

# Ethical Considerations in the Use of AI in Accounting Education: A Conceptual Analysis Using the Theory of Planned Behaviour

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## ABSTRACT

Artificial intelligence (AI) is routine in accounting education, it helps in accelerating feedback and access to help but raising risks to integrity, privacy, fairness, and accountability. This conceptual paper addresses how Malaysian accounting programmes can capture AI's benefits while safeguarding professional judgment. Using the Theory of Planned Behaviour (TPB), this paper shall explain how attitudes (A), subjective norms (SN), and perceived behavioural control (PBC) shape students' intentions and behaviours in ethical AI use, and how these choices support judgment development. The paper's design synthesises literature and proposes a TPB-based causal pathway (A/SN/PBC → Intention → Behaviour → Professional judgment). This paper advance four propositions tied to key risks: over-reliance, privacy and security, bias and fairness, and transparency and accountability. The output is an integrated framework combining a TPB model with an Ethical-AI issues map. Implications include practical programme guidelines, MIA–university professional development and AI-aware assessment to raise PBC, that convert intention into practice.

**Keywords:** Academic integrity; Accounting education; Ethical AI; Professional judgment; Theory of Planned Behaviour (TPB)

## INTRODUCTION

### Artificial Intelligence in Higher Education

The educational sector is among the most prominent that has received the benefits of advances in Artificial Intelligence (AI). Academic assistance can be made available to students continuously through the use of AI tools (Dahri, Yahaya & Al-Rahmi, 2025). These AI tools will assist students in gaining information, skill abilities, as well as immediate and meaningful feedback (Kaledio, Robert & Frank, 2024), allowing personalised learning experiences that improve both efficiency and effectiveness. Following the shift towards technologically enhanced education, the Association of Chartered Certified Accountants (ACCA) conducted a survey in 2023. The survey received 1,074 responses, where 85% of respondents agreed that technology boosts productivity, 76% believe it improves teamwork, and 65% believe it would expand professional development chances (ACCA, 2023). Recent discussions have focused on the need for investigation and supervision in order to protect academic integrity and uphold ethics against the possible transformative power of (AI Qadhi, Al-Duais, Chaaban & Khraisheh, 2024).

In addition, Al-Zahrani and Alasmari (2024) state that a strict, well-defined ethical rules are needed to deal with privacy, security, and bias when utilising AI in higher education. Chechitelli (2023) reported that, among 38.5 million submissions analysed for AI-generated content, approximately 9.6% contained over 20% of text likely produced by AI writing tools, while 3.5% exhibited between 80% and 100% AI-generated content.

In the context of accounting education, where ethical behaviour and professional judgment are important, an overreliance on AI may damage students' critical thinking ability and professional judgment. The use of an AI-driven decision-making system proved to improve efficiency according to Lehner, Ittonen, Silvola, Ström & Wührleitner, (2022), but this technology has also proven to fail to make an ethical decision. Hence, this results in a “responsibility gap” when using technology completely disregards ethical accountability. This paper applies the Theory of Planned Behaviour (TPB) (Ajzen, 1991) to explain how attitudes, subjective norms, and perceived behavioural control shape intentions and behaviours in students' AI use, and how these choices influence the development of professional judgment. This article is a conceptual study that develops a TPB-grounded framework and propositions to guide future empirical research on ethical AI use in accounting education.

## Ethical AI in Accounting Education: Brief Background

Across accounting classrooms, students use AI for information seeking, summarisation, feedback, and solution checking. Benefits co-exist with risks that are acute for the discipline: (i) academic-integrity breaches (undisclosed assistance, ghost-writing), (ii) privacy and data-security exposure, (iii) opaque model bias that can mislead analysis, and (iv) over-reliance that weakens professional scepticism. These issues warrant curricular and assessment-design responses where it beyond discipline alone, so that responsible AI use supports, rather than substitutes for, learning and judgment. Therefore, the current study frames ethical AI use through TPB to guide targeted curricular and assessment interventions.

## Research Problem and Objectives

While it is clear that using AI enhances educational practices, the use of AI also comes with a serious ethical implication. Vigil (2020) highlights the need for ethical filters embedded in AI system development so that this technology can be used responsibly and in line with ethical principles. Moreover, Sysoyev & Filatov (2024) also agreed that AI can enhance the learning experience, with a more personal and adaptive approach. But there are pressing issues that students are overly relying on AI, and the traditional teacher-student relationship is changing. Hence, the primary objective of this paper is to explore the ethical issues arising with the use of AI in accounting education with the aims to:

1. Attitudes (A): Identify which ethical concerns (privacy, bias, academic integrity) most strongly shape attitudes toward ethical AI use in accounting education.
2. Subjective norms (SN): Examine how institutional norms (MIA competencies, Halatuju 4, course policies) influence intentions to use AI ethically.
3. Perceived behavioural control (PBC): Assess how digital literacy, access, guidance, and assessment design affect students' perceived control over using AI ethically and their professional judgment.

## Method: Conceptual Analysis Approach

This study follows a structured conceptual analysis to build a TPB-grounded framework for ethical AI use in accounting education. Sources were identified through searches in Scopus, Web of Science, and Google Scholar, complemented by relevant professional and policy documents from Malaysian bodies. Core search strings combined terms such as artificial intelligence, accounting education, ethics, academic integrity, professional judgment, Theory of Planned Behaviour, Malaysia, MIA, and Halatuju. The primary window was 2019 to 2024, with classic works included where foundational, for example Ajzen on TPB and seminal accounting education texts.

Inclusion criteria focused on higher education contexts that discuss AI ethics or integrity, accounting or closely related disciplines, studies that speak to attitudes, norms, or perceived control, and policy or competency statements relevant to Malaysian programmes. Titles and abstracts were screened, followed by full-text review. Evidence was then organised using a framework synthesis: each source was coded against TPB constructs (attitudes, subjective norms, perceived behavioural control), intention, behaviour, and professional judgment, and mapped to four discipline-salient issues, namely over-reliance, privacy and security, bias and fairness, and

transparency and accountability. Iterative team discussion resolved coding disagreements and refined the proposition wording until consensus.

The synthesis produced two artefacts: an Ethical-AI issues map that links the four risks to TPB constructs, and a TPB-based conceptual pathway from A, SN, and PBC to intention, behaviour, and professional judgment, with associated propositions for future empirical testing. The approach is conceptual rather than exhaustive; it privileges recent scholarship, English-language materials, and publicly available Malaysian policy documents, and does not conduct meta-analysis. These limits are noted to guide interpretation and to motivate the research agenda outlined in the Discussion.

## LITERATURE REVIEW

### Theoretical Framework: Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) developed by Icek Ajzen in 1991 attempted to explain human behaviour based on intention. According to Ajzen (1991), before one act, he or she will undergo a consideration process that is influenced by three main determinants, which are attitudes, subjective norms, and perceived behavioural control. In the context of using technology adoption in education, TPB is used frequently to understand the acceptance and use of technology by students and educators.

In the context of Malaysia's higher education system, the use of technology such as AI, Blended Learning (BL), and mobile learning can be explained using the TPB. Students who possess a positive attitude towards technology (considering AI as a tool to enhance learning experience) tend to have the intention to use such technology. Whereas, the subjective norms, such as the national policy of Malaysia Education Blueprint for Higher Education (MEBHE) 2015-2025, that encourage the use of ICT and support from peers and lecturers, put social pressure that strengthens that intention. Meanwhile, the perceived behavioural control was influenced by students' digital literacy, ease of access, and perceived efficacy towards the use of technology, as explained by prior research of BL in Malaysia (Hamad, Shehata & Al-Hosni, 2024; Yeap, Ramayah & Soto Acosta, 2016). Malaysian Institute of Accountants (MIA) competency framework and Halatuju 4 strategic blueprint also influence social norms by emphasising digital skills and ethics as essential graduate attributes (MIA, 2021; MoHE, 2024).

### Ethical Issues in AI Usage in Accounting Education

Accounting education rests on integrity, transparency, and accountability. Used without clear guardrails, AI introduces four discipline-salient risks known as over-reliance, privacy & security, bias & fairness, and transparency & accountability. All the risk that can be interpreted with the Theory of Planned Behaviour (TPB). In TPB terms, students' attitudes (A), subjective norms (SN), and perceived behavioural control (PBC) shape intentions (I) and behaviours (B) around ethical AI use.

#### Over-reliance and critical thinking (A, PBC → I/B; supports P1, P3)

AI can improve efficiency and access to real-time help, but excessive reliance can blunt analytical and problem-solving skills essential to accounting (Albrecht & Sack, 2000). TPB linkage: risk-heavy attitudes reduce intention to use AI ethically (P1), while clear rules and assessment designs that require reasoning (orals, workings, verification logs) strengthen PBC and ethical behaviour (P3).

#### Data privacy and security (PBC, SN → I/B; supports P3)

AI tools often process sensitive personal and financial data. Ethical use requires lawful collection, storage, and consent; weak safeguards erode trust (Kohnke, Moorhouse & Zou, 2023; Mohammad, Zamri, Roni, Hadi, Sadikan & Mahzan, 2025). TPB linkage: when institutions provide clear policies, consent workflows, and security controls, PBC rises and ethical intentions/behaviours increase (P3). Visible policy signals also reinforce SN.

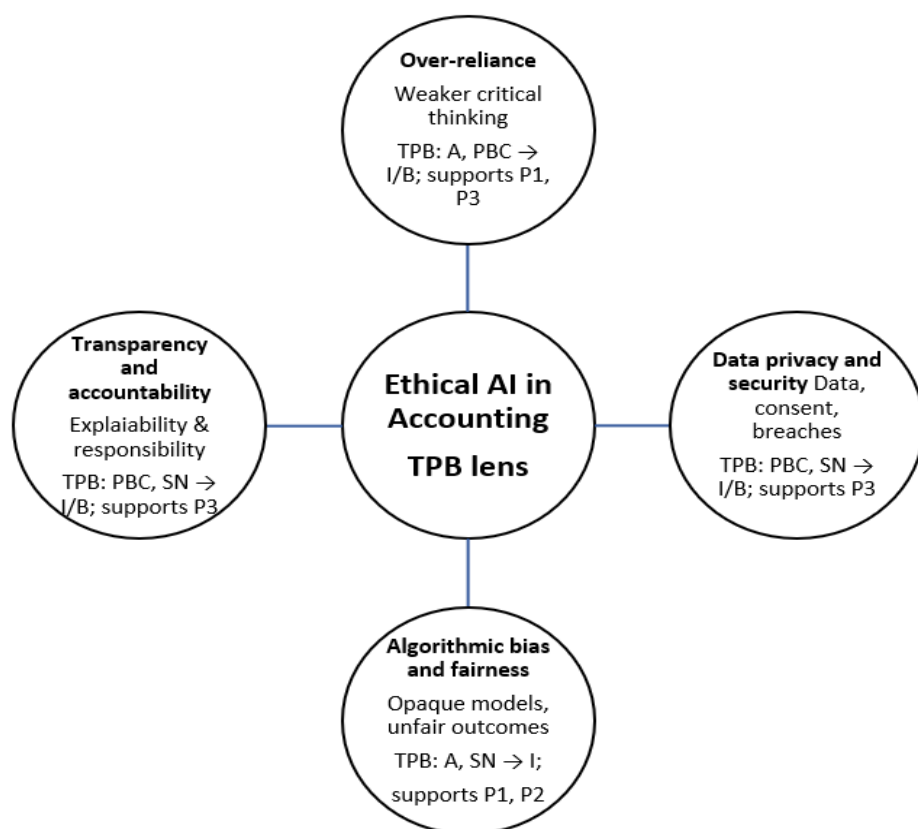
### Bias and fairness (A, SN $\rightarrow$ I; supports P1, P2)

Models trained on biased data can yield unfair outcomes in learning and assessment (Mohammed & Malhotra, 2025). Predictive systems may also threaten autonomy and due process (Akgun & Greenhow, 2022; Regan & Jesse, 2019; Citron & Pasquale, 2014). TPB linkage: recognising bias elevates risk-salient attitudes (lowering intention unless safeguards exist) (P1); strong institutional norms (fairness policies, audit trails) raise intention (P2).

### Transparency and accountability (PBC, SN $\rightarrow$ I/B; supports P3)

Educators report uncertainty over who is responsible for AI-driven errors for example developer, institution, or lecturer in order to compromising accountability (Zawacki-Richter, Marin, Bond & Gouverneur, 2019). TPB linkage: explainability requirements, disclosure templates, and decision logs increase PBC and strengthen norms of accountability (P3).

Figure 1 synthesises the four ethical issues through the TPB lens, mapping each to the primary constructs (A, SN, PBC) and the linked propositions (P1–P3, P4).



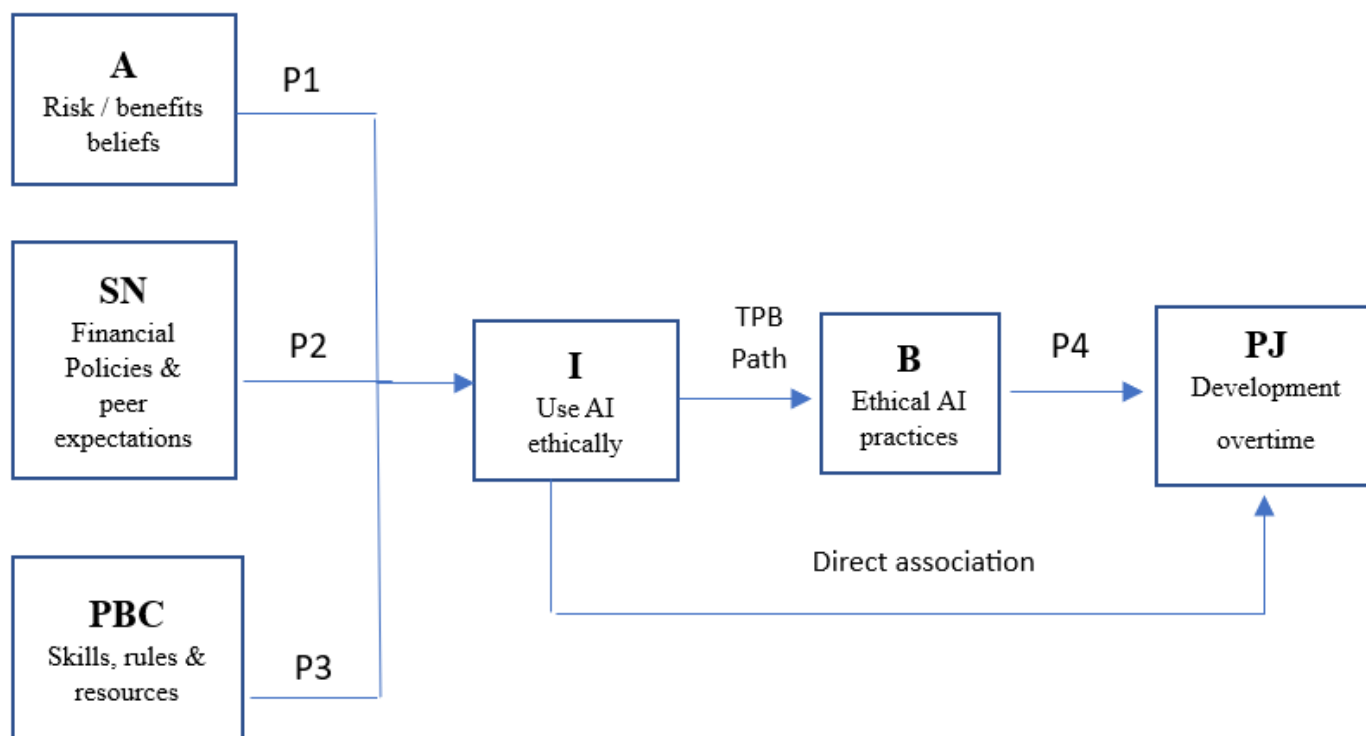
**Figure 1:** Four ethical issues through the TPB lens

## Proposed Conceptual Framework

### Conceptual Model and Propositions

This paper integrates prior work on AI ethics in higher education with the Theory of Planned Behaviour (TPB) to explain ethical AI use in accounting courses. The framework specifies how attitudes (A), subjective norms

(SN) and perceived behavioural control (PBC) shape intention (I), how intention drives behaviour (B) in coursework (e.g., disclosure, verification, limited reliance), and how repeated behaviours contribute to professional judgment (PJ). Figure 2 presents the TPB-based model:  $A, SN, PBC \rightarrow I \rightarrow B \rightarrow PJ$ , with a direct association  $I \rightarrow PJ$  to reflect the professional-formation pathway assumed in accounting curricula. For quick reference, Table 1 summarises the propositions associated with each path.



**Figure 2:** TPB-based conceptual model of ethical AI use in accounting education

**Table 1:** The propositions associated with each path (for empirical testing)

| Code | Path                   | Proposition                                                                                                             | Expected direction                |
|------|------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| P1   | $A \rightarrow I$      | When students perceive AI as ethically risky (integrity, bias, privacy), their intention to use AI ethically decreases. | Risk-heavy attitudes ↓ intention. |
|      |                        | When they see benefits with safeguards, intention increases.                                                            | Balanced attitudes ↑ intention.   |
| P2   | $SN \rightarrow I$     | Strong programme/peer norms (MIA, Halatuju 4, course rules) increase intention to use AI ethically.                     | ↑                                 |
| P3   | $PBC \rightarrow I, B$ | Greater perceived control (clear rules, training, AI-aware assessment) raises intention and actual ethical behaviour.   | ↑                                 |
| P4   | $I \rightarrow PJ$     | Stronger ethical-AI intention is associated with better development of professional judgment.                           | ↑                                 |

## DISCUSSION

### Theoretical contributions

This paper positions the Theory of Planned Behaviour squarely within a judgment-heavy context where the goal is not technology adoption but ethical practice. By linking attitudes (A), subjective norms (SN) and



perceived behavioural control (PBC) to intention (I), behaviour (B) and ultimately professional judgment (PJ), the framework shifts the debate from “AI: yes or no?” to the more useful question of which institutional and pedagogical choices move A, SN and PBC in real classrooms. Mapping the four discipline-salient risks, which are over-reliance, privacy and security, bias and fairness, transparency and accountability, onto the TPB constructs clarifies where to intervene (shaping beliefs, strengthening norms, building control) and why those levers should work. Anchoring the model in Malaysian policy signals (MIA competencies and Halatuju 4) makes the theory operational for programme leaders by binding behavioural pathways to curriculum, assessment and governance targets that faculties already recognised.

### Boundary conditions and testable extensions

The model is intentionally lean and remains within A, SN, PBC, I, B, and PJ. In practice, two familiar conditions are likely to shape the strength of these links. First, capacity and support, which include digital literacy, clear guidance and training, and simple procedures for disclosure and verification, should strengthen PBC → Intention and help PBC → Behaviour in coursework. Second, clarity and consistency of programme rules, which are what is allowed, when to disclose, how to verify, and how it is graded, should reinforce Subjective Norms and help intentions translate into behaviour across assessments. Within Attitudes, students’ evaluation of ethical risk (integrity, privacy, fairness) is central to the A → Intention path; course activities that surface and discuss these risks can shift that evaluation without expanding the model. These points refine how the existing constructs operate in Malaysian accounting classrooms and provide straightforward targets for future empirical tests.

### Positioning against alternative explanations

Much of the work on educational technology explains behaviour with broad “adoption” views (students use a tool if it seems useful and easy) or with rule-based compliance (students behave ethically if rules and penalties are clear). Both lenses help, but neither fully captures what matters in assessed coursework where ethics, peer expectations, and capability constraints all interact. Our argument is that TPB brings these pieces together: attitudes surface risk–benefit beliefs (e.g., integrity, privacy, fairness), subjective norms reflect programme and peer expectations (e.g., disclosure rules, classroom culture), and perceived behavioural control captures whether students feel able to act ethically (e.g., they know how to verify outputs or disclose use). By linking these to intention, behaviour, and ultimately professional judgment, TPB provides a coherent pathway that curriculum, policy, and assessment can actually target. In short, rather than adding a new theory, we use TPB to integrate what adoption and compliance perspectives each see only in part.

### Research agenda: Testing the Propositions

First, a multi programme survey with accounting undergraduates will be conducted to measure Attitudes, Subjective Norms, Perceived Behavioural Control, Intention, and self-reported behaviours such as disclosure, verification, and limited reliance, using TPB based items adapted to the ethical AI context.

Secondly, the study will test different ways of promoting academic integrity inside university courses - for example, by changing how policies are explained, requiring honesty forms, having students defend their work, or keeping verification records. Researchers will then observe how these changes affect students’ attitudes and actions over the semester, focusing on Malaysian university students in their 2nd to 4th year.

## CONCLUSION

Guided by the Theory of Planned Behaviour (TPB), this paper argues that attitudes, subjective norms, and perceived behavioural control shape students’ intentions and behaviours in using AI ethically, which in turn nurture professional judgment in accounting. Left unmanaged, the four salient risks in accounting education which are over-reliance, privacy and security, bias and fairness, and transparency and accountability can erode integrity, academic standards, and public trust in graduates. Three priorities follow: (i) adopt clear,

programme-level ethical AI guidelines aligned with MIA competencies and MoHE/Halatuju 4 strategies (privacy, fairness, disclosure, accountability); (ii) build educator capability via MIA–university professional development on responsible AI use and AI-aware assessment; and (iii) embed AI ethics across the curriculum (cases, verification logs, oral defences, explicit disclosure) so intentions translate into behaviour. These interventions elevate PBC and strengthen norms, balancing innovation with safeguards. The result is a pipeline of Malaysian accounting graduates who are both technically capable and ethically grounded, sustaining confidence in the profession and able to contribute to the nation’s economic development.

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## REFERENCES

1. Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50(2), 179–211.
2. Akgun, S., & Greenhow, C. (2022). Artificial intelligence in education: Addressing ethical challenges in K-12 settings. *AI and Ethics*, 2(3), 431-440. doi: 10.1007/s43681-021-00096-7
3. Albrecht, W. S., & Sack, R. J. (2000). *Accounting education: Charting the course through a perilous future*. American Accounting Association.
4. Al-Zahrani, A. M., & Alasmari, T. M. (2024). Exploring the impact of artificial intelligence on higher education: The dynamics of ethical, social, and educational implications. *Humanities and Social Sciences Communications*, 11(1), 1-12. <https://doi.org/10.1057/s41599-024-03432-4>
5. Association of Chartered Certified Accountants. (2023). *Digital horizons: Technology, innovation, and the future of the accounting (Professional Insights)*. [https://www.accaglobal.com/content/dam/ACCA\\_Global/professional-insights/digital-horizons2023/PI-DIGITAL-HORIZONS%20v5.pdf](https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/digital-horizons2023/PI-DIGITAL-HORIZONS%20v5.pdf)
6. Chechitelli, A. (2023). AI writing detection update from Turnitin’s chief product officer. Turnitin. Retrieved August 25, 2025, from <https://www.turnitin.com/blog/ai-writing-detection-update-from-turnitins-chief-product-officer>
7. Citron, D. K., & Pasquale, F. A. (2014). The scored society: Due process for automated predictions. *Washington Law Review*, 89(1), 1–33. <https://digitalcommons.law.uw.edu/wlr/vol89/iss1/2>
8. Dahri, N. A., Yahaya, N., & Al-Rahmi, W. M. (2025). Exploring the influence of ChatGPT on student academic success and career readiness. *Education and Information Technologies* 30(7), 8871-8921. DOI: 10.1007/s10639-024-13148-2
9. Hamad, F., Shehata, A., & Al-Hosni, N. (2024). Predictors of blended learning adoption in higher education institutions in Oman: theory of planned behavior. *International Journal of Educational Technology in Higher Education*, 21(13), 1-28. <https://doi.org/10.1186/s41239-024-00443-8>
10. Kaledio, P., Robert, A., & Frank, L. (2024). The Impact of artificial intelligence on students' learning experience. Available at SSRN 4716747. <http://dx.doi.org/10.2139/ssrn.4716747>
11. Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). Exploring generative artificial intelligence preparedness among university language instructors: A case study. *Computers and Education: Artificial Intelligence*, 5, 100156. <https://doi.org/10.1016/j.caeai.2023.100156>
12. Lehner, O. M., Ittonen, K., Silvola, H., Ström, E., & Wührleitner, A. (2022). Artificial Intelligence based decision-making in accounting and auditing: ethical challenges and normative thinking. *Accounting, Auditing & Accountability Journal*, 35(9), 109-135. <https://doi.org/10.1108/AAAJ-09-2020-4934>
13. Malaysian Institute of Accountants (MIA). (2021). *Report of a study of emerging technology adoption within accounting programmes by higher learning institutions in Malaysia*. MIA.
14. Ministry of Higher Education (MoHE), Malaysia. (2024). *Halatuju 4: Strategic blueprint for accounting education*. MoHE.

15. Mohammad, N. H., Zamri, N. A. K., Roni, M., Hadi, S. N. I. A., Sadikan, S. F. N., & Mahzan, S. (2025). Navigating AI ethics in Malaysian universities: Addressing privacy, integrity, and bias. *International Journal of Research and Innovation in Social Science*, 9(1), 2451–2465.
16. Mohammed, S., & Malhotra, N. (2025). Ethical and regulatory challenges in machine learning-based healthcare systems: A review of implementation barriers and future directions. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 5(1), 100215. <https://doi.org/10.1016/j.tbench.2025.100215>
17. Qadhi, S. M., Alduais, A., Chaaban, Y., & Khraisheh, M. (2024). Generative AI, research ethics, and higher education research: Insights from a scientometric analysis. *Information*, 15(6), 325. <https://doi.org/10.3390/info15060325>
18. Regan, P. M., & Jesse, J. (2019). Ethical challenges of edtech, big data and personalized learning: Twenty-first century student sorting and tracking. *Ethics and Information Technology*, 21(3), 167-179. <https://doi.org/10.1007/s10676-018-9492-2>
19. Sysoyev, P. V., & Filatov, E. M. (2024). Artificial intelligence in teaching Russian as a foreign language. *Russian Language Studies*, 22(2), 300-317. <https://doi.org/10.22363/2618-8163-2024-22-2-300-317>
20. Vigil, J. L. G. (2020). Reflections on ethics, human intelligence and artificial intelligence (AI). *Journal of Biology*, 9(11), 001-002.
21. Yeap, J. A., Ramayah, T., & Soto-Acosta, P. (2016). Factors propelling the adoption of m-learning among students in higher education. *Electronic Markets*, 26(4), 323-338 <https://doi.org/10.1007/s12525-015-0214-x>
22. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – where are the educators?. *International Journal of Educational Technology in Higher Education*, 16(39), 22. <https://doi.org/10.1186/s41239-019-0171-0>