



The Effect of *ChatGPT* Use on Academic Performance of Accounting Students: The Moderating Role of Ethical Orientation

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ABSTRACT

This study examines the effect of ChatGPT use on the academic performance of accounting students in Indonesia, focusing on their critical and analytical thinking skills. As prospective professional accountants, accounting students must have strong critical and analytical thinking skills and comply with the code of ethics in their profession. This study analyzes how students' attachment style to ChatGPT influences academic performance, with ethical orientation (idealism and relativism) as a moderating variable. A total of 384 accounting students were selected through stratified random sampling. Data were collected using a Google Form questionnaire and analyzed via Moderated Regression Analysis (MRA). The results revealed that excessive ChatGPT use negatively impacted academic performance by reducing critical thinking skills. However, ethical orientation helped mitigate this effect. Students with an idealism orientation used ChatGPT responsibly, while students with relativism orientation showed no significant effect in strengthening the negative impact. The study emphasizes the importance of ethical awareness in the use of artificial intelligence, particularly for accounting students. The findings suggest that educational institutions should implement policies promoting responsible technology use and integrate ethics training to help students develop both technical skills and strong ethical standards.

Keywords: Academic Performance, Accounting Student, Artificial Intelligence, ChatGPT, Ethical Orientation

INTRODUCTION

Plagiarism in academic circles is a significant concern, along with the emergence of artificial intelligence (AI) such as *ChatGPT*. This technology allows students to complete assignments without deep thinking involvement, raising significant questions about their competence, one of which educators are measured based on the Cumulative Grade Point Average (GPA). So far, GPA is considered a benchmark for student success. However, it no longer fully reflects their competence because *ChatGPT* enables students to achieve high grades through accurate and humane answers without mastering the material and developing analytical skills (Alafnan et al., 2023). The convenience *ChatGPT* provides in completing assignments and accessing information makes students miss the critical thinking process that should form an integral part of learning. As a result, this can reduce students' creativity, even though creativity plays a vital role in improving motivation and academic performance (Tanvir et al., 2023). Academic performance includes achievements in

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the educational field, such as grades, material understanding, critical thinking skills, and other skills that various internal and external factors (Shirazi & Heidari, 2019). Internal factors, such as motivation, cognitive ability, mental health, and personality of the individual, play a significant role in how a student can understand the material and undergo the learning process. Meanwhile, external factors such as family support, teaching quality, social conditions, and access to technology also influence shaping students' academic performance (Harris et al., 2015).

The presence of *ChatGPT* in education increasingly affects students' academic performance. Chu et al. (2022) mentioned that Artificial intelligence (AI) in higher education has rapidly grown in the last five years. Even though *ChatGPT* offers various conveniences regarding access to information and understanding of materials, this technology also brings challenges. *ChatGPT* can speed up the learning process and improve knowledge if used wisely. However, if abused, this technology can reduce academic quality by increasing plagiarism and making students dependent (Cotton et al., 2024).

Some studies show that college students who rely solely on *ChatGPT* tend to experience a decline in critical thinking, analytical, and decision-making skills. Zhai et al. (2024) Explained that Artificial Intelligence can reduce students' motivation to think independently and innovate, weakening their cognitive abilities. The *ChatGPT* Use can also encourage students to look for shortcuts when completing assignments, which can lead to procrastination, laziness, and plagiarism (Abbas et al., 2024). Students used the *ChatGPT* to complete assignments quickly, which was often delayed until the last minute, negatively impacting academic performance. Complete reliance on AI also reduced accuracy by 25.1%, indicating AI produces inaccurate and shallow writing results (Ju, Q. 2023). Meanwhile, although AI accelerates comprehension of material, comprehension accuracy decreases by 12% because participants lack active involvement in reading. To avoid the harmful risks that *ChatGPT* can pose, students must have an attitude that can assess and decide between right and wrong, commonly called ethical orientation.

Ethical orientation is essential because it can help students use technology wisely and responsibly without violating the principles of academic integrity. Ethical orientation refers to the extent to which students integrate moral principles in their decision-making, both in their personal and professional lives, by prioritizing the values of integrity, responsibility, and professionalism in every learning step (Tavani et al., 2022). Student ethical orientation is important in mitigating the negative impact of using *ChatGPT* because it can help students make wise decisions. According to Chen and Heron (2011), ethical orientation includes the dimensions of idealism and relativism, which directly influence how students utilize technology.

Students with a stronger moral orientation of idealism tend to use *ChatGPT* ethically, that is, as a tool to improve their understanding, not to replace in-depth learning efforts. In contrast, students with a relativism-oriented orientation may be more receptive to using *ChatGPT* excessively, even when completing the entire task without personal involvement (Winter et al., 2004). Research Oboh et al. (2020) also shows that the moral orientation of idealism positively affects the three stages of ethical decision-making (EDM): introduction, judgment, and intention. With a clear ethical orientation, students can better assess whether their actions are by the prevailing moral values in the academic context. Therefore, a strong ethical orientation can deter abuse of technology such as *ChatGPT* by ensuring students prioritize academic integrity and critical thinking at every stage of their learning process.

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The focus of the study is accounting students who will become aspiring professional accountants in the future. A strict code of ethics governs accountants, requiring integrity, accuracy, and professionalism in every decision. If accounting students rely on technology like *ChatGPT*, this could raise concerns regarding their quality as accountants in the future. An accountant must be able to think critically, conduct in-depth analysis, and make the right decisions based on accurate data and facts. Reliance on AI in the learning process can reduce these abilities, potentially reducing the quality of the accounting profession in the future.

This study explores the negative influence of *ChatGPT* on the academic performance of accounting students who will become prospective accountants. In addition, this study seeks to reveal the moderation role of ethical orientation (Idealism and Relativism) in the relationship between the *ChatGPT* Use and accounting students' academic performance. Based on the *Attachment Theory*, the sense of security that others give to individuals can make them dependent or addicted. As research progressed, scholars expanded by examining its relationship with technology. This theory explains that when students feel safe with *ChatGPT*, which can make it easier to complete academic tasks and activities, it can cause dependence that negatively impacts academic performance.

This study shows that the use of *ChatGPT* can affect students' academic performance, especially in terms of critical and analytical thinking. This study highlights the role of ethical orientation as a moderating factor and introduces a new perspective through Attachment Theory, which suggests that technologies such as *ChatGPT* can trigger dependency. Thoughtful use, especially for students with an idealistic ethical orientation, can provide benefits, while excessive use can reduce the quality of learning. This study also contributes to the development of educational policies that encourage the ethical and responsible use of technology.

LITERATURE REVIEW

The Psychological traits closely related to addictive behaviour form the basis of *Attachment Theory*. Bowlby (1969) first developed the *Attachment Theory*, emphasizing the importance of a strong emotional connection between the child and their primary caregiver, especially the mother. Attachment refers to the level of security or discomfort that a person feels in their relationship. According to this theory, attachment plays an important role in shaping a child's social and emotional development (Bowlby, 1979). Attachments that infants and children develop also affect various aspects of life in the future, which researchers can classify into secure and insecure attachments (Zhang, 2024).

The context of human relationships, which initially only covered interactions between individuals, is now increasingly broad, encompassing the relationship between individuals and technology, especially within the framework of *Attachment Theory*. A study by Gillath et al. (2021) shows that a person's attachment style has a significant influence on how they accept and trust artificial intelligence (AI) technology. A secure attachment style can encourage students to use technology more intensively in completing their tasks, with the sense of security that students gain from using technology (Lin, J. 2015). This condition can lead to dependence on technology in the context of education and can affect the level of their involvement in the teaching and learning process. Technology provides a sense of security that creates a greater sense of control in daily activities. Research by Xie and Pentina (2022) supports that users who interact with chatbots too often get emotional support, which can cause them to become addicted to digital interactions. This dependence

can lead to a decrease in the ability to think critically or independently, which has the potential to harm their academic performance.

ChatGPT is an artificial intelligence (AI) application that performs text-based interactions with users in real time. According to research by Zhai (2022), *ChatGPT* provides in-depth and thorough explanations of a wide range of topics, including accounting, through advanced natural language processing (NLP). As an AI-based tool, *ChatGPT* not only generates automated responses using text input, but it also adapts to various contexts and presents information relevant to user queries (Gilson et al., 2023). In higher education, particularly in accounting, *ChatGPT* assists students in processing information, analyzing data, and preparing financial statements, which further facilitates the learning process (Yoon, 2023).

Even though *ChatGPT* offers numerous benefits in supporting the learning process, several studies indicate that excessive use of this technology can negatively impact students' academic performance. According to Tanvir et al. (2023), students who frequently use *ChatGPT* tend to experience reduced creativity, which leads to increased plagiarism and decreased motivation to learn. This trend has the potential to lower the quality of learning and directly affect their academic performance. Moreover, Yu (2023) reveals that *ChatGPT* has the potential to damage the quality of education, especially when educators fail to regulate its use correctly. He suggests that institutions ban *ChatGPT* in academic settings because it may diminish students' critical thinking skills and lead to excessive dependence on AI for completing academic tasks. Additionally, Taecharungroj (2023) warns that *ChatGPT* spreads misinformation, which confuses students and results in poor decision-making in an academic context.

Academic performance refers to how well students achieve their educational goals. Accounting students demonstrate their academic performance through their ability to prepare for the professional world. Academic performance is not only through test scores and GPA but also by evaluating how students integrate knowledge into real-life situations. Aspiring accountants must master this skill to uphold the professional code of ethics. Richardson et al. (2012) state that students achieve optimal performance when they master the material, develop critical thinking skills, and actively engage in problem-solving and discussion. Several factors influence students' academic performance, including learning methods, motivation, and technology support (Berestova et al., 2022). Students who can think and analyze well on their own are more likely to succeed academically. Furthermore, critical and creative thinking skills are in high demand because they help students develop innovative solutions to challenges in the professional world (Caratiquit & Caratiquit, 2023). One of the current issues that students face is the technologies used, such as artificial intelligence (AI), which can lead to dependence.

Artificial intelligence (AI), such as *ChatGPT*, has transformed how students learn and complete academic assignments. Many students use *ChatGPT* to access information quickly, increasing efficiency (Ngo, 2023). However, when students rely too much on *ChatGPT*, they struggle to understand the material in depth. Qasem, F. (2023) found that students who frequently depend on *ChatGPT* tend to lose creativity and critical thinking skills, which are essential elements in higher education. This issue worsens because many students prefer instant answers over actively solving problems or analyzing concepts deeply.

Naher et al. (2023) explain that students who use *ChatGPT* without a solid understanding of the subject produce unoriginal academic work. Many students copy AI-generated

answers without analyzing or modifying them, which lowers the quality of their assignments. Meanwhile, Zheng et al. (2023) emphasize that AI technology influences learning outcomes based on how students use it. When students rely too much on *ChatGPT*, they weaken their critical and analytical thinking skills, harming their academic performance and professional readiness.

ChatGPT negatively affects academic performance through several interrelated mechanisms. When students excessively depend on *ChatGPT* for academic tasks, they fail to develop critical thinking and independent problem-solving skills, which are crucial for effective learning (Stohr et al., 2024). Furthermore, *ChatGPT* generates content that closely resembles students' original work, making plagiarism easier. This condition weakens academic integrity and reduces the authenticity of student learning outcomes (Kamalov et al., 2023). Furthermore, students who use *ChatGPT* obsessively report feeling more stressed, lonely, and socially isolated. These issues lower their motivation and concentration, ultimately causing a decline in academic performance (Duong et al., 2024). As aspiring accountants who are professional and ethical, accounting students need to develop skills that involve independent problem-solving and the ability to conduct in-depth analysis.

H1: ChatGPT use has a negative impact on the academic performance of accounting students.

Ethical orientation is the way individuals view and determine their behavior and decisions based on moral values and ethical principles. Individual ethical orientation directly affects performance. Strong ethics encourage thoughtful decision-making and increase satisfaction and motivation (Prentice, 2007). Individuals with a strong ethical orientation tend to comply with policies, maintain integrity, and build trust. This ethical foundation creates a more effective and sustainable work environment (Kia et al., 2019). In the student environment, ethical orientation plays a significant role in determining how they utilize technology, including artificial intelligence such as *ChatGPT*. Ethical orientation consists of two main dimensions: idealism and relativism (Forsyth, 1980). Ethical Position Theory (EPT) states that a person's moral philosophy shapes their judgments, actions, and emotions in ethically challenging situations. Idealism reflects the belief that moral actions should maximize benefits without harming others. In contrast, relativism suggests that moral standards are subjective and dependent on specific situations and contexts (Forsyth et al., 2008).

Students' ethical orientations shape their attitudes and behaviours in contrasting ways. Park et al. (2021) researched the use of offensive language in conversations with chatbots. They revealed that users with an Idealist orientation show higher self-control in interacting with chatbots, even in a private environment. In contrast, relativist users prefer reactive responses from chatbots, which reflect a permissive attitude towards such behavior. Idealist students, who prioritize moral values and integrity, tend to use *ChatGPT* to deepen their understanding of the material rather than seeking shortcuts to complete their tasks (Chen & Heron, 2011). Students with higher self-control in using this technology can maintain the quality of their learning (Troll et al., 2020). Furthermore, it can reduce the negative impact on critical thinking, analytical, and decision-making skills. Students with this orientation prefer to adhere to academic norms and use technology ethically in their academic context, thus maintaining their academic integrity and the quality of their learning.

H2: Ethical orientation-Idealism weakens the negative influence of ChatGPT use on accounting students' academic performance.

Relativist students adapt their use of technology based on context and situation. They may find it more flexible to use *ChatGPT*, even if it involves completing tasks without their active involvement, potentially reducing the quality of their learning. Winter et al. (2004) found that students with a relativism orientation are more likely to justify excessive use of technology. cccc

H3: Ethical orientation-relativism strengthens the negative influence of the ChatGPT use on accounting students' academic performance.

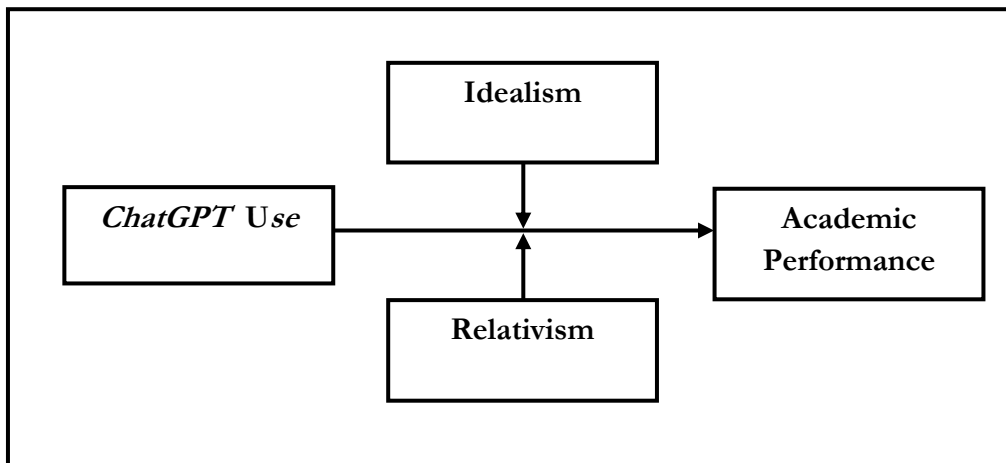


Figure 1. Research Model

METHODS

This study uses primary data collected directly from research subjects. The researcher gathered data from 384 accounting students across various universities in Indonesia using a specially designed questionnaire. Distributed to all accounting students via Google Forms. The population of this study consists of active accounting students across Indonesia. The researcher applied stratified random sampling to ensure representation from each significant island in Indonesia. The strata include Sumatra, Java, Kalimantan, Sulawesi, and Papua. The researcher determined the sample size for each stratum based on the percentage of universities on each island, serving as a proxy for the distribution of accounting students. The researcher randomly selected participants from each stratum to enhance the representativeness and accurately reflect the condition of accounting students in Indonesia.

Stratified random sampling allows for a more representative selection for large populations (Etikan & Bala, 2017). The researcher calculated the sample size using Cochran's formula to ensure sufficient representation for testing variable relationships, particularly in large populations with unknown exact numbers (Krejcie & Morgan, 1970). The calculation resulted in a sample of 384 respondents representing active accounting students in Indonesia. This sample size follows the table by Krejcie & Morgan (1970), maintaining a 95% confidence level and a 5% margin of error.

Table 1. Operational Definition and Measurement Variable

	Variable	Definition	Indicator
7	Academic Performance (Y)	Individual's level of achievement in academic activities. Students' academic performance depends on their effort and commitment to attending lectures, as well as the outcomes of their hard work.	<ol style="list-style-type: none"> 1. Academic Evaluation Performance (1,2,5,8) 2. Time and Productivity Management (3,4) 3. Academic Quality (6,7,9)
	ChatGPT Use (X)	The extent to which students use ChatGPT to support academic activities, with excessive use indicating dependence without deep understanding	<ol style="list-style-type: none"> 1. Usage Dependencies (1,2,3,5,6) 2. Emotional Anxiety (4,9) 3. Intensity of Use (7,8)
	Ethical Orientation Idealism (M1)	Believing that moral actions always produce positive outcomes, and that individuals should act in accordance with universal moral principles without considering the context of a particular situation.	<ol style="list-style-type: none"> 1. Moral Responsibility (1,3) 2. Ethics of Use (2,4)
	Ethical Orientation Relativism (M2)	Views ethical decisions as dependent on a particular context or situation, where moral principles do not always apply absolutely and can vary depending on individual conditions or perspectives.	<ol style="list-style-type: none"> 1. Ethical Flexibility (1,3) 2. Decision Making (2,4) 3. Acceptance of Deviations (5)

[\(The complete instruments used in this study can be found in the appendix\)](#)

This study employs Moderated Regression Analysis (MRA) using EVIEWS 13 software, which supports the Ordinary Least Squares (OLS) method to estimate the relationship between independent, dependent, and moderator variables. EVIEWS also facilitates interaction analysis between these variables and offers various diagnostic tests to address multicollinearity, heteroskedasticity, and autocorrelation—ensuring the validity and reliability of the model. The use of OLS in MRA effectively estimates relationships between variables and evaluates the moderating effect across different data types (Hayes, 2018). The following describes the MRA analysis model that researcher carried out:

$$Y = a + \beta_1 X_1 \dots \dots \dots (1)$$

$$Y = a + \beta_1 X_1 + \beta_2 M_1 + \beta_3 X_1 * M_1 \dots \dots \dots (2)$$

$$Y = a + \beta_1 X_1 + \beta_2 M_1 + \beta_3 X_1 * M_2 \dots \dots \dots (3)$$

Information:

Y = Academic Performance

a = Constanta

$\beta_1, \beta_2, \beta_3$ = Regression coefficient of independent variables

X1 = *ChatGPT* Use

M1 = Idealism

M2 = Relativism

RESULTS AND DISCUSSION

The collected data classifies respondents based on their university origin (by island), gender, education level, and year of entry. Table 2 presents an overview of the respondents that are:

Table 2. Characteristics of Respondents

Characteristic	Category	Amount	Percentage
Origin of Universities by Island	Sumatra	107	28%
	Javanese	186	48%
	Kalimantan	52	14%
	Sulawesi	33	9%
	Papua	6	1%
	Total	384	100%
Gender	Man	83	21%
	Woman	301	79%
	Total	384	100%
Level of Education	D3	4	1%
	D4	60	16%
	S1	320	83%
	Total	384	100%
Year of Entry	2018	3	1%
	2019	4	1%
	2020	14	4%
	2021	140	36%
	2022	115	30%
	2023	58	15%
	2024	50	13%
	Total	384	100%

Most respondents in this study are from universities on the island of Java, totaling 186 people (48%), followed by Sumatra (28%), Kalimantan (14%), Sulawesi (9%), and Papua (2%). This distribution indicates that most participants come from regions with broader access to higher education and more developed academic infrastructure. Female respondents (79%) outnumber male respondents (21%), reflecting the gender composition in the field of study or general trends in the student population.

A total of 320 students (83%) are in the bachelor's program (S1), followed by 60 students (16%) in Diploma 4 (D4) and 4 students (1%) in Diploma 3 (D3). Regarding the year of entry, most respondents belong to the class of 2021 (36%), followed by the class of 2022 (30%), 2023 (15%), and 2024 (13%). Meanwhile, the classes of 2018, 2019, and 2020 represent a smaller proportion (1-4%). This distribution shows that most respondents are still actively studying, with a majority entering within the past 3-4 years. The 2018 and 2019 batches are still maintained in the respondent input in this study to maintain representation from Java and Kalimantan. Respondents were selected by considering universities from each island, so that each large island is represented by several universities, not just one university for each island. In addition, below is a descriptive statistics table that provides an initial overview of the data characteristics.

Table 3. Descriptive Statistics

	N	Mean	Min	Max	Std. Dev.
<i>ChatGPT</i> Use	384	33.75781	9.000000	45.00000	7.184346
Academic Performance	384	21.60156	9.000000	41.00000	5.816165
Idealism	384	12.37240	4.000000	20.00000	3.568702
Relativism	384	14.88542	5.000000	25.00000	3.856079

ChatGPT Use mean by respondents was 33.76, with a minimum value of 9 and a maximum of 45, indicating a lack of frequency in its use. Most respondents use *ChatGPT* quite often, but there are also those who use this technology less often. Academic performance with an average academic value of respondents is 21.60, with a minimum value of 9 and a maximum of 41, indicating that most respondents have moderate academic performance, although there is variation between individuals. Idealism view, with an average value of respondents is 12.37, with a minimum value of 4 and a maximum of 20, indicating that most respondents have relatively similar idealism views, with slight differences. Relativism view, with an average value of respondents is 14.89, with a minimum value of 5 and a maximum of 25, indicating that most respondents have fairly uniform relativistic views, although there is small variation, with some respondents having more flexible views in the context of using *ChatGPT*. To ensure data quality, researchers conducted validity and reliability tests. The table below shows the results of the data validity and reliability tests.

Table 4. The Validity test of X, Y, M1, and M2 variables

Variable	Number of Instruments	Correlation Coefficient	Significance Value	Conclusion
<i>ChatGPT</i> Use	9	0,629 – 0,755	<,001	Valid
Academic Performance	9	0,431 – 0,642	<,001	Valid
Idealism	4	0,677 – 0,813	<,001	Valid
Relativism	5	0,680 – 0,768	<,001	Valid

Tables 4 indicate that all statements related to *ChatGPT* Use, Academic Performance, and Ethical Orientation (including Idealism and Relativism) have a significance value of less than 0.05. Additionally, the r-count value in Pearson's correlation coefficient exceeds the r-table value (0.1001), confirming that all statements meet the validity test criteria.

Table 5. Reliability test of X, Y, M1, and M2 variables

Variable	Number of Instruments	Cronbach's Alpha Value	Conclusion
<i>ChatGPT</i> Use	9	0,88	Reliable
Academic Performance	9	0,76	Reliable
Idealism	4	0,72	Reliable
Relativism	5	0,74	Reliable

Table 5 shows that the Cronbach's Alpha value for the *ChatGPT* Use variable exceeds 0.70, indicating its reliability. Similarly, the Academic Performance and Ethical Orientation (Idealism and Relativism) variables also have values above 0.70, confirming that all research instruments demonstrate adequate reliability. Therefore, the collected data is valid and reliable for distribution and use in this study. After testing data quality, the next step is to conduct classical assumption tests to ensure the regression model meets the required stipulations and remains consistent before hypothesis testing. These tests include Normality, Multicollinearity, Heteroscedasticity, and Autocorrelation tests. The classical assumption tests show the results as follows:

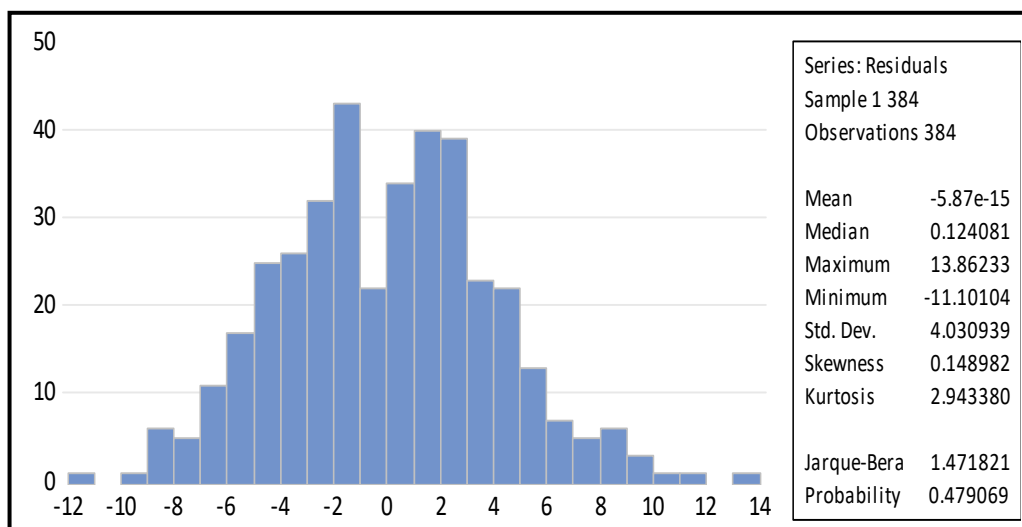


Figure 2. Normality Test

- 11 Based on Figure 1, the probability value of 0.479069 is more greater than 0.05, indicating that the data in this study follows a normal distribution.

Table 6. Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
Constant	5.282880	123.8724	NA
<i>ChatGPT</i> Use	0.001422	39.72145	1.716839
Idealism	0.003457	13.43683	1.029571
Relativism	0.005035	27.90937	1.750856

The multicollinearity test results show that the Centered VIF values for the *ChatGPT* Use variable (1.716839), the Idealism variable (1.029571), and the Relativism variable (1.750856) are all below 10. These results confirm that the model has no multicollinearity symptoms, meaning all variables pass the multicollinearity test.

Table 7. Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	3.676741	1.333642	2.756917	0.0061
<i>ChatGPT</i> Use	-0.010293	0.021882	-0.470371	0.6384
Idealism	-0.039164	0.034114	-1.148010	0.2517
Relativism	0.028594	0.041172	0.694503	0.4878

The heteroscedasticity test using the Glesjer method shows that the probability values for the *ChatGPT* Use variable (0.6384), the Idealism variable (0.2517), and the Relativism variable (0.4878) all exceed 0.05. These results confirm that the model has no heteroscedasticity symptoms, meaning all variables pass the heteroscedasticity test. Meanwhile, the Breusch-Godfrey Serial Correlation LM test shows that the prob. Chi-Square (2) is 0.9426 (>0.05), indicating no autocorrelation problem. Thus, all variables in this model pass the autocorrelation test.

Table 8. Moderated Regression Analysis (MRA)

Variable	Coefficient	t-Statistic	Adjusted R-Squared	P Values
<i>ChatGPT</i> Use -> Academic Performance	-0.579056	-20.00419	0.510335	0.0000
Idealism -> <i>ChatGPT</i> Use -> Academic Performance	0.487205	2.025959	0.514390	0.0435
Relativism -> <i>ChatGPT</i> Use -> Academic Performance	-0.271420	-1.249611	0.521824	0.2122

The Adjusted R-square value of 0.510335 shows that the tested variables explain 51.03% of the variability in academic performance. Meanwhile, the remaining 48.97% stems from other factors not included in the relationship between the *ChatGPT* Use and academic performance. The Moderated Regression Analysis (MRA) test confirms a significant relationship between the tested variables. The first hypothesis (H1) states that *ChatGPT* use negatively impacts the academic performance of accounting students. The analysis produces a negative coefficient of -0.579056, indicating an inverse relationship. The t-statistics of -20.00419 (absolute value: 20.00419) far exceed the t-table threshold of 1.649, while the extremely small P-value (0.0000) confirms statistical significance. These findings

support H1, demonstrating that *ChatGPT* use significantly negatively affects the academic performance of accounting students. Therefore, **H1 in this study is supported.**

This study examines the moderating effect of idealism on the relationship between *ChatGPT* use and academic performance. The H2 hypothesis test results show a moderation coefficient of 0.487205, with a t-statistic of 2.025959, exceeding the 1.649 threshold. The adjusted R-squared of 0.514390 indicates that 51.44% of the variability in academic performance is explained by this relationship, with idealism acting as a moderating variable. The p-value of 0.0435, which is smaller than 0.05, confirms statistical significance. Therefore, idealism significantly weakens the negative effect of *ChatGPT* use on accounting students' academic performance. **H2 in this study is supported.**

The H3 hypothesis proposes that students with a relativism ethical orientation reinforce the negative impact of *ChatGPT* use on academic performance. However, the results of the analysis do not support this hypothesis. The moderation coefficient is -0.271420, with a t-statistic value of -1.249611 and an adjusted R-squared of 0.521824, indicating that relativism explains 52.18% of the variation in academic performance as a moderating variable. The p-value of 0.2122, which exceeds 0.05, confirms that this result is not statistically significant. Although the coefficient suggests a negative direction, the effect is not statistically supported. Thus, **H3 in this study is not supported.**

DISCUSSION

This study confirms that excessive *ChatGPT* Use negatively impacts the academic performance of accounting students. Excessive reliance on *ChatGPT* impairs students' critical thinking and analytical skills, which are essential for their professional development. *Attachment Theory* (Bowlby, 1969) explains this phenomenon, students who heavily depend on technology continue to rely on *ChatGPT* as a source of academic security, which reduces their engagement in deep learning. Hypothesis testing shows that students' reliance on *ChatGPT* decreases the quality of learning because they often complete assignments quickly without fully understanding the material. There is no significant difference in the use of *ChatGPT* between the 2018-2020 cohorts and the 2021-2024 cohorts, suggesting that the impact of excessive use is consistent across these cohorts. This results of this study align with research by Alafnan et al. (2023), which shows that dependence on technology reduces the quality of critical thinking and deep learning.

The *ChatGPT* Use in education can provide easy access to information, but it also increases the potential risks of lower-quality learning. With the convenience it offers, students often rely on this technology as a quick solution, avoiding active engagement in deep analysis and understanding. Tanvir et al. (2023) revealed that *ChatGPT* tends to decrease creativity and motivation for independent thinking, which lowers the quality of students' academic performance. The study further reinforces these findings, showing that while *ChatGPT* can accelerate material comprehension, excessive reliance on it reduces students' critical and analytical thinking skills, negatively impacting their academic performance.

Idealism ethical orientation can mitigate its adverse effects on academic performance. Students with an intense sense of idealism tend to use *ChatGPT* to deepen their understanding rather than replace the entire learning process. Ethical Position Theory (Forsyth, 1980) supports this finding, individuals with high levels of idealism prioritize

moral integrity and responsible decision-making. This result aligns with research by (Chen & Heron, 2011). which states that the moral orientation of idealism helps individuals make more ethical and responsible decisions and maintain integrity in the learning process. Thus, the ethical orientation of idealism assists accounting students in maintaining the quality of their learning and avoiding the misuse of technology. These findings support the importance of ethical awareness in the use of technology. Oboh et al. (2020) also add that individuals with an Idealist ethical orientation can better assess whether the use of technology is in line with moral principles in an academic context. Therefore, the strong ethical orientation of idealism is a barrier to dependence on technology such as *ChatGPT*, ensuring that students continue to prioritize the quality of understanding and integrity in their learning.

The results of the H3 hypothesis test show that the ethical orientation of relativism does not strengthen the negative influence of the *ChatGPT* Use on student academic performance. A deeper understanding of individual characteristics with a relativist orientation explains this phenomenon. This study shows that students with an ethical orientation of relativism are more flexible in accepting technology, including *ChatGPT*, without paying too much attention to its ethical or academic impact. Strict moral rules do not bind them, which can limit the excessive use of technology (Winter et al., 2004). Although Ethical Position Theory assume that individuals with a relativist orientation are more likely to engage in behaviours that people often perceive as unethical or rule-breaking, empirical evidence suggests otherwise.

Research by Mudrack and Mason (2020) reveals that individuals with a relativist orientation are not always inclined to act unethically. They tend to be more open and accept various perspectives, as well as showing a tolerant attitude towards diversity in moral outlook. Therefore, although relativism is often associated with flexibility in applying moral principles, it does not always lead to detrimental or unethical behavior. Not all individuals with a relativism orientation necessarily commit violation because strict rules do not bind them, some individuals freely assess an action without violating the rules. It is in line with research from Zaikauskaitė et al. (2020), which suggests that individuals with a relativist orientation are influenced by moral uncertainty in certain situations, so they are more likely to consider various approaches in decision-making without ignoring the principles of ethics. Therefore, the results of this study show that the ethical orientation of relativism does not significantly moderate the adverse impact of the *ChatGPT* Use on student academic performance. The results of this study indicate that although the *ChatGPT* Use negatively affects the academic performance of accounting students, an idealism ethical orientation can reduce these negative impacts. However, the ethical orientation of relativism did not significantly influence amplifying these negative impacts.

CONCLUSION

Based on the results, excessive *ChatGPT* use negatively impacts accounting students' academic performance by weakening critical and analytical thinking skills, which are essential for their academic success. While students with an idealistic ethical orientation tend to use *ChatGPT* responsibly, minimizing its negative effects, those with a relativistic ethical orientation did not exhibit a significant moderating effect on the impact of *ChatGPT*. This study emphasize the importance of ethical awareness in using technology, particularly for accounting students who will become future professionals accountant.

Although *ChatGPT* can be a helpful learning tool, its overuse can lead to dependency, hindering the development of essential cognitive and decision-making skills.

LIMITATIONS

This study has limitations. First, this study uses a cross-sectional approach, which limits the understanding of changes in students' attitudes or behaviours towards the use of technology in the long term. Second, it does not consider other external factors that may affect students academic performance, such as social environment and teaching quality.

SUGGESTIONS FOR FUTURE RESEARCH

Further research is suggested to explore other external factors affecting academic performance and expand the scope of the discipline to understand the impact of *ChatGPT* use in various fields. Additionally, it is important to evaluate the effectiveness of technology ethics education to promote more thoughtful use of technology among college students. A longitudinal approach can also offer deeper insights into changing student attitudes toward technology and its impact in the long term.

IMPLICATIONS

The findings of this study offer valuable implications on practical, empirical, and theoretical levels. In practical terms, the results of this study provide direction for educational institutions to introduce policies that support the ethical and responsible use of technology. Educational programs need to design programs that teach students how to use technology like *ChatGPT* wisely, with a focus on academic integrity and the development of critical thinking skills that are critical in the accounting profession. Higher education curriculum should integrate ethics training programs on the use of technology (Cotton et al., 2023). Empirically, this study enriches the existing literature on the relationship between ethical orientation, the use of technology, and its impact on the quality of student learning. These findings provide evidence that while technology can speed up the learning process, its overuse can hinder students from developing cognitive skills that are important for college students (Zhai et al., 2024). Theoretically, this research contributes to the development of ethical theories in the context of technology education, the ethical orientation of idealism can serve as a barrier to the misuse of technology, while the ethical orientation of relativism does not effectively moderate the adverse effects of technology use (Zaikauskaite et al., 2020). These findings broaden the understanding of the interaction between ethics, technology, and learning, as well as add insight into how students' moral orientation influences how they use technology in an academic context, especially in accounting students who will become future accountants.

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Appendix
19 Measurement items

Variable	Items	Source
Academic Performance (Y)	1. I wasn't sure of the adequacy of my skills and academic abilities so I used <i>ChatGPT</i>	Duong et al. (2024)
	2. I rely on <i>ChatGPT</i> because I feel incompetent in completing my homework independently	
	3. I use <i>ChatGPT</i> because I didn't find an efficient and effective way to learn	
	4. <i>ChatGPT</i> has significantly lowered my academic performance	Al-Mamary et al. (2024)
	5. The <i>ChatGPT</i> Use has negatively affected my overall academic grades or performance	
	6. <i>ChatGPT</i> has reduced my understanding of specific materials and concepts in accounting	
	7. I've experienced poor time management in my academic tasks since using <i>ChatGPT</i> . Like often procrastinating	
	8. I wouldn't recommend <i>ChatGPT</i> to other college students based on its negative impact on my academic achievement	
	9. The <i>ChatGPT</i> Use has hampered my overall academic success	
<i>ChatGPT</i> Use (X)	1. I rely on <i>ChatGPT</i> to complete my coursework	(Abbas et al., 2024)
	2. I'm addicted to using <i>ChatGPT</i> in the learning process	
	3. I rely on <i>ChatGPT</i> in the face of tests	
	4. I feel anxious about my answers when I have to complete a task without the help of <i>ChatGPT</i>	Duong et al. (2024)
	5. I use <i>ChatGPT</i> to complete most of my tasks, and find it difficult to complete tasks without the help of this technology.	
	6. I feel that I can't complete tasks well without using <i>ChatGPT</i>	
	7. I've spent a lot of time thinking about or planning the <i>ChatGPT</i> Use	
	8. I feel like I want to use <i>ChatGPT</i> more and more continuously	
	9. I get agitated and disturbed if I'm banned from using <i>ChatGPT</i>	
Ethical Orientation Idealism (M1)	1. Using <i>ChatGPT</i> should improve my understanding, not just completing tasks	(O'Boyle and Forsyth 2021)
	2. I feel guilty if I use <i>ChatGPT</i> to cheat on my college assignments	
	3. I use <i>ChatGPT</i> to learn concepts, not to replace the learning process	

4. Academic ethics have always been my top consideration when using *ChatGPT*

Ethical Orientation
Relativism (M2)

1. I believe that using *ChatGPT* is acceptable in certain situations, even if it violates the rules
2. I use *ChatGPT* when I feel a situation is urgent, such as a tight deadline
3. The *ChatGPT* Use to complete tasks is acceptable if the situation forces
4. I tend to adapt the *ChatGPT* Use to the situation at hand, not to the fixed rules
5. I feel like it's okay to use *ChatGPT* to get better grades, as long as I don't get caught

(O'Boyle and
Forsyth
2021)