

A Study of Perceived Ease of Use, Perceived Usefulness and Self-Efficacy to use Artificial Intelligence Among Accounting Students in Malaysia

Noral Hidayah Alwi ^{1*}, Bibi Nabi Ahmad Khan ²

¹ Faculty Business and Management, Open University Malaysia, Kelana Jaya, Malaysia

² Faculty Business and Management, Open University Malaysia, Kelana Jaya, Malaysia

*Corresponding Author: noral@oum.edu.my

Article History:

Received: 07-11-2024

Revised: 15-12-2024

Accepted: 02-01-2025

Abstract:

The increasing use of AI-enabled tools and procedures in accounting is driving a dramatic shift in what students learn today, as well as the essential skills and talents required for future professionals to survive in this dynamic world. A national thrust on the digital economy has included artificial intelligence (AI) courses in response to the present global shifts impacting higher education across the globe. According to the Malaysia Digital Economy Blueprint (2021), digital skills should be incorporated into higher education curricula to ensure that graduates are agile and competent in the future workforce. As a result, introducing AI into daily accounting tasks will substantially affect the work environment. Students with poor levels of digital literacy may experience difficulty at employment. Therefore, the purpose of this study is to investigate how self-efficacy, perceived usefulness, and perceived ease of use relate to technology adoption of AI in their studies. A quantitative research survey was adapted to analyse 172 respondents for 24-question questionnaire. The results of the study indicate that all factors such as self-efficacy, perceived usefulness, and perceived ease of use significantly influence technology adoption among accounting students in distance education, particularly in their integration of AI tools into their learning processes.

Keywords: Technology Adoption, Accounting Graduates, Distance Education, Artificial Intelligence, Online Distance Learning, TAM model.

INTRODUCTION

Artificial intelligence (AI) is becoming increasingly significant in accounting because it may streamline procedures, boost efficiency, and stimulate innovation. Accounting professionals are increasingly required to grasp and efficiently apply AI-based technology. Accounting education must adapt to these developments by providing students with the necessary abilities to navigate this expanding sector. Colleges and universities in Malaysia play an important role in bridging the gap between the accounting profession's expectations and their graduates' skills (Phan et al., 2020; Abdullah et al., 2023). By combining AI-focused courses, workshops, and collaborative projects, universities can assist students in developing a thorough grasp of AI's impact on the accounting sector. This technique improves students' technical proficiency as well as their critical thinking, problem-

solving, and innovation skills.

Many universities in Malaysia have begun to incorporate relevant courses and training programs into their curriculums in recognition of the importance of AI to the accounting profession. Such efforts attempt to equip students with the technical savviness needed to engage with AI technology as well as the analytical mindset necessary to adjust to the changes within the landscape of accounting (Thaariq et al., 2024). In order for the AI systems to be used optimally within the region, the education of accounting professionals in Malaysia will have to change accordingly to address the specific skills and competencies required to properly implement AI systems for the respective industries.

Yet, the swift progress of AI-enabled technologies has surpassed on the ability of accounting education to follow suit, resulting in major skills gaps (Andani et al., 2022). However, this presents a significant challenge to Malaysia in connecting the transformative power of the AI in accounting industry, which in turn limit the country to any significant opportunity to pursue the Sustainable Development Goals. A significant number of sectors must grow as the times change, and this calls for the Malaysian accounting education sector to keep up with it to give students skills that would well-prepare them in facilitating the successful adoption of AI into the accounting sectors. Hence, this research intends to relate self-efficacy, perceived usefulness, perceived ease of use, technology readiness and technology adoption.

OPEN UNIVERSITY MALAYSIA

OUM is a prominent online distance learning provider in Malaysia. The students are predominantly working adults who attend universities to advance their education. OUM, a pioneer in online distance learning (ODL), had integrated the MyInspire platform to enhance student experiences and democratise quality education. As it allows students of all backgrounds to learn flexibly even from remote places, the distance learning is in booming. This has paved the way for students to learn their material accordingly, while having the responsibilities of their careers and families on their shoulders (Hossain et al 2021). With limited time to balance study and various commitments, learners were given the opportunity to learn at their own pace and from virtually anywhere in the world.

The emergence of AI tools such as ChatGPT has triggered a lively discussion about the challenges and opportunities these tools present for higher education institutions. In an effort to be proactive, Open University Malaysia (OUM) has initiated a collaborative project between the Center for Learning Technology (CLT) and the Examination Department to perform similarity checking on all submissions of assessment to ensure academic integrity (Cotton et al., 2023). AI-powered productivity tools such as ChatGPT for instance have a capability to transform the education landscape, making it more personal, productive, and accessible. While this technology also comes with concern, specifically that students could in fact use these cheat stencils on things like assignments etc. (King, 2023). In light of this challenge, higher education institutions must take a step back to evaluate the consequences of

these technologies and formulate strategies that guarantee education quality and eradicate academic dishonesty.

Intra-campus similarity checking for all assignments is one of Open University Malaysia's primary strategies. This is done via specialized software programs that check for instances of plagiarism, which may include some level of content generated by AI. The university believes that this will preserve the integrity and authenticity of students' work and ensure that the assessment of learning outcomes truly reflects the contributions of signatories in terms of what they have learned and achieved. OUM in Figure 1 demonstrates the similarity checking process.

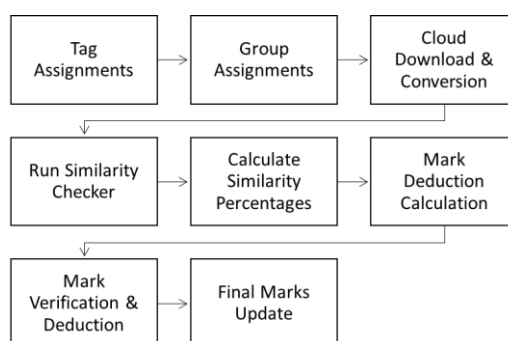


Figure 1. Similarity Checking Process in OUM

LITERATURE REVIEW

Self-efficacy, perceived usefulness, perceived ease of use, technology readiness and technology adoption in accounting education.

Self-efficacy, perceived usefulness, perceived ease of use, and technology readiness all influence the decision to adopt AI in accounting education. Some literature indicates that people with high self-efficacy which those who believe in their capabilities, are prone to adopt AI-based technologies and use them effectively in their studies and professional works. Similarly, perceptions of whether students and professionals in accounting find AI-driven tools useful in enhancing performance or improving productivity also determine the rate of adoption (Davis, 1989; Venkatesh et al., 2003). Perceived ease of use of AI-based systems is another critical aspect. A simple system that users can understand will always find its way into their daily activity. In addition, the general technology readiness of individuals to adopt new technologies affects their readiness to adopt AI solutions developed in the accounting field. All these forces must be considered by accounting professional bodies when deciding to integrate AI-based platforms into the college curriculum (Bandura, 1997). Introducing high levels of self-efficacy, underlining the usefulness of the available tools, making systems user-friendly, and developing a culture of technology readiness will contribute significantly to making future accountants' useful players of the AI industry.

Thus, it is hypothesised that self-efficacy, perceived usefulness, perceived ease of use, technology readiness is the contributing factors with technology adoption of artificial intelligence among accounting students.

H1: There is a relationship between self-efficacy and technology adoption of artificial intelligence among accounting students.

H2: There is a relationship between perceived usefulness and technology adoption of artificial intelligence among accounting students.

H3: There is a relationship between perceived ease of use and technology adoption of artificial intelligence among accounting students.

Conceptual framework

In this study, three independent variables namely perceived usefulness, perceived ease of use and self-efficacy and one dependent variable, technology adoption being measured. Figure 2 shows the conceptual framework of this study based on the literatures discussed in 2.1.

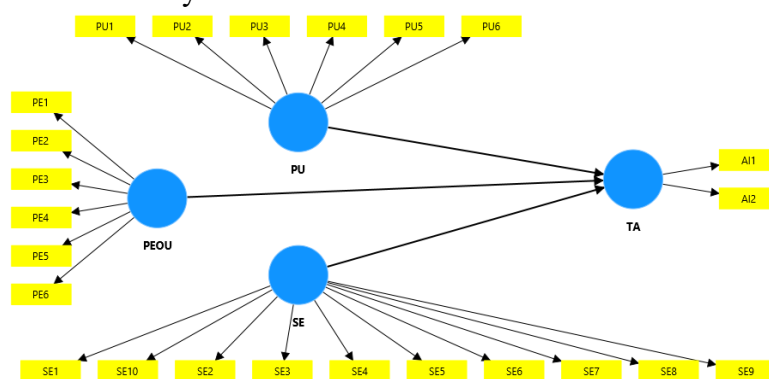


Figure 2. Conceptual framework

METHODOLOGY

This study focusses on Malaysian accounting students from both the private and public sectors. The non-probability sampling method will be used for this study. This study is a quantitative approach, utilising primary data. Data will be collected using a survey questionnaire instrument. The survey questions will be based on past research and modified accordingly. The questionnaire will include two parts: respondents' profiles and variables. All independent factors and the dependent variable will be assessed using a 5-Likert scale ranging from strongly disagree to strongly agree. Before data collection begins, the proposed questionnaire will go through a validity and reliability test to confirm that the internal items are consistent.

FINDINGS

Descriptive statistics and inter-construct correlations were generated with SPSS 24.0 (IBM Corp., 2016). Analyses of the models were also assessed utilizing Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS4 (Ringle et al., 2015) to assess for construct related validity and reliability. PLS-SEM does not require samples of large size and is specifically well-suited for estimating both simple and complex models, which is important since PLS-SEM explains variance in dependent variables and reduces unexplained error (Hair et al., 2017). PLS-SEM was processed in two steps: the measurement model was first evaluated, and the structural model was then assessed to

understand the outcomes of the research model (Rasoolimanesh et al., 2018).

Table 1 demonstrate sufficient convergent validity and reliability across all constructs. Factor loadings for the Perceived Ease of Use (PEOU) construct ranged from 0.824 to 0.894, indicating strong associations between items. High perceived usefulness (PU) was confirmed, with Cronbach's alpha at 0.941, composite reliability at 0.953, and Average Variance Extracted (AVE) at 0.773, suggesting that PU explains most of the variance within its components. For the Self Efficacy (SE) construct, factor loadings ranged from 0.703 to 0.805. High Cronbach's alpha (0.920) and composite reliability (0.922) with an AVE of 0.581 indicate strong internal consistency. The Technology Acceptance (TA) construct demonstrated high inter-item relationships with factor loadings between 0.911 and 0.912. High Cronbach's alpha (0.796) and composite reliability (0.796), with an AVE of 0.831, indicate strong internal consistency and explain more than half of the item variance (Hair et al., 2017; Fornell & Larcker, 1981). Overall, the acceptable reliability and convergent validity of the constructs support their inclusion in the study model.

Table 1. Constructs' Reliability and Convergent Validity

Factor Loading	CA	(rho_a)	(rho_c)	(AVE)
Perceived Ease of Use (PEOU)	0.929	0.930	0.945	0.740
PE1 0.824				
PE2 0.852				
PE3 0.885				
PE4 0.859				
PE5 0.894				
PE6 0.844				
Perceived Usefulness (PU)	0.941	0.943	0.953	0.773
PU1 0.665				
PU2 0.692				
PU3 0.637				
PU4 0.734				
PU5 0.741				
PU6 0.690				
PU1 0.665				
Self-efficacy (SE)	0.920	0.922	0.933	0.581
SE1 0.703				
SE2 0.747				
SE3 0.740				
SE4 0.782				
SE5 0.805				
SE6 0.720				
SE7 0.792				

SE8	0.763				
SE9	0.783				
SE10	0.779				
Technology Adoption (TA)		0.796	0.796	0.907	0.831
AI1	0.911				
AI2	0.912				

The structural model analysis evaluated path-related assumptions, including path coefficients (β), T-statistics, and P-values, to determine their support. Table 2 shows that Hypothesis 1 (SE \rightarrow TA) exhibited a path coefficient of 0.705 with a T-statistic of 8.891 and a P-value of 0.000, supporting the hypothesis. In contrast, Hypothesis 2 (PU \rightarrow TA) demonstrated a path coefficient of 0.072, a T-statistic of 0.993, and a P-value of 0.321, providing different path for the hypothesis. Finally, Hypothesis 3 (PEOU \rightarrow TA) exhibited a path coefficient of 0.065, a T-statistic of 0.827, and a P-value of 0.408, not support the hypothesis.

Table 2. Path Coefficient

Hypotheses	Paths	β	T value	P value	Decision
H1	SE \rightarrow TA	0.705	8.891	0.000	Supported
H2	PU \rightarrow TA	0.072	0.993	0.321	Not Supported
H3	PEOU \rightarrow TA	0.065	0.827	0.408	Not Supported

DISCUSSION

The results of this study emphasise the role of Self Efficacy in fostering Technology Acceptance. In line with our findings, Venkatesh et al. (2003) in their proposal of the Unified Theory of Acceptance and Use of Technology (UTAUT) observed that self-efficacy is an important predictor of technology adoption behaviour. This is consistent with our findings whereby self-efficacy was found to be a significant predictor of technology adoption among accounting students in Malaysia. Likewise, this finding is in line with the work of others that highlight the importance of student perceptions and beliefs, such as self-efficacy, in helping engender the successful adoption of AI technologies (Al-Gahtani et al., 2024; Drew, 2019). This result is consistent with recent studies conducted within higher education which suggest a critical focus on service quality impact on both student level of satisfaction and institution image (Cheung et al, 2021). Providing high-quality services, responsiveness academic support, effective communication, and a supportive learning environment will enhance student satisfaction and successful adoption of new educational technologies in institutions focused on those high-quality services.

Although previous studies (Davis, 1989) pivotal research on the Technology Acceptance Model (TAM) have consistently shown that PU and PEOU are positively correlated with technology adoption, our results unexpectedly indicated non-significant or even negative relationships of these two constructs with technology adoption among accounting students in Malaysia. Two possible explanations are that the studies seem not to hold in the context of accounting AI adoption, the PU and PEOU were not adequately measured in this study, or other factors outside the TAM framework, such anxiety or fear of losing jobs to AI automation.

It adds to the existing literature related to technology acceptance by showing that Self-Efficacy was an important factor, even more than the usual candidates, Perceived Usefulness and Perceived Ease of Use. This finding indicates that the TAM may require expansion or revision by including service quality as an important antecedent of technology acceptance for certain settings. Longitudinal studies and alternative designs can better ascertain the time-varying nature of service quality with technology acceptance over time.

Acknowledgements

This work was supported by the Internal Research Grant awarded by Open University Malaysia [OUM-IRF-2024-001].

REFERENCES

- [1] Abbas, A., Ekowati, D., Suhariadi, F., Anwar, A., & Fenitra, R. M. (2024). Technology acceptance and COVID-19: a perspective for emerging opportunities from crisis. *Technology Analysis & Strategic Management*, 36(11), 3551-3563.
- [2] Abdullah, A., Wan, N. Z. N., Razak, S., San, S., Saidi, N., Hussin, S. N. A., & Tumiran, S. D. (2023). The Employability Skills For Accounting Graduates In Digital Era. In *International Journal of Modern Education* (Vol. 5, Issue 17, p. 220). <https://doi.org/10.35631/ijmoe.517018>
- [3] Al-Gahtani, K. S., Alsanabani, N. M., Alsugair, A. M., Aljadhari, S. I., & Alotaibi, H. F. (2024). Dynamic BIM Adoption Impact on Contract Cost Variance Factors Using PLS-SEM Techniques. *Applied Sciences*, 14(17), 8017.
- [4] Ali, F., Rasoolimanesh, S. M., Sarstedt, M., Ringle, C. M., & Ryu, K. (2018). An assessment of the use of partial least squares structural equation modeling (PLS-SEM) in hospitality research. *International journal of contemporary hospitality management*, 30(1), 514-538.
- [5] Andani, G., Lindrianasari, L., Oktavia, R., & Septiyanti, R. (2022). Indonesian Accounting Students' Self-Confidence To Adopt Artificial Intelligence (Ai). In *Jurnal Akuntansi dan Keuangan Indonesia* (Vol. 19, Issue 1, p. 24). University of Indonesia. <https://doi.org/10.21002/jaki.2022.02>
- [6] Bandura, A., & Wessels, S. (1997). *Self-efficacy* (pp. 4-6). Cambridge: Cambridge University Press.
- [7] Cheung, C. M., Thadani, D. R., & Lee, Z. W. (2021). An integrative framework of cognitive absorption for technology use. In *Information Technology in Organisations and Societies: Multidisciplinary Perspectives from AI to Technostress* (pp. 111-145). Emerald Publishing Limited.
- [8] Cotton, D., Cotton, P. A., & Shipway, J. R. (2023). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. In *Innovations in Education and Teaching International* (Vol. 61, Issue 2, p. 228). Taylor & Francis. <https://doi.org/10.1080/14703297.2023.2190148>

- [9] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, 319-340.
- [10] Drew, J. (2019). What's critical for CPAs to learn in an AI-powered world. *Journal of Accountancy*, 227(5), 20-24.
- [11] Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- [12] Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial management & data systems*, 117(3), 442-458.
- [13] Hossain, M. M., Islam, K. Z., Al Masud, A., Biswas, S., & Hossain, M. A. (2021). Behavioral intention and continued adoption of Facebook: An exploratory study of graduate students in Bangladesh during the Covid-19 pandemic. *Management*, 25(2), 153-186.
- [14] King, M. R. (2023). A Conversation on Artificial Intelligence, Chatbots, and Plagiarism in Higher Education. In *Cellular and Molecular Bioengineering* (Vol. 16, Issue 1, p. 1). Springer Science Business Media. <https://doi.org/10.1007/s12195-022-00754-8>
- [15] Michaelis, J. E., Siebert-Evenstone, A., Shaffer, D. W., & Mutlu, B. (2020, April). Collaborative or simply uncaged? understanding human-cobot interactions in automation. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-12).
- [16] Mohd Faizal, S., Jaffar, N., & Mohd Nor, A. S. (2022). Integrate the adoption and readiness of digital technologies amongst accounting professionals towards the fourth industrial revolution. *Cogent Business & Management*, 9(1), 2122160.
- [17] Owoc, M. L., Sawicka, A., & Weichbroth, P. (2019, August). Artificial intelligence technologies in education: benefits, challenges and strategies of implementation. In *IFIP International Workshop on Artificial Intelligence for Knowledge Management* (pp. 37-58). Cham: Springer International Publishing.
- [18] Park, J., Yang, S., & Lehto, X. (2007). Adoption of mobile technologies for Chinese consumers. *Journal of electronic commerce research*, 8(3).
- [19] Phan, D., Yapa, P., & Thành, N. H. (2020). Accounting graduate readiness for work: a case study of South East Asia. In *Education + Training* (Vol. 63, Issue 3, p. 392). Emerald Publishing Limited. <https://doi.org/10.1108/et-02-2019-0036>
- [20] Ringle, C. M., Wende, S., and Becker, J.-M. 2024. "SmartPLS 4." Bönningstedt: SmartPLS, <https://www.smartpls.com>.
- [21] Suebsin, C., & Gerdri, N. (2009, August). Key factors driving the success of technology adoption: Case examples of ERP adoption. In *PICMET'09-2009 Portland International Conference on Management of Engineering & Technology* (pp. 2638-2643). IEEE.
- [22] Thaaqiq, Z. Z. A., Kuswandi, D., & Degeng, M. D. K. (2024). Measuring the quality of adaptive environments in instruction based on student perceptions. *Inovasi Kurikulum*, 21(1), 1-14.
- [23] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- [24] Wang, W., Huang, Z., Fu, Z., Jia, L., Li, Q., & Song, J. (2024). Impact of digital technology adoption on technological innovation in grain production. *Journal of Innovation & Knowledge*, 9(3), 100520.