

AI AND INTERNAL AUDIT, REPORTING TRANSFORMATION

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The recent emergence of OpenAI and ChatGPT has brought numerous advantages for the professions of accountants and auditors, but at the same time numerous risks, threats and challenges. GPT's ability to understand, predict and generate human-like text has turned the technology into a clear foundation that redefines and shapes a wide range of activities, including internal auditing. GPT models have rapidly evolved from their initial roles in simple text generation to complex applications. Their ability to understand language and context, generate coherent and relevant text, and learn from vast amounts of data makes them ideal for tasks such as compiling internal audit reports. Internal audit reports summarize key findings and identify risks that need to be remedied for the audit committee, CEOs and senior management. However, writing and presenting such reports takes a lot of time, and using GPT can help significantly with that. The subject of the paper is a comprehensive review of a wide range of AI, internal audit, reporting transformation. The main conclusion points to the growing responsibility of internal auditors with the widespread use of generative artificial intelligence services to support audit reporting. Internal auditors must be aware of the risks and challenges brought by the new technology, based on artificial intelligence, which requires clear training and thematic areas incorporated into the curricula in the process of certification of internal auditors.

Keywords:

internal
audit,
reporting,
accounting,
chat GPT,
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1 Introduction

The professions of accountants and auditors have benefited greatly from the recent development of artificial intelligence (hereinafter AI) based on the OpenAI and ChatGPT, but there are also significant dangers, threats, and obstacles involved. GPT's capacity to comprehend, anticipate, and produce writing that is human-like has made the technology a certain foundation that redefines and shapes a variety of tasks, including internal auditing. From their early uses in straightforward text production to more sophisticated applications, GPT models have developed quickly. Their aptitude for comprehending language and context, producing meaningful and well-organized prose, and gaining knowledge from a plethora of data sets them up for jobs like internal audit report compilation. Reports from internal audits highlight important discoveries and point out hazards that senior management, CEOs, and the audit committee need to address. However, utilizing GPT can greatly assist with the time-consuming nature of producing and presenting such reports. The GPT service is an AI-inspired and guided solution with a comprehensive and pervasive set of features and capabilities designed to handle defined queries. It is generally defined as software that in its application environment provides numerous opportunities for organizations, primarily to use at least a fraction of the power of advanced artificial intelligence for various activities. Key features include text generation, conversational AI capabilities and natural language understanding, which can be tailored to specific needs. The Association of Internal Auditors states that internal auditors can use services such as OpenAI or Azure Copilot to develop a new GPT service without writing any software code, following a four-step process (Sakthiswaran, 2024).

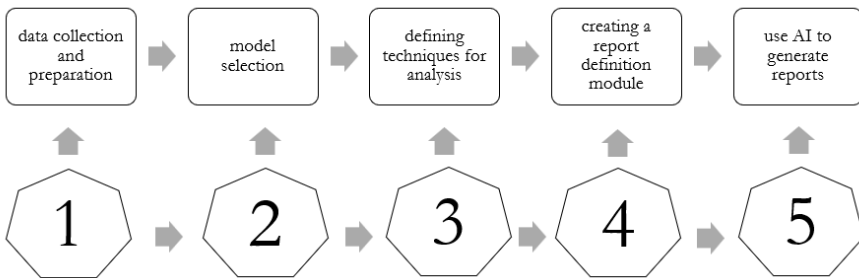


Figure 1: How to use AI in the internal audit
Source: Own

The first step is to collect and prepare data. Internal audit staff should start by collecting a dataset of previous internal audit reports and cleaning and formatting that data to ensure that the data is consistent and relevant. For ease of processing, auditors should identify and label key elements such as audit findings, recommendations, management responses, and follow-up actions. After choosing the right GPT model, internal auditors should define the parameters of the model by defining the data set for the audit report. This includes defining parameters for understanding the specific language, format and content typically found in audit reports within a specific organizational context.

After that, it is probably necessary to define an analysis module that should essentially be able to learn from historical audit reports and provide insight into key elements. It can identify frequently reported issues, track the status of historical recommendations, and highlight areas of frequent risk. Natural language processing techniques will play a significant role in this module. The next step should include creating a report generation module. This module will use the GPT model to contribute to the creation of internal audit reports. The defined model will be loaded with data from ongoing audits, and as such will have a wide range of capabilities to generate draft reports that include findings, risk assessments and recommendations, all in a coherent and professional language (Ali, et al., 2023).

Finally, the final step must include the secure deployment and use of AI to generate reports. Although the previous steps are not straightforward to create custom GPT services, it is essential for internal auditors to understand how and where these applications store and process data to ensure security. GPT is an emerging technology and as such could introduce new risks that need to be addressed before being implemented. The subject of the paper is a comprehensive review of a wide range of AI, internal audit, reporting transformation.

2 Data collection and preparation

Bearing in mind the fact that organizations all over the world are rapidly moving towards the adoption of systems based on artificial intelligence, the question arises as to who in such situations controls the risks that such a situation brings, and whether the persons in charge of control use artificial intelligence. Arguably, the human population is currently at a historical tipping point where open-source AI

algorithms and models are now easily accessible, and these models perform better than people can with accuracy. Artificial intelligence-based systems have been around for a while. These days, businesses incorporate the newest features into their workflows. Internal auditors need to exercise extreme caution when it comes to the organization's data collecting, data consent, security, privacy, bias, accuracy, and compliance with regulations, among many other issues. To address the new possibilities of artificial intelligence, internal audit staff may need to reframe their roles in the organization (Jakovljevic, 2022c).

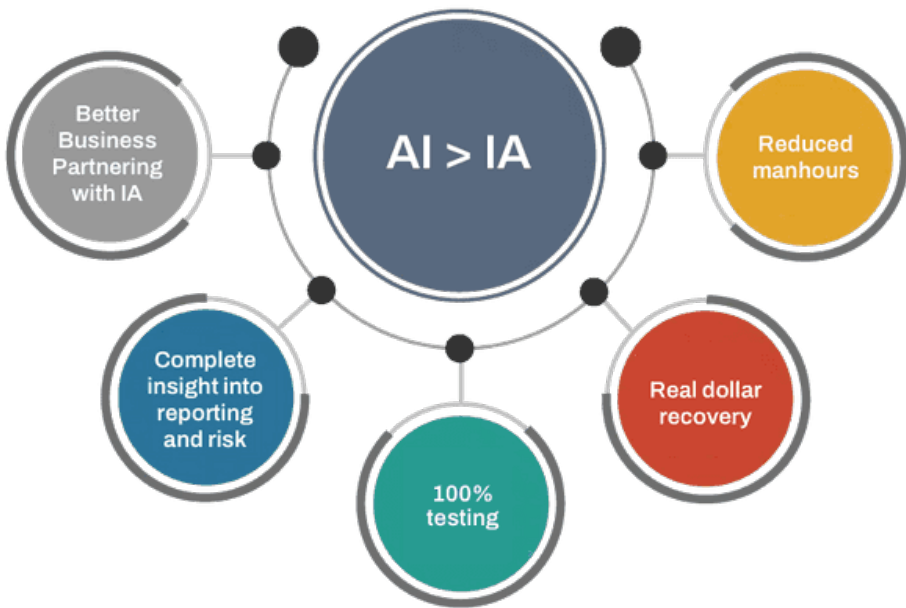


Figure 2: How AI helps internal audit departments to work smarter

Source: <https://thinkrisk.ai/how-ai-helps-internal-audit-departments/>

The Institute of Internal Auditors AI Audit Framework defines the role of internal audit in AI as assisting a company in determining, comprehending, and communicating the degree to which AI will impact the company's capacity to generate value, either favorably or unfavorably. This perspective, it is necessary to pay attention to where systems based on artificial intelligence are being used, as well as where they are being developed or planned for more use. It is very important to determine where artificial intelligence is used by reviewing how the systems are used

in the organization. These environments are essential for enabling AI research, and gaining a quick grasp of how they support AI use cases is a useful way to obtain data that can be used to evaluate risks and dangers. This understanding can also reveal the use of AI in the background, where AI use cases develop outside of the organization's pre-defined rules and procedures (Jakovljevic, 2021a).

Internal auditors should check for guidelines that require the company to evaluate AI systems' repeatability and stability, reporting results that are irreversible and useless. Internal auditors ought to search for a governance framework that permits AI systems to make decisions that are repeatable and consistent, by considering the abundance of data and information available. When the input data is marginally changed, the decision made by a stable AI-based system does not vary dramatically. The principle of fairness is directly related to basic human rights. Artificial intelligence systems should empower everyone, regardless of other preferences.

Auditors should look for proof that the governance structure guarantees that parties' use of AI in internal auditing does not violate these rights. Information systems specialists must test and address any biases generated by the data set in order to ensure that these procedures are set up correctly and that AI-based decision-making and prediction systems operate as intended. Information systems specialists can be checked by auditors to make sure the system is being populated with data that accurately reflects the features of the total population, not just a part of it. It is imperative to ascertain whether groups including information systems specialists adequately represent a range of viewpoints and beliefs.

3 Model selection

With growing interest in generative artificial intelligence, the best way for internal auditors to locate usage is to consider which applications are boosting productivity the algorithmic capabilities of text, code, images, speech, and video. Currently, internal audit departments are adopting generative artificial intelligence because such models are very useful for languages, allowing them to improve the functionality of their texts and adapt them to several different specific purposes. Even packaged AI-based system solutions with pre-trained models can have complex interactions with an organization's multiple business processes. Internal audit teams must help organizations understand where and how AI-based system solutions are being used

to ensure security, compliance, and quality. Achieving this requires a timely response from the internal audit team.

Effective governance requires accountability, which is a particular challenge in relation to artificial intelligence, bearing in mind that there are usually multiple parties involved and it is often not clear which indicators are adequate. A key indicator of the success of an artificial intelligence system is its predictive ability. Usually, application developers and system administrators are evaluated based on how well their systems forecast. The most predictive AI systems, meanwhile, might employ methods and algorithms that reduce the system's transparency. Stated differently, the artificial intelligence principles may not be adhered to by the system that most accurately forecasts the result.

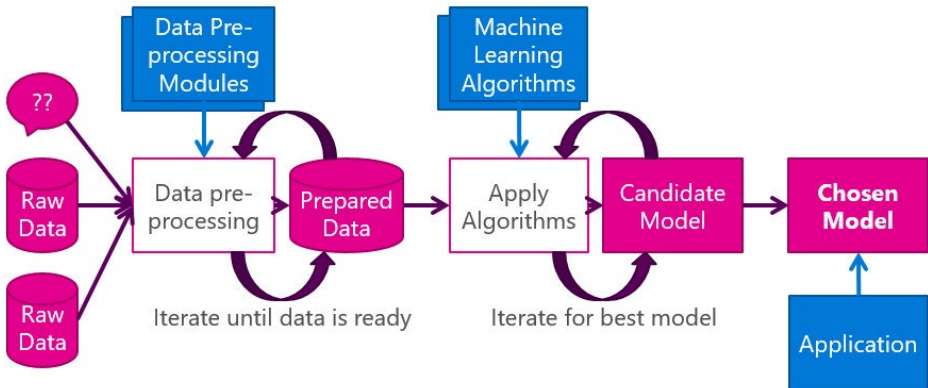


Figure 3: AI model selection process

Source: <https://www.linkedin.com/pulse/from-data-processing-till-model-selection-machine-payam-mokhtarian/>

Auditors should think about if procedures are in place to explicitly account for who oversees each component of the AI system to determine whether an efficient governance structure is in place to promote accountability. Everyone need to define what each person is responsible for and what they measure. Therefore, internal auditors must check whether the results are consistent with artificial intelligence principles, such as building appropriate algorithms.

4 Defining techniques for analysis

Different topics and engagements of the internal audit department can find meaningful use of their own artificial intelligence systems to more simply and adequately realize activities that are unique to their specific needs. If the system that uses artificial intelligence in internal audit work is a product and subject to updating and maintenance by an external organization, internal auditors must ensure that the external organization regularly conducts audits of its artificial intelligence management activities, primarily in information systems audit. Such an AI governance review should start by identifying all AI applications that the organization has deployed and is using.



Figure 4: Next generation of internal audit

Source: https://www.itmagazine.ch/artikel/74760/Next_Gen_of_Internal_Audit_.html

Information on the system's purpose, installation date, service affiliation, internal and external users, third-party service providers, and whether each system is assigned a unique identification number should all be included in this list. Experience in practice has shown that the demands of interested parties for technical explanations vary significantly in different organizations. However, certainly in order for internal auditors to assess whether there is an effective management framework that supports the previously expressed views, they should check whether there is a process for translating technical information into non-technical information, whether there is stakeholder feedback that allows internal auditors to assess whether there is an appropriate level of transparency and understanding, whether there are

reliable communication channels for stakeholders to provide feedback, and whether this (Jakovljevic, 2022d).

Internal auditors must timely understand solutions based on artificial intelligence, to adequately assess their functionality and participation in its formation. Many solutions use algorithms that learn and change over time, meaning they start with data that is fed into that learning process. Artificial intelligence technology can be an excellent tool that will contribute to organizations to use their resources more strongly and use all the potentials they possess, but, from the perspective of internal audit, there must be clear and unambiguous guarantees that the technology will be used appropriately. For internal auditors to properly assess the diversity of data sources and growing volumes of data, it means that internal auditors need to properly manage a wide range of unstructured and structured data sources.

Internal auditors must be careful and consider how system solutions based on artificial intelligence are integrated into other solutions. When using large language models there is a risk that these models produce and falsifying information that does not directly correspond to the input data provided. Every company uses different types of data, and every internal audit team needs to be aware of inappropriate biases in that data. It is important for internal auditors to understand how data flows and how it is used in developing algorithms and models (Liao, et al., 2024).

5 Creating a report definition module

As organizations increase their reliance on artificial intelligence, internal auditors must evaluate oversight of these applications with a focus on governance principles. With the increasing focus on AI governance, internal auditors need to determine how they can assess whether AI governance is well designed and effectively implemented. By providing a timely answer to the question of whether the use of artificial intelligence in their organization is in accordance with predefined rules and standards of AI management for responsibility, transparency, and fairness, and above all, privacy, and security.

Technological progress in recent years has caused an increase in the application of technology based on AI in many different activities and spheres of life to improve the quality of people's lives. All artificial intelligence (AI) programs share the capacity

to interpret information and make decisions by simulating human intelligence. The necessity for AI monitoring has increased as a result of these possibilities. AI governance offers structures and methods to direct end-to-end applications in accordance with company objectives, user requirements, legal and regulatory requirements, and moral conduct. Like other domains of governance, internal auditors can precisely specify inside the entities they serve to ascertain whether AI governance is adequately conceived and executed (Jakovljevic, 2021b).

Like human decision-making, AI systems can make choices that are counter to their objectives, which could endanger your business and negatively impact your users and stakeholders. As artificial intelligence technologies advance rapidly, the internal audit process in which it is incorporated may be compromised, which then requires a long and deliberate process of verification and supervision. An internal audit in the field of artificial intelligence management can contribute to bridging this gap.

A few recognized experts suggest the use of voluntary labeling for low-risk applications of artificial intelligence that would be used in internal audit work. Such a labeling system would allow internal auditors to inform stakeholders that their products were created with reliance on artificial intelligence and that they have an appropriate level of reliability because of monitoring and auditing the management of artificial intelligence. Because such information would be readily available and clearly highlighted, it would not be subject to regular review by regulatory agencies. Internal audit audits in artificial intelligence management can increase the confidence of stakeholders in internal audit reports and the information they are based on and contain (Nickolau, 2023).

However, there are currently no common AI principles as different sectors have specific operational needs and evolving technologies. Management therefore depends on each organization's objectives. Quite simply, there is a very broad spectrum of diversity when looking at the activities of organizations that have internal audits and the data that internal auditors work with, both in terms of confidentiality, and in terms of availability and the possibility of disposal and processing. However, internal auditors should ensure that, as part of good governance, the organization has clearly stated objectives that will help achieve its mission and that the principles of internal auditing using artificial intelligence are aligned with those objectives (Jakovljevic, 2022a).

Additionally, internal audit requires clear and well-defined procedures and policies to ensure that the use of artificial intelligence is consistent with these principles. Auditors should apply artificial intelligence principles when auditing management practices. From a transparency perspective, internal auditors must ensure that control systems provide stakeholders with access to accurate, timely, and relevant information. Internal auditors must be able to continually provide stakeholders with appropriate and reasonable explanations for decisions made by technical and non-technical AI systems based on their needs and preferences. Having immediate access to accurate and relevant information does not necessarily mean that it can be understood. This requires technical stakeholders to help non-technical stakeholders understand why and how AI systems make decisions and how this impacts internal audit planning, execution, and reporting (Fernandes, 2022).

6 Use AI to generate reports

From the standpoint of cybersecurity, attackers can alter the output data by injecting malicious data. Significant behavioral deviations may result from system solutions based on artificial intelligence if certain problematic illogicalities are present. A satisfactory level of data quality and model comprehension is crucial when reprocessing biases as part of an algorithm. Even if bias is a natural component of possible outcomes, it is important to make sure that there are enough procedures and controls in place to eliminate bias toward unfavorable outcomes. Artificial intelligence, especially generative artificial intelligence, provides a significant opportunity for progress in numerous activities, with an all-pervasive significant increase in efficiency in business and the development of innovative products, services, and solutions (Wang, et al., 2024).

The internal audit team should support the organization in identifying and mitigating associated risks as it adopts AI and begins to reap its benefits. Artificial intelligence comes with a number of concerns, some unique to particular industry. To be able to see and assess risks from the application of artificial intelligence in a timely manner, the internal audit function must focus on the program and on the domains of primary risks, and sometimes this is not quite possible, especially when the internal audit alone in its activities and procedures of planning, implementation and audit reporting uses systems based on artificial intelligence. Then an internal audit review

by other auditors or experts for information systems and information security is necessary (Jakovljevic, 2022b).

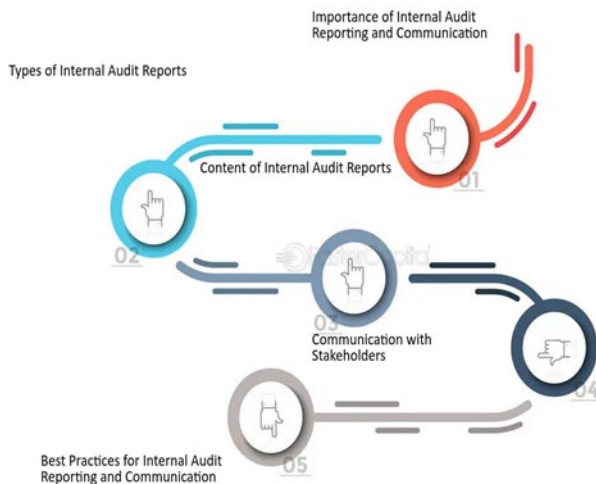


Figure 5: Internal audit process

Source: <https://fastercapital.com/keyword/internal-audit.html>

If we discuss the security of data and systems based on artificial intelligence, and above all the information that such systems generate to stakeholders, auditors should look for a governance framework that can access, monitor, and mitigate the potential risk of AI-driven outcomes that would cause security concerns. Experiential practice cites an example that testifies to the fact that timely determination of whether there are processes is important for continuous monitoring of system security. Through the intentional execution of cases intended to fool the algorithmic decision-making model into producing false results, competitive testing looks for flaws and evaluates the resilience of the model. This approach uses a tracking algorithm in conjunction with these examples to track model performance (Agundo, et al., 2024).

The goal of data poisoning patrols is to apprehend any external attacker or hostile insider who tries to manipulate the data used to train an algorithm to impair the performance of an AI model. Under such circumstances, internal auditors can verify if procedures, like human intervention, are in place to handle unforeseen hazards brought on by artificial intelligence systems' imprecise forecasts. Privacy concerns arise because large amounts of data can be used to re-track and de-anonymize

personal information. The freedom of users to choose who can access and use their data is safeguarded by appropriate data privacy management. Data is shielded from unwanted access by effective administration of security measures for artificial intelligence system infrastructure. (Wang, et al., 2024).

For an auditor performing an AI governance internal audit to assess whether there is an AI governance framework that supports data privacy and the security when assessing the AI system architecture, the auditor may start by looking into the existence of protection mechanisms, data encryption procedures, and authentication standards from the removal of data. Before evaluating if these procedures and standards satisfy stakeholder demands and industry standards, the auditor should confirm that there are monitoring tools and standards in place for tracking system access, recording data, and making algorithm modifications.

7 Conclusion

Internal auditors should keep several challenges and key considerations in mind while building custom GPT services. Above all, they should pay attention to privacy and data security. Ensuring the confidentiality and security of data during and after the audit process is extremely important. The GPT Service must comply with relevant data protection laws and organizational policies. Internal auditors should ensure that data sets and databases used for analysis are limited to authorized users and that all changes are adequately recorded and controlled to ensure integrity, as well as data reliability. Internal auditors should regularly examine the model for bias and inaccuracy. They need to continuously update the dataset and retrain the model to maintain its relevance and reliability. Internal auditors should understand the potential risks of using GPT tools in their organization. As GPT technology evolves, so do threats and potential risks. Persons engaged in internal audit work should be aware of these risks and their potential impact on their organizations and at the same time be trained to effectively use tools based on GTP technology (Sandu, et al., 2022).

When we talk about internal audit, as a function that uses artificial intelligence, the establishment of artificial intelligence management is only the first step in the demanding process of building a system that will function properly and with a satisfactory level of reliability. It is essential to regularly check that such a system is

working properly and to ensure that improvements are implemented over time. If the AI governance framework is not evaluated at sufficient time intervals and in a timely manner, this could in certain situations increase the risk of negative impacts from unintended outcomes of AI (Agudo, et al., 2024).

Having an fake insights administration framework connected to inner review work, without satisfactory information of the people locked in in inside review work, around whether the framework is working as planning, can make an environment with the nearness of a untrue sense of certainty, diminishing the watchfulness and readiness of inner inspectors, and an master in data frameworks and data security. Bearing in intellect that review destinations may incorporate the viability and proficiency of an AI framework, the unwavering quality of the utilize of data created by the framework, and compliance with appropriate laws and controls, inner evaluators have a key part to impartially survey AI administration whereas maintaining a strategic distance from clashes of intrigued.

Integrating the GPT model into internal audit functions represents a significant step forward in the use of artificial intelligence for improved risk assessment and reporting. By automating and deepening the process of analysis and report generation, internal audit functions can surely achieve greater accuracy, efficiency, and clarity of expression. However, it is essential to approach this integration with a thorough understanding of the technical, ethical, and operational implications to fully exploit its potential. When all the above is considered, the future of GPT in internal audit is promising, demonstrating significant potential and a wide range of usable features, with clear extensions to predictive analytics, real-time risk monitoring and interactive audit management systems.

As artificial intelligence technology continues to evolve, its impact on internal audit functions can indeed become more sophisticated and integrated into organizational governance and risk management strategies. The main conclusion points to the growing responsibility of internal auditors with the widespread use of generative artificial intelligence services to support audit reporting. Internal auditors must be aware of the risks and challenges brought by the new technology, based on artificial intelligence, which requires clear training and thematic areas incorporated into the curricula in the process of certification of internal auditors.

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