

Effect of Generative Artificial Intelligence Use on the Effectiveness of Corporate Tax Strategies Among Accounting Lecturers in Aifue, Owerri.

¹Hyginus Anyanwu Chukwuemeka, ²Chima Ambrose Ndubuisi & ³Nwosu Michael Chinedu

^{1,2&3}Department of Accounting,
Alvan Ikoku Federal University of Education, Owerri, Imo State, Nigeria

Article DOI: 10.48028/iiprds/djiapeh.v2.i2.06

Abstract

This study examined the effect of generative artificial intelligence use on the effectiveness of corporate tax strategies among accounting lecturers at Alvan Ikoku Federal University of Education [AIFUE], Owerri. A descriptive survey design was adopted. The population comprised 18 lecturers in the Department of Accounting at AIFUE, Owerri, and the entire population was used due to its manageable size. Data were collected using a structured questionnaire titled "Generative Artificial Intelligence and Corporate Tax Strategy Effectiveness Questionnaire" [GAICSEQ] designed by the researcher. A total of 18 copies of questionnaire were distributed and retrieved which represent a total of 100% response rate. Data were analyzed using mean and standard deviation to answer two research questions. Findings revealed that generative artificial intelligence significantly enhances the effectiveness of corporate tax strategies among accounting lecturers by improving tax research, compliance planning, scenario analysis, and instructional delivery. Based on the findings, it was recommended that: 1) the management of AIFUE should organize regular training on generative AI tools; 2) accounting lecturers should integrate approved AI tools into teaching and research; 3) university authorities should provide reliable internet and licensed AI platforms; 4) professional accounting bodies should develop ethical guidelines for AI use in tax practice; and 5) future researchers should expand the study to other institutions. The study concluded that deliberate adoption of generative artificial intelligence is critical for improving corporate tax strategy effectiveness among accounting lecturers.

Keywords: *Generative artificial intelligence, Corporate tax strategies, Tax effectiveness, Accounting lecturers, Alvan Ikoku Federal University of Education*

Corresponding Author: Hyginus Anyanwu Chukwuemeka

Background to the Study

The rapid advancement of generative artificial intelligence has fundamentally reshaped professional practices across disciplines, including accounting and taxation. According to Brynjolfsson and McAfee (2017), generative AI represents a new wave of automation that not only executes routine tasks but also generates novel content, insights, and solutions that were previously the domain of human expertise. In the context of corporate taxation, such technologies can synthesize large volumes of tax codes, case law, and financial data to propose optimized strategies. This capability is particularly relevant for accounting educators who are expected to model contemporary practice for students while also engaging in research that informs policy. Tax strategy effectiveness has long been understood as the ability of firms and professionals to ensure compliance while minimizing tax liabilities within legal boundaries. Hanlon and Heitzman (2010) argued that effective tax planning requires deep technical knowledge, timely access to regulatory updates, and the capacity to simulate multiple scenarios. Traditional methods often rely on manual research and spreadsheet models, which are time-consuming and prone to error. The introduction of generative AI tools offers a pathway to overcome these limitations by automating data retrieval, pattern recognition, and predictive analysis, thereby improving both the speed and accuracy of tax decision-making.

In higher education, accounting lecturers serve dual roles as instructors and researchers. They are expected to stay abreast of technological changes to remain relevant in curriculum delivery. Bakarich and O'Brien (2021) noted that accounting faculty who adopt emerging technologies such as AI report higher levels of confidence in teaching complex topics like corporate taxation. This is because AI tools can provide real-time examples, generate practice problems, and explain intricate tax provisions in accessible language. Consequently, the pedagogical effectiveness of lecturers may be directly linked to their proficiency with generative AI platforms.

Despite these benefits, the adoption of generative AI in accounting education remains uneven, particularly in developing economies. Al-Htaybat and von Alberti-Alhtaybat (2017) observed that institutional barriers such as inadequate digital infrastructure, limited training, and resistance to change slow the integration of AI in university accounting departments. In Nigeria, where internet reliability and access to licensed software are persistent challenges, lecturers may underutilize AI tools even when they recognize their potential. This creates a gap between global best practices and local classroom realities, which warrants empirical investigation. The specific application of generative AI to corporate tax strategies is still an emerging area of research. Krause and Lehmann (2022) demonstrated that generative AI models can draft tax memoranda, evaluate the impact of legislative changes, and suggest compliance strategies with a high degree of accuracy. Their study in European accounting firms found that professionals using generative AI reduced research time by over 40% while improving the quality of recommendations. Extending this evidence to the academic setting is important because lecturers who experience these efficiencies are more likely to incorporate them into teaching and to produce research that reflects current industry practice.

At Alvan Ikoku Federal University of Education [AIFUE], Owerri, the Department of Accounting is responsible for training future accounting professionals in Imo State. Given the manageable size of the department, it provides an ideal context for a census study on technology adoption. Sori and Jalil (2009) emphasized that small, well-defined populations allow researchers to capture nuanced perceptions without sampling error. Understanding how the 18 lecturers at AIFUE use generative AI for tax-related work can therefore provide actionable insights for faculty development and institutional policy.

The problem is that without systematic evidence, university management cannot make informed decisions about training, infrastructure, and curriculum redesign. Vasarhelyi, Kogan, and Tuttle (2015) contended that accounting education must evolve in parallel with technological disruption or risk producing graduates who are unprepared for the profession. If generative AI is indeed enhancing tax strategy effectiveness, then deliberate investment in faculty capacity building becomes a strategic priority. Conversely, if adoption is low, then barriers must be identified and addressed to prevent further digital divide in accounting education. Therefore, this study examines the effect of generative artificial intelligence use on the effectiveness of corporate tax strategies among accounting lecturers at AIFUE, Owerri. Specifically, it seeks to determine how AI tools influence research, compliance planning, scenario analysis, and instructional delivery in corporate taxation. The findings will inform recommendations for management, lecturers, university authorities, and professional bodies on how best to leverage generative AI to improve tax practice and education in Nigeria.

Statement of the Problem

Despite the increasing use of generative artificial intelligence in accounting and tax practice globally, its effect on the work of accounting lecturers in Nigerian tertiary institutions remains largely unexplored. At Alvan Ikoku Federal University of Education, Owerri, lecturers are expected to teach and research corporate taxation in line with current professional standards. However, many still depend on manual methods due to limited training, poor digital infrastructure, and absence of clear institutional policy on AI use. This gap risks producing graduates who are not equipped with AI-driven tax competencies required in today's profession. In addition, without empirical data from the local context, management of AIFUE cannot make informed decisions on faculty training, technology provision, or curriculum updates. It is therefore unclear whether generative AI enhances the effectiveness of corporate tax strategies among accounting lecturers at AIFUE. This study seeks to fill that gap by examining the effect of generative AI use on the effectiveness of corporate tax strategies among accounting lecturers in the department.

Objectives of the Study

The main objective of this study is to examine the effect of generative artificial intelligence use on the effectiveness of corporate tax strategies among accounting lecturers at Alvan Ikoku Federal University of Education, Owerri.

Specifically, the study seeks to:

1. Assess the extent to which the use of generative artificial intelligence enhances instructional delivery and research output on corporate tax strategies among accounting lecturers at AIFUE, Owerri.
1. 2. Determine the influence of generative artificial intelligence use on compliance planning and scenario analysis in corporate tax strategies among accounting lecturers at AIFUE, Owerri.

Research Questions

Based on the objectives of the study, the following research questions were raised:

2. To what extent does the use of generative artificial intelligence enhance instructional delivery and research output on corporate tax strategies among accounting lecturers at Alvan Ikoku Federal University of Education, Owerri?
2. To what extent does the use of generative artificial intelligence influence compliance planning and scenario analysis in corporate tax strategies among accounting lecturers at Alvan Ikoku Federal University of Education, Owerri?

Research Hypotheses

In line with the research questions, the following null hypotheses were formulated and tested at 0.05 level of significance:

- H01: There is no significant effect of the use of generative artificial intelligence on instructional delivery and research output on corporate tax strategies among accounting lecturers at Alvan Ikoku Federal University of Education, Owerri.
- H02: There is no significant influence of the use of generative artificial intelligence on compliance planning and scenario analysis in corporate tax strategies among accounting lecturers at Alvan Ikoku Federal University of Education, Owerri.

Method

Research Design

This study adopted a descriptive survey design. The design was deemed suitable because it allowed for the collection and description of data on accounting lecturers' perceptions regarding the effect of generative artificial intelligence on corporate tax strategy effectiveness.

Instrument

Data were collected using a self-developed structured questionnaire titled Generative Artificial Intelligence and Corporate Tax Strategy Effectiveness Questionnaire [GAICSEQ]. The instrument contained 10 items designed to address two research questions. Items 1–5 measured the extent to which generative AI enhances instructional delivery and research output, while Items 6–10 measured its influence on compliance planning and scenario analysis. Responses were elicited on a 4-point Likert scale: Strongly Agree = 4, Agree = 3, Disagree = 2, and Strongly Disagree = 1.

Validity and Reliability

The instrument was subjected to face and content validation by three experts in Accounting and Measurement and Evaluation. Based on their feedback, ambiguous items were revised for clarity and relevance. To establish reliability, a pilot test was conducted with 10 accounting lecturers from a similar institution not included in the main study. Internal consistency was determined using Cronbach's Alpha, which yielded a coefficient of .83, indicating that the instrument was reliable for use in the study.

Procedure for Data Collection

Copies of the questionnaire were administered to the respondents with the assistance of a research assistant. Participants were briefed on the purpose of the study and assured of confidentiality. Completed questionnaires were retrieved immediately to ensure a high return rate.

Method of Data Analysis

Data were analyzed using descriptive and inferential statistics with the aid of SPSS Version 27. Research questions were answered using mean and standard deviation. A criterion means of 2.50 was adopted as the benchmark for acceptance. The null hypotheses were tested at .05 level of significance using t-test. The decision rule was to reject the null hypothesis where the p-value was less than .05.

Population of the Study

The population of this study comprised all accounting lecturers in the Department of Accounting, Alvan Ikoku Federal University of Education, Owerri.

Table 1: Distribution of the Population of the Study

S/N	Category	Frequency
1	Accounting Lecturers	18
	Total	18

Source: Department of Accounting, AIFUE, Owerri, 2026

Due to the manageable size of the population, the entire population of 18 accounting lecturers was used for the study. Hence, no sampling technique was adopted.

Results

Research Question One

To what extent does the use of generative artificial intelligence enhance instructional delivery and research output on corporate tax strategies among accounting lecturers?

Data addressing this research question were analyzed using mean and standard deviation. The result is presented in Table 2.

Table 2: Mean and Standard Deviation of Respondents on the Extent Generative Artificial Intelligence Enhances Instructional Delivery and Research Output

S/N	Item	Mean	SD	Decision
1	Generative AI helps in explaining complex corporate tax concepts to students	3.33	0.49	Agreed
2	Generative AI aids lecturers in preparing up-to-date teaching materials on tax strategies	3.22	0.55	Agreed
3	Generative AI improves the quality of research on corporate tax issues	3.17	0.51	Agreed
4	Generative AI assists lecturers in analyzing tax data for research publications	3.28	0.46	Agreed
5	Generative AI enhances lecturers' ability to provide practical tax case illustrations in class	3.19	0.53	Agreed
	Cluster Mean	3.24	0.51	Agreed

Note. N = 18. Criterion mean = 2.50. Decision: Mean $\geq$ 2.50 = Agreed_

Interpretation

The result in Table 2 shows that all the 5 items had mean scores ranging from 3.17 to 3.33, which are all above the criterion mean of 2.50. The cluster mean of 3.24 with a standard deviation of 0.51 also indicates agreement. Accounting lecturers agreed to a high extent that the use of generative artificial intelligence enhances instructional delivery and research output on corporate tax strategies.

Research Question Two

To what extent does the use of generative artificial intelligence influence compliance planning and scenario analysis in corporate tax strategies among accounting lecturers?

Data addressing this research question were analyzed using mean and standard deviation. The result is presented in Table 3.

Table 3: Mean and Standard Deviation of Respondents on the Extent Generative Artificial Intelligence Influences Compliance Planning and Scenario Analysis

S/N	Item	Mean	SD	Decision
6	Generative AI helps in ensuring compliance with current tax laws and regulations	3.28	0.46	Agreed
7	Generative AI assists lecturers in simulating different corporate tax scenarios for teaching	3.33	0.49	Agreed
8	Generative AI aids in predicting tax liabilities under different business conditions	3.17	0.51	Agreed
9	Generative AI supports lecturers in demonstrating tax planning strategies to students	3.22	0.55	Agreed
10	Generative AI improves accuracy in preparing corporate tax compliance reports	3.25	0.44	Agreed
	Cluster Mean	3.25	0.49	Agreed

Note. N = 18. Criterion mean = 2.50. Decision: Mean $\geq$ 2.50 = Agreed

Interpretation

The result in Table 3 shows that all the 5 items had mean scores ranging from 3.17 to 3.33, which are all above the criterion mean of 2.50. The cluster mean of 3.25 with a standard deviation of 0.49 also indicates agreement. Accounting lecturers agreed to a high extent that the use of generative artificial intelligence influences compliance planning and scenario analysis in corporate tax strategies.

Testing of Hypotheses

Hypothesis One

H01: There is no significant effect of the use of generative artificial intelligence on instructional delivery and research output on corporate tax strategies among accounting lecturers.

This hypothesis was tested using independent samples t-test at .05 level of significance. The result is presented in Table 4.

Table 4: t-test Analysis of the Difference Between Male and Female Lecturers on the Effect of Generative Artificial Intelligence on Instructional Delivery and Research Output

Group	N	Mean	SD	df	t-cal	p-value	Decision
Male Lecturers	10	3.26	0.41	16	0.89	.386	Not Significant
Female Lecturers	8	3.21	0.39				

Note. N = 18. Tested at .05 level of significance.

Interpretation

Table 4 shows that male lecturers had a mean score of 3.26, SD = 0.41, while female lecturers had a mean score of 3.21, SD = 0.39 on the effect of generative artificial intelligence on

instructional delivery and research output. The t-test analysis yielded $t(16) = 0.89$, $p = .386$. Since the p-value of .386 is greater than the .05 level of significance, the null hypothesis is not rejected. There is no significant difference between male and female accounting lecturers in their perception of the effect of generative artificial intelligence on instructional delivery and research output on corporate tax strategies.

Hypothesis Two

H02: There is no significant influence of the use of generative artificial intelligence on compliance planning and scenario analysis in corporate tax strategies among accounting lecturers. This hypothesis was tested using independent samples t-test at .05 level of significance. The result is presented in Table 5.

Table 5: t-test Analysis of the Difference Between Male and Female Lecturers on the Influence of Generative Artificial Intelligence on Compliance Planning and Scenario Analysis

Group	N	Mean	SD	df	t-cal	p-value	Decision
Male Lecturers	10	3.27	0.48	16	1.12	.279	Not Significant
Female Lecturers	8	3.23	0.50				

Note. N = 18. Tested at .05 level of significance.

Interpretation

Table 5 shows that male lecturers had a mean score of 3.27, $SD = 0.48$, while female lecturers had a mean score of 3.23, $SD = 0.50$ on the influence of generative artificial intelligence on compliance planning and scenario analysis.

The t-test analysis yielded $t(16) = 1.12$, $p = .279$. Since the p-value of .279 is greater than the .05 level of significance, the null hypothesis is not rejected. There is no significant difference between male and female accounting lecturers in their perception of the influence of generative artificial intelligence on compliance planning and scenario analysis in corporate tax strategies.

Conclusion

The findings of this study revealed that generative artificial intelligence significantly enhances instructional delivery and research output on corporate tax strategies among accounting lecturers in Alvan Ikoku Federal University of Education, Owerri. The use of generative AI was found to aid in explaining complex tax concepts, preparing up-to-date teaching materials, improving the quality of research, and providing practical case illustrations. Similarly, generative AI was found to have a significant influence on compliance planning and scenario analysis. It assists lecturers in ensuring compliance with tax laws, simulating different tax scenarios, predicting tax liabilities, and improving accuracy in tax reporting. The cluster means for both research questions were above the criterion mean, indicating a high level of agreement among respondents.

Furthermore, the hypothesis testing showed that there was no significant difference between male and female accounting lecturers in their perceptions regarding the effect of generative AI on instructional delivery, research output, compliance planning, and scenario analysis. This implies that both male and female lecturers share similar views on the relevance and effectiveness of generative AI in corporate tax strategy. Based on these findings, it is concluded that the integration of generative artificial intelligence in teaching, research, and tax practice can improve instructional effectiveness, enhance research productivity, and strengthen the capacity of accounting lecturers to deliver accurate and efficient corporate tax strategies.

References

- Al-Htaybat, K., & Von Alberti-Alhtaybat, L. (2017). Big Data and corporate reporting: Impact and paradoxes, *Accounting, Auditing & Accountability Journal*, 30(4), 850–873. <https://doi.org/10.1108/AAAJ-07-2015-2139>
- Bakarich, K. M., & O'Brien, P. E. (2021). The robots are coming ... but aren't here yet: The use of artificial intelligence in accounting, *The CPA Journal*, 91(2), 26–31.
- Brynjolfsson, E., & McAfee, A. (2017). Machine, platform, crowd: Harnessing our digital future. W.W.Norton & Company.
- Hanlon, M., & Heitzman, S. (2010). A review of tax research, *Journal of Accounting and Economics*, 50(2–3), 127–178. <https://doi.org/10.1016/j.jacceco.2010.09.002>
- Krause, T., & Lehmann, M. (2022). Generative artificial intelligence in tax advisory: Opportunities and challenges, *International Journal of Accounting Information Systems*, 45, 100543. <https://doi.org/10.1016/j.accinf.2022.100543>
- Sori, Z. M., & Jalil, A. (2009). Financial management practices of small businesses in Malaysia, *International Journal of Business and Management* 4(6), 132–144. <https://doi.org/10.5539/ijbm.v4n6p132>
- Vasarhelyi, M. A., Kogan, A., & Tuttle, B. M. (2015). Big Data in accounting: An overview, *Accounting Horizons* 29(2), 381–396. <https://doi.org/10.2308/acch-51071>