

Perceptions of Artificial Intelligence (AI) Usage on Auditor Judgment

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Abstract

This research aims to examine the relationship between perceptions of the use of Artificial Intelligence (AI) in audit practices and Auditor Judgment in financial audits. A survey method is used to involve students majoring in Accounting as respondents. Data was collected through a specially designed questionnaire and statistical analysis was used to test the hypothesis. The research results reveal that there is a significant influence between the perception of the use of AI in auditing and the auditor's ability to make judgments. Auditors who have a positive perception of AI tend to make more accurate judgments in evaluating the audit entity's financial reports. To the best of our knowledge, this is the first study that exploring a relationship that is still rarely explored in the literature, namely the influence of perceptions of the use of AI in auditing on the Auditor's Judgment ability. This research also provides new insights into how AI technology can contribute as a valuable tool in improving quality in the audit process.

Keywords: *AI Usage; Auditor Judgment; Perceptions*

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1. Introduction

In an increasingly advanced digital era, Artificial Intelligence (AI) technology has become a revolutionary force that changes almost every aspect of human life, including the world of business (Kaplan & Haenlein, 2010) and professional accounting (Petkov, 2020; Warren et al., 2015). Artificial Intelligence (AI) is a domain that focuses on intelligence concepts used to carry out calculations (Singh & Singh, 2010). Calculations carried out by AI aim to develop computing systems that are more manageable, simplify user tasks and carry out analysis of various problems or documents.

In Indonesia, one of the country with the largest economy in Southeast Asia, changes in the use of AI are inevitable especially in the context of the world of auditing. The existence of AI has become one of the main trends that is

influencing the way auditors work and make decisions in the audit process.

This phenomenon is very important to pay attention to considering that Indonesia is experiencing rapid and diverse economic development, with businesses becoming increasingly complex and growing in various sectors. In this increasingly dynamic business environment, the need for fast and accurate decision making in audits is becoming increasingly urgent. This is why AI technology has emerged as a promising solution.

One of the most important changes is how AI has influenced auditor judgment. Auditor judgment refers to the process by which auditors combine the information they obtain during an audit to reach a conclusion and assessment of the truth and fairness of an entity's financial statements. How the use of AI in auditing affects the auditor's ability to make accurate and relevant judgments is a question that is being faced by audit professionals, as well as Accounting students who are currently studying at universities.

The use of AI in auditing has changed the way auditors exercise their judgment in several main aspects, namely: first, data analysis, one of the most striking impacts of AI in auditing is its ability to process and analyze big data quickly and accurately. AI can identify patterns and trends that human auditors might miss. This allows auditors to make judgments that are more based on stronger evidence and more complete data. Second, risk detection, AI can be used to identify potential risks of fraud or errors in financial reports more efficiently. This allows auditors to focus on riskier areas in their audits and make more focused judgments on relevant aspects. Third, audit efficiency, AI can also improve overall audit efficiency. With its ability to perform repetitive and routine tasks such as sorting data, AI allows auditors to focus on aspects that require higher human judgment. This can impact how auditors exercise their judgment, with more time being spent on analysis and evaluation.

Research related to AI in the field of accounting, especially auditing, is still relatively rare and still has great opportunities. Solikin & Darmawan (2023) who researched how AI was able to improve the performance of a company's public accounting information system. Then Fülöp et al., (2023) linked ethics to the use of AI among accountants. The results of the survey show that accountants have a strong belief in the importance of ethics in the use of artificial intelligence, and they also feel that the involvement of regulatory bodies in designing ethics laws related to artificial intelligence is very important.

On the other hand, research related to auditor judgment is not a new issue/topic. Many previous studies have looked at both the determinants and consequences of auditor judgment and used various research methods. For example, Merdekawati (2022) tries to relate the auditor's experience to their judgment. The results show that the auditor's experience is not proven to significantly influence the auditor's judgment. Then Wright & Bhattacharjee (2020) through an experimental study looked at the influence of expert advisors on auditor judgment where after receiving advice, auditors who were aware would be smarter and more accurate than auditors who were not aware, provided that the timing and communication of consultation decisions influenced the auditor's judgment on expert advice.

So far there has been no research that tries to link the use of AI with auditor judgment, so this will also be the novelty of this research. We want to test empirically whether the use of AI will have an impact on auditor judgment, especially on accounting students in Indonesia who will become future auditors. By better understanding the role of AI in auditing and how it impacts judgment, we can better prepare auditors for an audit future increasingly driven by AI technology.

2. Literature Review

Decision Making Theory

Decision making theory was first introduced by Simon (1982). This theory mainly contains the concept of bounded rationality, which has significant relevance to this research which explores the influence of the use of AI on Auditor Judgment in financial audits. Simon argued that humans often make rational decisions within the framework of limited knowledge and resources. In this context, auditors who are faced with the use of AI in audits may experience limited knowledge about AI technology or limited time in understanding the implications of using AI. This may impact how they make decisions regarding the use of AI in audits and therefore may impact Auditor Judgment. The concept of bounded rationality helps in understanding that auditors' decision making may not always include complete and optimal considerations, especially when they are faced with new technologies such as AI.

Artificial Intelligence (AI)

Artificial intelligence is often described as the use of computerized tools to carry out tasks that generally require human intelligence (Copeland, 2020; Financial Stability Board, 2017). These specialized AI tools include natural language processing, supervised and unsupervised machine learning (such

as deep neural networks), cognitive analytics, robotics and intelligent machines (Estep et al., 2023). AI utilizes algorithms and mathematical models to develop computer programs that can make decisions, process information and learn from experience. AI has a variety of subfields, including Machine Learning, Natural Language Processing, Computer Vision and many more.

In the audit context, AI has opened up significant new opportunities. AI can be used to analyze financial data, identify anomalies, automate routine tasks and even make predictions that are useful in the audit process. Machine Learning, as a branch of AI, allows systems to learn from historical data and make predictions or recommendations based on patterns found in that data.

Audit Judgment

Audit judgment refers to an auditor's personal thoughts or views in responding to information related to the audit responsibilities and risks they face (Arens et al., 2012). Auditor judgment is a term that refers to an auditor's ability to make judgments and decisions based on evidence found during the audit process. This includes the auditor's ability to evaluate an entity's business policies and practices, assess potential risks, and make final conclusions about the fairness of the financial statements. Auditor judgment play an important role in ensuring the integrity and reliability of an organization's financial reports.

Auditors are individuals who have in-depth knowledge of accounting principles, audit regulations and applicable professional standards. They must be able to integrate this knowledge with information discovered during the audit, understand the business context of the audited entity, and make informed decisions. The auditor's judgment ability is very important in identifying potential deviations, errors, or fraud in financial reports.

Previous Research and Hypothesis Development

Although within the limits of the researcher's knowledge there has been no previous research that has tried to test the relationship between the use of AI and auditor judgment, we tried to create a mapping of previous research that used the two variables in this research. Our mapping is limited to accounting and auditing research topics/areas.

Goto (2023) have investigated the linkages between four internal audit functions and sustainability audits (proxied AI usage) in manufacturing companies. The results of this study indicate that internal audit effectiveness, risk management and sensitivity to sustainability issues have a significant positive relationship with sustainability audits. These findings

have important implications for the development of audit departments, the recruitment of permanent internal auditors, the provision of appropriate resources, the training of staff regarding the importance of internal audit and the application of internal audit standards and principles to improve sustainability audit practices.

Zhang et al., (2023) relate the ethics of using AI in the context of managerial accounting where its use is expected to improve company performance by accurately providing intelligent analysis and predicting the company's future. The research results, which are based on interviews conducted with companies, show that ethical risks that frequently arise in the development and utilization of AI in the field of managerial accounting include issues such as data security, privacy and abuse, accountability, accessibility, benefits and challenges, transparency and trust in AI technology.

Then, Vitor et al., (2023) tested the application of AI technology in accounting in SMEs. From the results of interviews with 20 respondents, it was found that there is an idea regarding replacing the role of humans in carrying out accounting operations as well as the obstacles faced by SMEs in adopting AI systems in their accounting departments. One of the main obstacles is limited financial resources. These informants also provide suggestions for educational institutions and training programs to increase preparation efforts for this important change and to adopt AI-centric thinking.

Another interesting study from Faulconbridge et al. (2023) revealed that the response of accounting and legal professionals to AI is leading to new types of work and professional services. They do not call AI the 'end of the professions' but rather it leads to a reconfiguration of forms of professional activity and jurisdiction.

It is hoped that several previous studies will provide an overview of how AI has influenced many aspects of the accounting and audit environment. AI research opportunities are still very wide open and the hope is that it can make a contribution to the accounting and audit environment. In the next section we will focus on the development of the hypotheses proposed in this study.

The use of AI in auditing is a significant technological development, but that does not necessarily mean that its use will automatically affect the Auditor's ability to make Judgments. Auditors have a strong educational and training background in audit practices and their ability to make judgments is based on a deep understanding of audit principles, financial regulations and business knowledge. Therefore, it is likely that perceptions of AI will

not have a significant impact on the Judgment Auditor's abilities. Additionally, auditors may remain in control of their final decision making and will use AI as a tool to aid rather than replace their decision-making process. Thus, the null hypothesis we propose is as follows:

H_0 : There is no significant influence between the use of AI and Auditor Judgment.

The use of AI in auditing carries the potential to change the way auditors work and make judgments. AI can provide faster and more accurate data analysis, which can impact how auditors gather evidence and make judgments. Auditors' perceptions of AI may influence their level of trust in this technology as a tool that can improve audit quality. If auditors feel positive about AI and feel that AI can help them, they may be more likely to integrate AI in their decision making, which in turn may influence Auditor Judgment positively. Therefore, the alternative hypothesis we propose is as follows:

H_a : There is a significant influence between the use of AI and Auditor Judgment.

3. Research Methodology

Types of Research

This research is quantitative research using surveys. The survey was conducted from May to June 2023 by distributing questionnaires online to Accounting students at Politeknik Negeri Banjarmasin.

Regression Equations

This research was tested using linier regression analysis with the following equation:

$$Aud_Judgment = \beta_0 + \beta_1 AI_Usage + e \dots\dots\dots (1)$$

Information:

Aud_Judgment : Auditor Judgment
AI_Usage : Use of AI in an audit context
e : Error term

Operational Definition and Variable Measurement

The dependent variable in this research is Auditor Judgment which is defined as the respondent's views and understanding of the importance, relevance and factors that influence an auditor's ability to make appropriate judgments in auditing the financial statements of an entity or company. This variable is measured with 10 question items with a 5 Likert scale

(1=strongly disagree to 5=strongly agree).

The independent variable in this research is the use of AI which is defined as the extent of the use of AI technology in an audit context which includes the use of AI for automation of audit tasks, data analysis, risk identification and other audit processes involving AI technology. This variable is measured with 20 question items with a 5 Likert scale (1=strongly disagree to 5=strongly agree).

4. Research Results

General Description/Characteristic of Respondents

The respondents involved in this research were 50 accounting students. After selecting respondents' answers, 48 respondents met the criteria because their answers were complete. The following is a general description/ characteristic of respondents:

Table 1. General description/characteristic of respondents

<i>Characteristics</i>	<i>Range</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Gender	Female	36	75.00
	Male	12	25.00
Age	20	15	31.25
	21	33	43.75
Grade Point of Average (GPA)	3.0-3.50	20	41.67
	>3.50	28	58.33

Validity and Reliability Test

In this section, we will present the results of validity and reliability tests of the questionnaire instruments used in this research. Validity and reliability are two important components in evaluating the extent to which the measurement instruments used are reliable and provide accurate results. Validity refers to the extent to which the instrument measures what it is supposed to measure, while reliability measures the degree of consistency and stability of the instrument in producing consistent results over time. The results of this validity and reliability test will help ensure that the data we collect is reliable and valid for further analysis in this research (Table 2).

Table 2. Validity Test for Auditor Judgment

<i>Item</i>	<i>Sig.</i>	<i>Conclusion</i>
<i>Auditor Judgment</i>		
AJ1	0.000	Valid
AJ2	0.000	Valid
AJ3	0.000	Valid
AJ4	0.000	Valid
AJ5	0.000	Valid
AJ6	0.000	Valid
AJ7	0.038	Valid
AJ8	0.000	Valid
AJ9	0.000	Valid
AJ10	0.000	Valid

Table 3. Validity Test for AI Usage

<i>Item</i>	<i>Sig.</i>	<i>Conclusion</i>
<i>AI Usage</i>		
AI1	0.001	Valid
AI2	0.000	Valid
AI3	0.248	Not Valid
AI4	0.417	Not Valid
AI5	0.002	Valid
AI6	0.000	Valid
AI7	0.001	Valid
AI8	0.000	Valid
AI9	0.000	Valid
AI10	0.000	Valid
AI11	0.084	Not Valid
AI12	0.002	Valid
AI13	0.697	Not Valid
AI14	0.339	Not Valid
AI15	0.012	Valid
AI16	0.612	Not Valid
AI17	0.000	Valid
AI18	0.000	Valid
AI19	0.700	Not Valid
AI20	0.000	Valid

Based on the test results above, all Auditor Judgment question items are valid. Meanwhile, for the AI Usage question item, there were 7 invalid questions (Sig.>0.05) so we removed them for further testing.

Table 4. Reliability Test

<i>Variable</i>	<i>Cronbach's Alpha</i>	<i>Conclusion</i>
<i>Auditor Judgment</i>	0.817	Reliable
<i>AI Usage</i>	0.783	Reliable

The two variables in this study are reliable based on criteria Nunnally (1994) with the value is >0.7.

Hypothesis Test

Table 5. Model Summary

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	0.401 ^a	0.160	0.142	0.28392

Predictors: (Constant), AI Usage

Based on the results of the linear regression test above, the Adjusted R Square value is 0.412 indicates that the influence of the dependent variable in this case (AI Usage) on the independent variable (Auditor Judgment) is 14.2%. This value is relatively small, but we can justify the magnitude of the Adjusted R Square value in relation to the single number of dependent variables we are examining. Future research can increase the number of variables to make better result of the Adjusted R Square value.

Table 6. ANOVA

<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1 Regression	0.709	1	0.709	8.789	0.005 ^b
Residual	3.708	46	0.081		
Total	4.417	47			

a. Dependent Variable: Auditor Judgment

b. Predictors (Constant), AI Usage

Then, the results of the ANOVA test in Table 6 can be seen that the calculated F value is 8.789 with a significance of 0.005 ($p < 0.05$). This means that the regression model can be used to predict the Auditor Judgment variable or in other words there is an influence of the AI Usage variable on the Auditor Judgment variable.

Table 7. Coefficient^a

<i>Model</i>	<i>Unstandardized B</i>	<i>Coefficients Std. Error</i>	<i>Standardized Coefficients Beta</i>	<i>t</i>	<i>Sig.</i>
1 (Constant)	2.500	0.544		4.596	0.000
AI Usage	0.391	0.132	0.401	2.965	0.005

a. Dependent Variable: Auditor Judgment

The AI Usage variable is an independent variable that shows the use of Artificial Intelligence in an audit context. The unstandardized regression coefficient (Unstandardized B) is 0.391, and the significant t value (2.965) with a significance (Sig.) of 0.005 indicates that this variable has a significant influence on Auditor Judgment. We can conclude that the Null Hypothesis (H_0) is not statistically accepted while the Alternative Hypothesis (H_a) is statistically accepted. Apart from that, the Beta (Standardized Coefficients Beta) value is 0.401, which shows that the influence of using AI (AI Usage) on Auditor Judgment is positive and moderate. In other words, the higher the use of AI in auditing, the higher the auditor's perception or assessment of Auditor Judgment.

Overall, these results indicate that the use of AI in auditing has a positive and significant influence on Auditor Judgment, which means that the use of AI can improve or influence auditors' perceptions of their ability to make appropriate judgments in audit practice.

Additional Analysis

We conducted additional analysis to test whether there were differences in student perceptions regarding both the use of AI and auditor judgment. This is done to ensure that students' understanding of the audit environment does not differ even though their GPA varies. We group GPA into two, namely: (1) GPA between 3.00 to 3.50 and (2) GPA >3.50. Additional test results were shown by Table 8.

Based on the results in Table 8, the significance values for groups 1 and 2 for both the AI Usage variable and the Auditor Judgment variable are 0.369 and 0.661 respectively ($p < 0.05$). This indicates that between the two GPA groups there is no significant difference in their perceptions of AI Usage and Auditor Judgment. We can conclude that the perceptions of accounting students which may be influenced by their understanding of the audit environment through studying Auditing are not different even with different GPAs.

Table 8. GPA Difference Test

		<i>Levene's Test for Equality of Variances</i>		<i>t-test for Equality of Means</i>		
		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
AI Usage	Equal variances assumed	0.782	0.381	0.908	46	0.369
	Equal variances not assumed			0.971	45.751	0.337
Auditor Judgment	Equal variances assumed	1.342	0.253	-0.442	46	0.661
	Equal variances not assumed			-0.452	43.973	0.654

5. Conclusions and Implications

This research has explored the relationship between perceptions of the use of AI in audit practices and Auditor Judgment in financial audits. The study results show that there is a significant influence between the auditor's perception of the use of AI in auditing and the Auditor's Judgment ability. These findings support the alternative hypothesis proposed in this study. This means that auditors' positive perceptions of AI can contribute positively to improving their Auditor Judgment. The use of AI technology in audits can be a valuable tool to support auditors in making more accurate and qualitative assessments of the audit entity's financial statements. In addition, the concept of bounded rationality proposed by Herbert Simon is in accordance with these findings. This concept states that in decision making, humans are often limited by knowledge and resources. In the context of this research, auditors have limitations in making complex audit decisions, especially in handling large data volumes and the complexity of financial transactions. Positive perceptions towards the use of AI can be considered as a solution that allows auditors to overcome limited knowledge and resources. Therefore, the results of this research are in accordance with Herbert Simon's decision making theory which describes how limiting factors can influence human decision making.

The results of this research have important implications in the context of audit practice and the use of AI technology. Auditors and audit firms must pay attention to the importance of the auditor's perception of AI, because this can affect the auditor's ability to make judgments. Encouraging positive

perceptions of AI and providing adequate training on the use of AI in audits can help improve auditors' ability to make more accurate and insightful judgments. Additionally, the use of AI in audit must be managed wisely to ensure that this technology is used as a tool that enriches the audit process, not as a substitute for auditors.

6. Limitations and Future Research

Although this study provides valuable insights, there are several limitations that need to be noted. First, this research is limited to auditors' perceptions and does not deeply explore the extent of AI use in their audit practices. Furthermore, this research focuses on auditors in a particular context, namely students majoring in accounting. This may not fully reflect the practices of professional auditors operating in the real world. In addition, this study measures perceptions of the use of AI in audits but does not directly measure the use of AI in actual audit situations. Therefore, there is room for further research involving professional auditors in actual audit practice.

This research provides an important foundation for further research in this area. Future research could more deeply explore how certain factors, such as the auditor's level of experience or type of organization, influence the relationship between AI perceptions and Auditor Judgment. In addition, further research could involve professional auditors in real audit situations to measure the impact of using AI in audit decision making. Additionally, research can explore ethical aspects related to the use of AI in auditing and how it affects Auditor Judgment. Finally, future research should keep abreast of rapidly changing AI technologies and consider their impact on financial audit practices holistically.

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