Technology Readiness and Adoption of Artificial Intelligence Among Accounting Students in Malaysia

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Abstract
Artificial Intelligence (AI) is increasing in accounting practice, and firms desire new hires who have adopted this technology. Universities can prepare students to adopt AI. The purpose of this quantitative study was to examine whether perceived ease of use (PEOU) and perceived usefulness (PU) affect on the relationship between accounting students' level of technology readiness and self-efficacy with their decision to adopt AI. The study involved an examination of individual students' perceptions of technology readiness and technology adoption. An online questionnaire consisting of 40 items gathering demographic information and perceptions of technology readiness, technology adoption, self-efficacy, PEOU, and PU was administered to student participants. The findings from the study indicated that technology readiness has a significant influence on technology adoption. However, mediation analysis using regression showed that the relationship between technology readiness and technology adoption of Artificial Intelligence is affected by both PEOU and PU.

Keywords: Technology Readiness, Adoption of Artificial Intelligence, Accounting Students,

INTRODUCTION
Artificial intelligence (AI) is transforming many industries, and accounting is no exception. Numerous time-consuming and repetitive operations, like data entry, transaction processing, and invoice reconciliation, could be automated by AI. Additionally, AI can assist accountants in spotting patterns and trends in data that are hard or impossible to notice with the human eye. Therefore, the aim of this study was to examining the impact of perceived utility (PU) and ease of use (PEOU) on the relationship between accounting students' technology preparedness and AI adoption choice.

AI in Accounting Education Around the World

The adoption of artificial intelligence (AI) in accounting education is growing rapidly around the world (Baldwin-Morgan, (1995), Mohammad et al., 2020). In a survey conducted by Grabińska et al., (2021) the alumni of accounting students said that they believe AI will play a significant role in their future careers. Many universities are now offering courses on AI and accounting, and some are even developing AI-powered accounting curricula.

According to the study conducted by Damerji and Salimi (2021), universities in the United States, United Kingdom and the Australian National Universities has offered the accounting programme which integrated with AI. The program is designed to prepare students for careers in accounting using the latest AI technologies and their programmes is to prepare students for the future of the profession. This program includes a combination of online and in-person learning, and it gives students the opportunity to work on real-world AI projects with the clients. Despite of offering programmes, universities in China has established an AI Research Center for Accounting and Finance. This center is focusing in researching and developing new AI applications for the accounting profession (Zhang & Zhao, 2022). As AI continues to transform the accounting profession, it is clear that accounting students who learn about AI and how to use it will be well-positioned to succeed.

The use of AI in accounting education has grown significantly in Malaysia in recent years, following the global trend of incorporating cutting-edge technologies into established academic fields. By including AI-related courses, highlighting data analytics, and encouraging hands-on exposure with AI tools and software, Malaysian

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Educational institutions have acknowledged the significance of educating accounting students for a tech-driven future (Lee & Tajudeen, 2020). On the other hand, the collaboration between universities and industry partners has allowed students to gain practical exposure to AI applications in accounting, ensuring they are well-equipped to navigate the evolving landscape of the profession (Mansor et al., 2022). This holistic approach to AI integration in accounting education is poised to produce a new generation of accountants in Malaysia who are not only proficient in traditional accounting principles but also skilful in harnessing the power of artificial intelligence for enhanced financial analysis, decision-making, and innovation. According to a recent survey conducted by the Institute of Management Accountants, 75% of accounting professionals think artificial intelligence (AI) would significantly affect their field within the next five years. The use of AI in accounting is being fuelled by several factors. A contributing element is the growing amount and intricacy of financial data. As e-commerce and other digital technologies grow in popularity, businesses are producing an unprecedented amount of data. As handling and analyzing this data by hand might be challenging, AI can assist accountants in deciphering this data and drawing insightful conclusions. Another factor driving the adoption of AI in accounting is the need to improve efficiency and productivity. Accountants are under increasing pressure to do more with less. AI can help accountants to automate tasks and free up their time to focus on more strategic work. Lastly, shifting client expectations are what's driving the use of AI in accounting. Customers are requesting real-time access to information about their financial performance more and more. By automating reporting and analytics, AI can assist accountants in meeting these needs.

Problem Statement

Many accounting students are unaware of how important artificial intelligence is becoming to the field. This is perhaps because artificial intelligence is still a relatively young technology and is developing quickly. Furthermore, a lot of accounting applications lack the tools and knowledge necessary to train AI. This is difficult since teaching AI is a complex subject that calls for specific knowledge. The absence of a uniform curriculum for teaching AI in accounting is another difficulty. This indicates that the calibre and subject matter of AI courses provided by various universities vary greatly. Due to this, it could be challenging for students to locate top-notch AI training and for employers to evaluate the qualifications of recent accounting graduates (Kuleto, 2021). Finally, there are a number of ethical implications associated with the use of AI in accounting. For example, AI systems can be biased, and they can be used to discriminate against certain groups of people. Accounting programs need to address these ethical implications in order to prepare students to use AI responsibly and ethically. Despite these challenges, it is important to adopt AI in accounting education. Artificial Intelligence (AI) is a formidable technology that could revolutionize the accounting industry. Students studying accounting who master artificial intelligence (AI) will be well-positioned to thrive in the workplace of the future.

Research Objectives

To examine the relationship between Technology Readiness and Perceived Ease of Use

To examine the relationship between Perceived Ease of Use and Technology Readiness with Perceived Usefulness

To examine the relationship Perceived Usefulness, Self-Efficacy, Technology Readiness, Perceived Ease of Use with Technology Adoption

To examine the relationship between Technology Readiness and Self-Efficacy

To examine the mediating relationship of Perceived Usefulness between Perceived Ease of Use and Technology Adoption

To examine the mediating relationship of Perceived Ease of Use, Perceived Usefulness and Self-Efficacy between Technology Readiness and Technology Adoption

To examine the mediating relationship of Perceived Ease of Use between Technology Readiness and Perceived Usefulness
Significant of the Study

There are several reasons why the study on artificial intelligence (AI) usage in accounting is important. First off, AI is a quickly developing technology that is revolutionizing a wide range of sectors, including accounting. We can learn more about how artificial intelligence is transforming the accounting industry and what it means for professionals and students studying accounting by looking into how the technology is being adopted in the field. Second, the study on the adoption of AI in accounting can help to identify the challenges and opportunities associated with this technology. This information can be used to develop strategies to support the adoption of AI in accounting education and to prepare accounting students for the future workplace. Third, the study on the adoption of AI in accounting can help to raise awareness of the importance of AI in the profession. This is important because many accounting students and professionals may not be aware of the growing importance of AI or the potential benefits of adopting this technology. Overall, the research on AI adoption in accounting is important since it can provide light on how this technology is transforming the accounting industry and how we can best position ourselves for the future.

LITERATURE REVIEW

Technology Readiness

Technology readiness is a complex phenomenon that is influenced by a variety of factors, including age, education, experience, and attitudes towards technology. Technology readiness is important for students because technology is an essential part of the modern world. Students who are not technologically ready may be at a disadvantage in their studies and in their future careers (Taib et al., 2022). Many strategies can be used to help students become more technology-ready, including giving them access to technology, educating them about it, and fostering a favorable attitude toward it in the classroom. Notwithstanding, the study also reveals that student's level of technological preparation still varies (Damaji, 2020).

Perceived Ease of Use

Perceived ease of use is a subjective evaluation of how simple a technology is to use (Vankatesh & Davis, 1986). It is a major factor in determining the uptake of technology. Students are more likely to accept and use a technology efficiently if they believe it to be user-friendly. The perceived ease of use of a technology by students can be influenced by various aspects, including the system's complexity, the quality of its user interface, and the accessibility of support resources (Sudaryanto et al., 2023; Albawwat & Frijat, 2021). Previous research proved that perceived ease of use is a crucial aspect to consider when developing and deploying technology for students. We can raise the possibility that students will adopt and use these technologies efficiently by making them simple to use.

Perceived Usefulness

Perceived usefulness is determined by a subjective evaluation of its ability to accomplish a particular objective. It is among the major factors influencing the adoption of technology (Davis, 1989). Students are more likely to acquire and use a technology efficiently if they believe it to be beneficial. Numerous elements, including the technology's features, the learner's objectives, and the student's past technological experiences, might affect how beneficial a technology is viewed by students (Grabińska, 2021 & Kim et al., 2021). The research shows perceived usefulness is a crucial aspect to consider when developing and deploying technology for students. We can raise the possibility that students will embrace and use these technologies efficiently if we make them helpful for their education.

Self-Efficacy

Self-efficacy is the conviction that one can succeed in a specific circumstance. According to Wang et al. (2023), students who possess a high level of self-efficacy are more likely to succeed academically, persevere through difficulties, and maintain their resilience in the face of failure. Students’ self-efficacy can be influenced by a variety of factors, including their educational background, social support network, and method of instruction. According to the research, self-efficacy is a crucial component to consider while assisting students with their
learning (Kwak et al., 2022; Ahwaiti, 2023). We may raise students' chances of success in the classroom and in their future careers by supporting the development of their self-efficacy.

**Technology Adoption**

The process of successfully utilizing technology to accomplish desired results is known as technology adoption. Many factors, such as perceived utility, perceived ease of use, technological readiness, and social influences, affect the adoption of technology. Adoption of a technology is higher among students who believe it to be practical and user-friendly (Varzaru, 2022). Adoption of new technologies is higher among students who possess greater technological readiness. Therefore, students are more likely to accept new technology if they receive influence from their instructors and peers. Technologies. Research shows that a variety of factors can affect how readily students adopt technology (Damaji, 2020; Sudaryanto & Hendrawan, 2023). We may create plans to encourage students to adopt technology by knowing these elements.

**Hypothesis Development**

There is a relationship between Technology Readiness and Perceived Ease of Use
There is a relationship between Perceived Ease of Use and Perceived Usefulness
There is a relationship between Technology Readiness and Perceived Usefulness
There is a relationship between Perceived Usefulness and Technology Adoption
There is a relationship between Self-Efficacy and Technology Adoption
There is a relationship between Technology Readiness and Technology Adoption
There is a relationship Perceived Ease of Use and Technology Adoption
There is a relationship between Technology Readiness and Self-Efficacy
There is a mediating relationship of Perceived Usefulness between Perceived Ease of Use and Technology Adoption
There is a mediating relationship of Perceived Ease of Use between Technology Readiness and Technology Adoption
There is a mediating relationship of Perceived Usefulness between Technology Readiness and Technology Adoption
There is a mediating relationship of Self-Efficacy between Technology Readiness and Technology Adoption
There is a mediating relationship of Perceived Ease of Use between Technology Readiness and Perceived Usefulness

Figure 1 shows the conceptual framework for this study. This study includes Technology Readiness (RI), Perceived Ease of Use (PE), Perceived Usefulness (PU), Self-Efficacy (SE) and Technology Adoption (AI) as independent, mediating and dependent variable.
METHODOLOGY

This study will cover Malaysian accounting student from private and public higher education institutions. A non-probability sampling will be adopted for this study. Based on Krejcie & Morgan (1970) sampling table, the minimum number of samples required for this study is 381. This study will adopt a quantitative approach using primary data. Data collection will be done by using a survey questionnaire instrument. The survey questionnaire will be adopted and adapted from previous studies. The questionnaire will consist of two parts which are respondents’ profiles and variables. All independent variables and the dependent variable will be measured by using a 5-Likert scale from strongly disagree to strongly agree.

The designed questionnaire will go through the validity and reliability test to ensure the consistency of the internal items before actual data collection. Descriptive analysis will be performed to analyse the respondents’ profile. Convergent and discriminant analysis will be performed by calculating the Average Variance Extracted (AVE), Composite Reliability, Cronbach Alpha and Cross Loading. For structural analysis and hypothesis testing, PLS algorithm and bootstrapping technique will be employed. At the beginning of the two-step process, model assessment focuses on the measurement models.

Data collected will be analysed by using SPSS ver. 20 and Smartpls ver.4.0 software. SPSS will be used to perform a pilot test and descriptive analysis and Smartpls will be used for inner and outer model’s evaluation including the hypotheses testing.
Data Analysis Results

Descriptive Statistics

Table 1 presents a respondent profile analysis with data on gender, ethnicity, age, education level, and year of study. It provides valuable insights into the composition of the surveyed population. Notably, the majority of respondents are female (76%) and Malay (85%), indicating a significant female and Malay representation in the sample. Age-wise, the majority of the group is between the ages of 20 and 30 (51%), with 36% being under 20. In term of education level, a high percentage of undergraduates (97%), with only a small proportion having postgraduate qualifications (3%). Year 2 students make up the largest group when taking study year into account (43%), followed by Year 1 students (27%).

Reliability

Reliability is the measure of internal consistency of the constructs in the study. A construct is reliable if the Alpha (α) value is greater than .70 (Hair et al., 2013). The results revealed that the perceived ease of use with six items (α = 0.923) and the perceived usefulness scale with six items (α = 0.943) were found reliable. Similarly, self-efficacy scale with seven items (α = 0.891), technology adoption scale with two items (α = 0.746), and technology readiness scale with four items were also found reliable (α = 0.882). Reliability results are summarised in table 1.

Correlation

The relationship between Technology Readiness and Perceived Ease of Use

The relationship between Perceived Ease of Use and Perceived Usefulness
The relationship between Technology Readiness and Perceived Usefulness
The relationship between Perceived Usefulness and Technology Adoption
The relationship between Technology Readiness and Technology Adoption
The relationship between Self-Efficacy and Technology Adoption
The relationship Perceived Ease of Use and Technology Adoption
The relationship between Technology Readiness and Self-Efficacy

Pearson product correlation of technology readiness and perceived ease of use was found to be strongly positive and statistically significant ($r = .533, p < .001$). Hence, H1 was supported. This shows that an increase in technology readiness would lead to a perceived ease of use for AI. Meanwhile, perceived ease of use and technology readiness were found to be moderately positive and statistically significant with perceived usefulness ($r = .354, p < .001, r = .533, p < .001$). Hence, H2 and H3 were supported. This shows that an increase in technology readiness and perceived ease of use would lead to a higher perceived usefulness for using AI. Next, perceived usefulness, technology readiness, self-efficacy and perceived ease of use were found to be strongly positive and statistically significant with technology adoption were found to be strongly positive and statistically significant ($r = .635, p < .001, r = .502, p < .001, r = .568, p < .001, r = .783, p < .001$). Hence, H4, H5, H6 and H7 were supported. This shows that an increase in perceived usefulness, technology readiness, self-efficacy and perceived ease of use would lead to a higher adoption of AI technology. Lastly, technology readiness and self-efficacy was found to be strongly positive and statistically significant ($r = .660, p < .001$). Table 2 shows the correlation analysis result for this study.

<table>
<thead>
<tr>
<th>Table 2 Correlation Result</th>
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<tbody>
<tr>
<td>RI</td>
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<tr>
<td>RI</td>
</tr>
<tr>
<td>PU</td>
</tr>
<tr>
<td>PEOU</td>
</tr>
<tr>
<td>AI</td>
</tr>
<tr>
<td>SE</td>
</tr>
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** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis Testing

H1 evaluates whether TR has a significant impact on the PEOU. The results revealed that TR has a significant effect on PEOU ($\beta = 0.532, t = 8.395, p < .001$). Hence H1 was supported. Next H2 and H3 evaluates whether PEOU and TR has a significant impact on the PU. The results revealed that PEOU and TR has a significant impact on the PU. The results revealed that PEOU and TR has a significant effect on PU ($\beta = 0.839, t = 18.011, p < .001$) and ($\beta = 0.357, t = 4.683, p < .001$) respectively. Hence H2 and H3 was supported. For H4 to H7, the hypotheses evaluate whether PU, SE, TR and PEOU has a significant impact on TA. The results revealed that PU and SE has an insignificant effect on TA ($\beta = 0.064, t = 0.695, p > .001$) and ($\beta = 0.022, t = 0.254, p > .001$) respectively. Hence H4 and H5 was not supported. In contrast, the results show that H6 and H7 has a significant effect on TA ($\beta = 0.501, t = 7.593, p < .001$) and ($\beta = 0.718, t = 8.870, p < .001$). Hence H6 and H7 were supported. Finally, H7 evaluates whether TR has a significant impact on the SE. The results revealed that TR has a significant effect on SE ($\beta = 0.701, t = 17.261, p < .001$). Hence H8 was supported. The results are summarised in table 3 and the structural model.

<table>
<thead>
<tr>
<th>Table 3 Direct Relationship Result</th>
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<tbody>
<tr>
<td>Hypothesis</td>
</tr>
<tr>
<td>H1</td>
</tr>
<tr>
<td>H2</td>
</tr>
</tbody>
</table>
Three mediators were assessed in this study. The linkage between TR and TA with the mediating role of PU, PEOU and SE were analysed in this study. The results (see Table 4) revealed that the total effect of TR on TA was significant (H6: β = 0.501, t = 7.593, p < .001). With the inclusion of the mediating variable (PU, PEOU and SE), the impact TR and TA became insignificant (β = 0.109, t = 1.473, p = .141). The indirect effect of TR on TA through PU and SE was found insignificant (p = 0.617) and (p = 0.801). However, the indirect effect through PEOU was found significant (β = 0.354, t=4.996, p < .001). This shows that the relationship between TR with TA is fully mediated by PEOU (see Table 5).

Next, the relationship between PEOU and TA through mediating role of PU was assessed. The results (see Table 4) revealed that the total effect of PEOU on TA was significant (H2: β = 0.839, t = 18.011, p < .001). With the inclusion of the mediating variable (PU), the impact of PEOU and TA became significant (β = 0.665, t = 6.292, p < .001). The indirect effect of PEOU on TA through PU was found insignificant (p = 0.494).

Finally, the relationship between TR and PU through PEOU was analysed. The results (see Table 4) revealed that the total effect of TR on PU was significant (H3: β = 0.357, t = 4.683, p < .001). With the inclusion of the mediating variable (PEOU), the impact of TR with PU became insignificant (β = -0.089, t = 1.259, p = 0.209). The indirect effect of TR on PU through PEOU was found significant (β = 0.446, t = 7.116, p < .001). This shows that the relationship between TR with PU is fully mediated by PEOU (see Table 5).

### Table 4 Mediation Analysis

<table>
<thead>
<tr>
<th></th>
<th>Total effect</th>
<th>Direct effect</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>p-value</td>
</tr>
<tr>
<td>TR -&gt; TA</td>
<td>0.501</td>
<td>0.000</td>
</tr>
<tr>
<td>PEOU -&gt; TA</td>
<td>0.839</td>
<td>0.000</td>
</tr>
<tr>
<td>TR -&gt; PU</td>
<td>0.357</td>
<td>0.000</td>
</tr>
</tbody>
</table>

### Table 5 Mediation Results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Regression Weights</th>
<th>Beta Coefficient</th>
<th>t-value</th>
<th>p-value</th>
<th>Hypotheses Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H9</td>
<td>PEOU -&gt; PU -&gt; TA</td>
<td>0.054</td>
<td>0.684</td>
<td>0.494</td>
<td>No</td>
</tr>
<tr>
<td>H10</td>
<td>TR -&gt; PEOU -&gt; TA</td>
<td>0.354</td>
<td>4.996</td>
<td>0.000</td>
<td>Yes</td>
</tr>
<tr>
<td>H11</td>
<td>TR -&gt; PU -&gt; TA</td>
<td>-0.006</td>
<td>0.500</td>
<td>0.617</td>
<td>No</td>
</tr>
<tr>
<td>H12</td>
<td>TR -&gt; SE -&gt; TA</td>
<td>0.016</td>
<td>0.253</td>
<td>0.801</td>
<td>No</td>
</tr>
<tr>
<td>H13</td>
<td>TR -&gt; PEOU -&gt; PU</td>
<td>0.446</td>
<td>7.116</td>
<td>0.000</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Structural Model Findings

R Square statistics explains the variance in the endogenous variable explained by the exogenous variable(s). As general guideline, Cohen (1988) suggested R² values for endogenous latent variables are assessed as follows: 0.26 (substantial), 0.13 (moderate), 0.02 (weak). The results (table 3), shows that R² for all endogenous constructs is over 0.26, this shows that the model explanatory power is substantial (Cohen, 1988).
A variable in a structural model may be affected/influenced by a number of different variables. By removing an exogenous variable can affect the dependent variable. F-Square is the change in R-Square when an exogenous variable is removed from the model. $f^2$ is effect size ($\geq 0.02$ is small; $\geq 0.15$ is medium; $\geq 0.35$ is large) (Cohen, 1988). The model’s $f^2$ effect size shows how much an exogenous latent variable contributes to an endogenous latent variable’s R² value. It means, effect size assesses the magnitude or strength of relationship between latent variable. The results (table 3) revealed that $f^2$ effect size ranged from 0.001 (negligible) for SE to TA to 1.368 (high) for PEOU to PU.

Meanwhile, Q-square is predictive relevance, measures whether a model has predictive relevance or not ($> 0$ is good). Q-square values above zero indicate that your values are well reconstructed and that the model has predictive relevance. Finally, the Q² values for the endogenous constructs was over 0, hence, predictive relevance was established.

**CONCLUSION**

The present research investigated the relationships between technology readiness (TR), perceived ease of use (PEOU), perceived usefulness (PU), self-efficacy (SE), and their impact on technology adoption (TA) among the accounting students. The findings providing valuable insights into the factors that influence individuals’ decisions to adopt and use technology.

The study explicitly demonstrated that technological adoption (TA) is influenced by technological readiness (TR). Particularly, accounting students with higher TR scores are more likely to embrace and apply new technology. This highlights the significance of individuals’ preparedness and receptiveness towards technology as a primary catalyst for technology adoption. Moreover, the results showed that TR significantly and directly affects perceived usefulness (PU). This demonstrates how students with higher TR view technology as more helpful, which is likely to encourage them to embrace and utilize it.

The study also highlighted the role that PU, SE, and PEOU played as mediators in the relationship between TR and technology adoption. It was found that TR significantly and favorably affected these intervening elements. This suggests that students who have higher TR are also more likely to think highly of technology, find it easy to use, and have higher levels of self-efficacy when it comes to using it. Their choice to employ technology for their studies is thus influenced by these factors. PEOU was found to be a significant mediator, demonstrating that TR indirectly promotes technology adoption through perceived usability. This suggests that increasing adoption across individuals with varying levels of acceptance of TR requires lowering entry barriers and improving user-friendliness of technology. The results of the mediation study emphasized the importance of usability in encouraging adoption by showing a high indirect influence of PEOU in the relationship between TR and technology adoption. Moreover, PEOU acted as a mediator in the relationship between TR and perceived usefulness, highlighting its ability to influence people's perceptions of the value of technology.

In conclusion, this study emphasises the essential relevance of technological readiness in influencing technology adoption. It also emphasises the process’s mediating functions of perceived ease of use, perceived usefulness, and self-efficacy. Overall, this study adds to the area of technology adoption by providing significant insights for academics, practitioners, and policymakers looking to encourage the effective adoption of new technologies.

**Implications**

The study's finding has broad consequences. The results provide strong evidence that technological preparedness plays a significant role in influencing technology adoption, providing insight into the psychological and attitudinal factors that support this process. The empirical implications improve our understanding of how people's views and self-beliefs influence their decisions to accept technology by highlighting the mediating roles of perceived ease of use, perceived utility, and self-efficacy. The research's theoretical implications broaden our comprehension of the connection between self-efficacy, usefulness, preparedness, and usability, contributing to the ongoing development of theories surrounding technology adoption and acceptance. Practically, these findings offer direction to innovators and practitioners in the field of technology adoption, emphasizing user-friendly interfaces and interventions that enhance perceived
usefulness and ease of use. This will ultimately enable more seamless and efficient technology implementation in a range of contexts, from the workplace to educational settings.

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