processing capabilities and its capacity to analyze and interpret data quickly and accurately. By leveraging these capabilities, ChatGPT can contribute to more effective and efficient auditing practices.

ChatGPT contributes to continuous auditing by its capacity to scrutinize extensive data sets continuously. Unlike traditional auditing methods that rely on intermittent sampling and testing, which might miss some risks or problems, ChatGPT can be set up to constantly examine and evaluate financial transactions and records [12]. This allows auditors to spot irregularities or inconsistencies in real-time. This ongoing surveillance keeps auditors updated about the organization's financial condition and allows them to react immediately when needed. Additionally, ChatGPT can automate the creation of audit reports, a key component of continuous auditing. By processing and summarizing audit results, the model can regularly produce detailed and comprehensible reports [12]. This automation not only saves time but also guarantees the consistent production of audit reports, giving stakeholders current information about the organization's financial situation. The immediate availability of audit reports also allows stakeholders to make timely, informed decisions [12].

Furthermore, the real-time surveillance abilities of ChatGPT aid in the early identification of possible problems or irregularities. By constantly examining data as it's produced, the model can spot trends or discrepancies that could signal fraudulent actions, mistakes, or control shortfalls [12]. This active supervision enables auditors to act swiftly, reducing the effects of potential threats and improving the organization's overall risk management strategies. Additionally, ChatGPT can improve communication and cooperation among auditors and other participants in the audit process. The model can act as a unified platform for exchanging information, discussing audit results, and planning actions [12]. This immediate collaboration ensures all participants are updated on the audit's progress and can contribute or address issues promptly. The smooth communication enabled by ChatGPT boosts the auditing process's efficiency and effectiveness.

ChatGPT supports continuous auditing and real-time monitoring through data analysis, automated reporting, early detection, and enhanced communication, which contributes to more effective and efficient auditing practices [12]. By leveraging ChatGPT's capabilities, auditors can stay informed, take timely actions, and collaborate effectively with stakeholders, ultimately leading to improved audit outcomes and enhanced risk management.

2.5. Record-Keeping and Documentation

Another benefit of using ChatGPT in IT audits that support FS audits is its ability to enhance audit documentation and record-keeping processes. Documentation is a critical aspect of audits, as it provides evidence of the audit procedures performed, findings, and conclusions [14]. ChatGPT can assist auditors in generating comprehensive and standardized audit documentation. Auditors can streamline their documentation process by using ChatGPT. This AI-powered model can automate the documentation of audit procedures, results, and recommendations. With its advanced analysis capabilities, ChatGPT can generate comprehensive and accurate audit reports, ensuring consistency and completeness in the documentation process [13]. This automation feature saves auditors a significant amount of time and effort that would otherwise be spent on manual documentation tasks. Furthermore, ChatGPT can assist auditors in maintaining a centralized and well-organized repository of audit documentation. It can categorize and index audit files, simplifying the retrieval and referencing of specific information when needed [13]. This centralized documentation system ensures easy accessibility to audit records, minimizing the risk of misplacement or loss of important documentation.

Moreover, ChatGPT can aid in the normalization of audit documentation throughout the company. By adhering to established templates and rules, the model can produce consistent and standardized audit reports [13]. This normalization not only elevates the audit documentation's quality and professionalism but also enables comparison and benchmarking across various audits and audit teams. Additionally, ChatGPT's capacity to create thorough and detailed audit documentation can boost the audit process's transparency and accountability [13]. Stakeholders, such as executives, regulators, or external entities, can gain a clear insight into the audit procedures conducted, the discoveries, and the subsequent suggestions. This clarity fosters trust and assurance in the audit process and the dependability of the FS [14].

The use of ChatGPT in IT audits that support FS audits offers the benefit of enhancing audit documentation and record-keeping processes. By automating the generation of comprehensive and standardized audit reports, maintaining a centralized repository, promoting standardization, and improving transparency, ChatGPT contributes to more efficient, accurate, and reliable audit documentation practices.

3. DRAWBACKS OF INTEGRATING CHATGPT IN IT AUDITS

Despite the advantages presented above from integrating ChatGPT in IT audits that support FS audits, such integration also introduces several challenges and disadvantages that IT auditors must confront. This section of the paper will now investigate the potential downsides of employing ChatGPT in IT audits, examining concerns related to precision, dependability, data protection, and the possibility of excessive dependence on technology. By comprehending these obstacles, IT auditors can make knowledgeable choices about the application of ChatGPT in their audit procedures.

3.1. Limited Understanding of Context

A notable disadvantage of employing ChatGPT in IT audits is its restricted contextual comprehension. Despite being a robust language model, ChatGPT falls short in fully understanding the complexities and subtleties of a dialogue [15]. It functions based on patterns and statistical likelihoods from the data it was trained on. Consequently, it might have difficulty understanding the specific context and purpose of certain audit-related inquiries or conversations. This shortcoming can create obstacles for IT auditors who depend on precise and accurate information for decision-making. Without a thorough grasp of the context, ChatGPT might offer technically accurate but not entirely pertinent or suitable responses to the specific audit scenario [15]. This could result in confusion, misinterpretations, or incomplete evaluations, potentially undermining the precision and efficacy of the audit procedure.

ChatGPT's restricted comprehension of context can impede its capacity to pose probing questions or solicit more data when dealing with ambiguous or intricate audit situations [15]. Unlike human auditors who can participate in fluid discussions to collect more specifics, ChatGPT might find it challenging to discern knowledge gaps or realize when more explanation is needed. This could lead to incomplete or incorrect replies, possibly causing erroneous audit conclusions or suggestions [15]. It's also important to note that ChatGPT's limited contextual understanding can present challenges when managing complex or ambiguous audit situations. IT audits often involve technical complexities, industry-specific jargon, and unique organizational contexts that ChatGPT might find difficult to comprehend. As a result, its responses may lack the necessary depth or accuracy for precise audit analysis [15]. Although ChatGPT may offer technically correct answers, it may overlook the wider implications or specific audit requirements. This can be problematic, particularly for regulatory compliance or industry-specific standards that require a comprehensive understanding of the context and specific guidelines.

Depending solely on ChatGPT's responses without critical evaluation and human intervention can lead to incomplete or insufficient audit assessments [15]. Additionally, ChatGPT's limited contextual understanding can also manifest in its inability to adapt to changes in the audit environment. It doesn't possess the capability to learn and update all of its knowledge in real-time, which can be a significant drawback in dynamic audit situations [15]. As audit procedures evolve, new regulations are introduced, or technological advancements take place, ChatGPT may struggle to stay updated with the latest developments, potentially leading to outdated or incorrect responses. To counteract this shortcoming, IT auditors need to be cautious and critically assess the responses produced by ChatGPT. They should understand the model's constraints and be ready to enhance its results with their professional discernment and proficiency [15]. By merging the abilities of ChatGPT with their own contextual comprehension, auditors can guarantee a more thorough and precise evaluation of the audit scenario.

3.2. Dependence on Pre-existing Information

Another drawback of using ChatGPT in IT audits is its dependence on pre-existing information. ChatGPT operates based on the patterns and knowledge it has learned from the vast amount of training data it has been exposed to [16]. While this allows it to generate responses based on existing information, it also means that its responses are limited to what it has learned and may not be able to adapt to new or unique audit scenarios. This dependence on pre-existing information can be problematic in IT audits that involve complex or evolving technologies, regulations, or industry-specific practices. ChatGPT may not have access to the most up-to-date information or be aware of recent changes in the audit landscape [16]. As a result, it may provide responses that are outdated or no longer applicable, potentially leading to inaccurate audit conclusions or recommendations.

Moreover, the responses from ChatGPT are derived from the data it was trained on, which might contain biases or inaccuracies inherent in that data [16]. This could potentially lead to the propagation of biases or the provision of incomplete or misleading information during the audit process. It's crucial for IT auditors to scrutinize the responses produced by ChatGPT and cross-verify them with trustworthy and current sources to guarantee precision and impartiality [16]. To counteract this shortcoming, IT auditors need to understand the limitations of ChatGPT and exercise prudence when solely depending on its responses. They should enhance the model's outputs with their own skills, knowledge, and access to up-to-date information [17]. By merging the abilities of ChatGPT with their own critical thinking and professional judgment, auditors can ensure a more thorough and correct audit analysis.

Additionally, ChatGPT's dependence on pre-existing information can limit its ability to handle unique or novel audit scenarios. IT audits often involve complex and evolving technologies, emerging risks, and industry-specific challenges [14]. In such cases, ChatGPT may not have encountered similar situations during its training, leading to responses that may not fully address the specific nuances of the audit [16]. This limitation can be particularly problematic when auditors encounter unprecedented situations or when audits require innovative approaches. ChatGPT's responses may lack the creativity, adaptability, and critical thinking skills that human auditors possess, struggling to provide insights or recommendations that go beyond the scope of its pre-existing knowledge, potentially hindering the audit process and limiting the effectiveness of the audit findings [16].

While ChatGPT is a powerful tool, its dependence on pre-existing information can limit its effectiveness in handling unique or novel audit scenarios. IT auditors must be aware of this limitation and exercise caution, using ChatGPT as a supplementary tool rather than relying solely on its responses. By combining the capabilities of ChatGPT with their own expertise and critical thinking skills, auditors can mitigate the drawbacks associated with the model's dependence on pre-existing knowledge and ensure a more comprehensive and tailored audit analysis.

3.3. Lack of Professional Judgment

A significant limitation of employing ChatGPT in IT audits is its inability to exercise professional discernment. Although ChatGPT can formulate responses based on patterns and statistical likelihoods, it lacks the specialized knowledge, experience, and professional discernment that human auditors contribute [18]. Professional discernment is a vital component of the audit process, encompassing the use of specialized knowledge, critical thinking, and ethical considerations [14]. ChatGPT's responses are derived from patterns and information it has acquired from its training data. While this enables it to offer information and insights based on existing knowledge, it falls short in its capacity to evaluate the importance of audit results, gauge the sufficiency of controls, or form judgments about the overall audit conclusions [18]. This shortcoming can be especially challenging in intricate audit situations that demand subtle analysis and interpretation.

ChatGPT's lack of professional judgment can hinder its ability to consider the broader implications and business context of audit findings [18]. Auditors often need to assess the impact of audit findings on the organization's FS, risk management practices, and overall business operations [14]. This requires a deep understanding of the business environment, industry-specific factors, and regulatory requirements. ChatGPT's responses may not fully capture these considerations, potentially leading to incomplete or inaccurate audit assessments [18]. Moreover, professional judgment involves considering ethical considerations and exercising professional scepticism. Auditors must evaluate the integrity and reliability of the information they receive, assess the potential for fraud or misrepresentation, and make independent judgments based on

their expertise and experience [14]. ChatGPT, being an AI model, lacks the ability to exercise professional scepticism or evaluate the ethical implications of audit findings [18].

To mitigate the drawback of ChatGPT's lack of professional judgment, IT auditors must acknowledge its limitations and use their own expertise and professional judgment throughout the audit process [17]. They should critically evaluate the responses generated by ChatGPT, cross-reference them with reliable sources, and apply their own knowledge and experience to ensure accurate and meaningful audit conclusions. Although ChatGPT can provide useful information and insights, its lack of professional judgment is a significant limitation in IT audits. Therefore, IT auditors must be aware of this limitation and complement the outputs of ChatGPT with their own professional judgment. By combining the capabilities of ChatGPT with their own expertise and professional judgment, auditors can ensure a more comprehensive and accurate audit analysis that considers the broader implications and ethical considerations of the audit findings.

3.4. Data Security Concerns

Using ChatGPT in IT audits can pose data security concerns that cannot be ignored. Although ChatGPT can provide valuable insights and support, it requires access to sensitive audit data and information, which can potentially lead to risks related to data privacy, confidentiality, and unauthorized access [19]. One of these risks is the possibility of data breaches or unauthorized access to audit information. Since ChatGPT relies on data inputs to generate responses, this data may include sensitive financial information, proprietary data, or personally identifiable information [19]. In the absence of proper security measures, there is a risk that this data could be compromised, leading to potential financial, legal, and reputational consequences for the organization and the audit team.

Employing ChatGPT could also necessitate the distribution of audit information to external service providers or cloud-based systems, presenting further security implications since the data might be handled or stored beyond the organization's infrastructure [19]. Consequently, it's vital to confirm that suitable data protection strategies, like encryption and secure transmission protocols, are implemented to protect the audit data's confidentiality and integrity [14]. Additionally, IT auditors may need to adhere to certain regulatory obligations or industry-specific norms that dictate the management and processing of audit data. They must ensure that the utilization of ChatGPT aligns with these rules and standards, which could include data privacy laws or industry-specific confidentiality mandates [19]. Non-compliance could lead to legal and regulatory repercussions for both the organization and the audit team.

To alleviate data security issues, IT auditors should establish strong security protocols when using ChatGPT. This involves setting up secure access controls, encrypting confidential data, routinely overseeing and auditing system access, and applying secure data transmission protocols [17]. It's also crucial to perform comprehensive due diligence on any third-party vendors or cloud platforms involved in the use of ChatGPT to verify they have suitable security protocols in place. Data security issues are a major concern to take into account when using ChatGPT in IT audits. IT auditors must give top priority to data privacy, confidentiality, and regulatory compliance. By setting up strong security protocols and following data protection best practices, auditors can reduce the risks linked to data security and maintain the integrity and confidentiality of the audit data throughout the use of ChatGPT [17].

3.5. Regulatory Compliance

Regulatory compliance is a crucial aspect of IT audits, and the use of ChatGPT in these audits raises considerations regarding adherence to applicable regulations. IT auditors must ensure that

the use of ChatGPT aligns with relevant regulatory requirements and industry-specific standards because there is a concern of the potential violation of data protection and privacy regulations. ChatGPT relies on data inputs to generate responses, and this data may include personally identifiable information or other sensitive data [20]. IT auditors must ensure that the use of ChatGPT complies with data protection laws, such as the General Data Protection Regulation in the European Union or other regional data privacy regulations. This includes obtaining appropriate consent, implementing necessary security measures, and ensuring the lawful processing of personal data [20].

Certain industry-specific rules or standards may dictate how audit data is managed and processed. For instance, financial organizations might be under specific regulations like the Sarbanes-Oxley Act or the Payment Card Industry Data Security Standard [20]. IT auditors have to ensure that the application of ChatGPT complies with these rules and standards, encompassing aspects like data security, confidentiality, and audit trail documentation. Additionally, auditors need to evaluate the potential influence of using ChatGPT on the impartiality and objectivity of the audit procedure. Regulatory authorities often stress the significance of auditors preserving independence and steering clear of conflicts of interest [14]. IT auditors must determine if the utilization of ChatGPT could jeopardize their independence or lead to conflicts of interest, such as over-reliance on the AI model's results without applying their own professional discernment.

To manage concerns related to regulatory compliance, IT auditors should perform an exhaustive evaluation of the regulatory environment and confirm that the application of ChatGPT is in line with relevant regulations and standards. This might require seeking advice from legal professionals or regulatory consultants to guarantee compliance with data privacy, protection, and sector-specific rules [20]. Moreover, auditors should record their compliance activities and keep a transparent audit trail to show their commitment to regulatory responsibilities [14]. Overall, regulatory compliance is a vital factor when incorporating ChatGPT in IT audits. IT auditors have to ensure that the deployment of ChatGPT complies with data protection laws, industry-specific norms, and independence and objectivity requirements. By carrying out a thorough review of regulatory duties and applying necessary actions, auditors can guarantee that the incorporation of ChatGPT in IT audits promotes regulatory compliance and maintains the audit process's integrity [17].

4. CONCLUSION

The incorporation of ChatGPT in IT audits supporting FS audits offers a persuasive example of technological progress in the audit industry. The advantages are plentiful and substantial. For instance, ChatGPT can handle large data volumes at a pace that greatly exceeds human abilities, thus enhancing efficiency and shortening audit completion time. It also minimizes the chance of human mistakes, which can be expensive in financial audits, and it can be tailored to learn and adjust to each audit's unique requirements, making it a flexible tool. However, its application is not without challenges. A key concern is the potential for excessive dependence on such technology, which could result in a deficit of critical analysis and professional scepticism among auditors. Data security and privacy issues also arise as ChatGPT's use involves processing confidential financial data. Plus, there is the task of staying aligned with the swift evolution of technology, necessitating auditors' constant learning and adaptation.

Even with the associated difficulties, the possible advantages of incorporating ChatGPT into IT audits that aid FS audits are too significant to overlook. When utilized appropriately, ChatGPT can substantially improve audit precision and productivity. Nevertheless, auditors must strike a balance between utilizing ChatGPT and exercising their professional discernment. They also need to keep up with technological progress and guarantee ChatGPT's application in respect to

data protection and privacy. Thus, the inclusion of ChatGPT in IT audits supporting FS audits can be a beneficial resource in the audit industry.

5. LIMITATIONS AND FUTURE RESEARCH

The research review performed in this paper exhibits certain limitations and deficiencies that need to be acknowledged. Firstly, the review primarily focused on studies published in the English language, which could introduce a language bias and exclude valuable insights from non-English literature. Additionally, the review predominantly relied on articles from a specific time frame, potentially overlooking older studies that could provide essential historical context or comparative analysis. Furthermore, the review did not include unpublished studies, potentially missing out on alternative viewpoints or novel research findings. Lastly, the research review performed herein might have overlooked studies with negative or inconclusive results, leading to a potential publication bias and an incomplete understanding of the research topic. Overall, while the research review provides a valuable synthesis of existing research related to benefits and challenges of integrating ChatGPT in IT audits that support FS audits, these limitations should be considered when interpreting the findings.

The incorporation of ChatGPT into IT audits that aid FS audits offers an intriguing field for upcoming studies. Potential advantages of this merger like enhanced efficiency, precision, and cost-effectiveness are simply substantial. Nonetheless, disadvantages like potential security threats and the requirement for comprehensive training must not be ignored. As a result, future research should concentrate on formulating strategies to optimize the benefits while minimizing the drawbacks. A suggestion for future research is to delve into the creation of advanced security protocols for ChatGPT. This might include the establishment of strong encryption techniques or the development of advanced user verification systems. Furthermore, future research could explore the potential of machine learning algorithms in identifying and preventing unauthorized access or misuse of the system.

Another area for future research is the development of comprehensive training programs for IT auditors. These programs should not only focus on how to use ChatGPT but also on understanding its limitations and potential risks. This will ensure that auditors are well-equipped to handle any issues that may arise during the audit process while using ChatGPT. Research should also investigate the cost-benefit analysis of integrating ChatGPT in IT audits. While the initial investment may be high, the long-term savings in terms of time and resources could be substantial. However, a thorough analysis would be necessary to confirm this.

Lastly, future research should consider the ethical implications of using AI's ChatGPT in IT audits. This includes issues related to privacy, accountability, and transparency. As AI becomes more prevalent in various industries, it is crucial to ensure that its use aligns with ethical standards and regulations. In summary, the integration of ChatGPT in IT audits that support FS audits is a promising but a complex area. Future research should aim to address the challenges presented herein and maximize the potential benefits of this integration. This will not only enhance the effectiveness of IT audits but also contribute to the broader field of AI in auditing.

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