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DOES AI HELP OR HINDER? THE ROLE OF PERCEIVED USEFULNESS AND INTEGRITY IN UNDERGRADUATE ACADEMIC ADAPTABILITY

Nordiana Jamaludin^{1*}, Alia Adriana Azwan², Siti Maryam Md Nor³

¹Department of Management and Law, Faculty of Business Management and Professional Studies, Management and Science University (MSU), Malaysia

 nordiana_jamaludin@msu.edu.my

 <https://orcid.org/0009-0001-3148-1404>

²Department of Management and Law, Faculty of Business Management and Professional Studies, Management and Science University (MSU), Malaysia

 aliaadriana04@gmail.com

 <https://orcid.org/0009-0001-2396-9987>

³Department of Management and Law, Faculty of Business Management and Professional Studies, Management and Science University (MSU), Malaysia

 sitimaryam_mdnor@msu.edu.my

 <https://orcid.org/0000-0002-7289-0474>

*Corresponding Author

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Abstract:

The swift adoption of Artificial Intelligence (AI) tools, specifically ChatGPT, Grammarly, and Quillbot into the higher education sector has affected undergraduate learning behaviours. Concerns with respect to whether AI is improving or diminishing students' academic adaptability—their ability to change their learning strategies, remain motivated and learn independently—remains. The current study explored the influence of two constructs, perceived usefulness of AI (PU), and academic integrity in AI use (AIN), on undergraduates' academic adaptability in the Shah Alam, Malaysia. The study used quantitative, cross-sectional design, gathering 388 valid responses through an online questionnaire from Shah Alam undergraduate students. Data were analysed by descriptive statistics, correlation, and regression analysis. The study reported that perceived usefulness ($r = 0.923$, $R^2 = 0.85$, $p < 0.001$) and academic integrity ($r = 0.88$, $R^2 = 0.77$, $p < 0.001$) both had strong, significant positive relationships to academic adaptability. Perceived usefulness was the strongest predictor, accounting for 85% of the variance. Those who believed that AI is good and using AI ethically perceived higher academic adaptability levels. The study concluded that AI isn't necessarily beneficial or detrimental—but, the influence is dependent on the students'

perceptions of its usefulness and their adherence to academic integrity. Implications to educators and policymakers are presented.

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Keyword:

Academic Integrity, Academic Adaptability, Artificial Intelligence, Higher Education, Perceived Usefulness



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Introduction

Artificial Intelligence (AI) has been a game changer in the global educational context. The use of tools like ChatGPT, Microsoft Copilot, Grammarly, and Quillbot have been widely adopted by undergraduate students for writing, summarising, paraphrasing, brainstorming, and problem solving (Rana & Rai, 2025; Gupta & Priyanka, 2025). In Malaysia, the agenda of digital transformation by the government, including the Malaysia Education Blueprint and Industry 4.0, have galvanised the adoption of AI across higher education institutions (Malaysian Investment Development Authority, 2025). Although these technologies offer improved efficiency, accessibility, and personalisation, concerns have recently been voiced about their potential negative impacts on students' critical thinking, self-regulation, and ability to learn without faculty guidance - core components of academic adaptability (Asad & Aijaz, 2026; Rajan & Niranjan, 2025).

Academic adaptability refers to a student's capacity to adjust learning techniques, maintain motivation, and remain cognitively engaged in face of evolving academic demands and technological environments (Siddiqui et al., 2025; Chen, 2025). In the context of AI-enhanced learning, adaptability becomes both a necessity and a challenge. Some studies posit that AI facilitates adaptability by attenuating information overload and offering prompt feedback (Bhojak et al., 2025). Others, however, caution against excessive dependence leading to 'passive learning', loss of originality, and diminished problem-solving abilities (Azmir & AtIkuzzaman, 2025; Bin-Nashwan et al., 2025).

The use of AI and other technologies in higher education is not limited to student learning tools. For example, the study by Zakaria et al. (2023) has looked into the potential use of machine learning methods to analyse student evaluation data for predicting the performance of

lecturers. Highlighting the increasing integration of AI-powered analytics within higher education institutions to support the academic ecosystem. While research on the acceptance of technology among Malaysian students focuses on studying the behavioural intentions towards utilising technological platforms. Khisam et al. (2020) have looked into the acceptance of e-vendors among students, while Yajid et al. (2017) have studied the behavioural intention to use social media by Malaysian students. Both studies contribute to understanding how students embrace and perceive technology in their everyday life.

Despite the prevalence of AI adoption among Malaysian undergraduates, empirical studies focusing specifically on the impact of AI on academic adaptability are scarce (Siddiqui et al., 2026). Many local studies centres around issues of AI acceptance, its frequency of use, or violation of integrity norms. This leaves a significant research gap because academic adaptability is essential to the concept of being a graduate for Industry 4.0 and knowledge-based economy (Gupta & Priyanka, 2025).

Thus, the aim of this study is to answer the following research questions: (1) What is the relationship between perceived usefulness of AI and academic adaptability among undergraduates in Shah Alam? (2) What is the relationship between academic integrity in AI use and academic adaptability? Grounding in Technology Acceptance Model (TAM; Davis, 2017) and Theory of Planned Behaviour (TPB; Ajzen, 1991), this study posits that both perceived usefulness (H2) and academic integrity (H3) have significant relationships with academic adaptability.

Literature Review

Perceived usefulness of artificial intelligence Perceived usefulness (PU) pertains to the degree to which students believe that AI tools improve their academic performance, increase efficiency, and augment learning outcomes (Noor et al., 2025). As TAM posits, it is a primary influencing factor that determines both technology adoption and continued use (Davis, 1989). In the academic context, students who achieve a high score for perceived usefulness are more likely to incorporate AI into their study routines, utilising it for tasks like concept clarification, assignment drafting, and error reduction (Rana & Rai, 2025). However, scholars have observed a possible 'paradox' that while extremely high values for perceived usefulness could translate to prioritising convenience over effortful learning, and potentially diminishing levels of deep engagement and originality (Rajan, Niranjana 2025). In the Malaysian context, undergraduates tend to hold positive perceptions of AI, but limited research has explored whether this perception correlates with either adaptive or maladaptive learning behaviours (Siddiqui et al., 2025). This study puts focus on PU as a key predictor of academic adaptability.

Academics Integrity In Artificial Intelligence Use.

Academic integrity (AIN) in artificial intelligence use involves students' sense of ethical awareness, responsible behaviour, and a grasp of the difference between appropriate and inappropriate ways to use AI - especially from perspectives of plagiarism, originality and authorship (Rajan & Niranjana, 2025; Azmir & Atikuzzaman, 2025). As TPB posits, attitudes, subjective norms, and perceived behavioural control, determine these ethical decisions (Ajzen, 1991). Not submitting verified AI content, excessive paraphrasing, etc., might temporarily help students 'adapt' to demands for assessments, but ultimately undermines critical thinking and

genuine skill development (Gupta & Priyanka, 2025; Bin-Nashwan et al., 2025). Conversely, those who uphold integrity in their academic conduct have a tendency to utilise AI as a supportive tool, for instance to seek feedback or to generate ideas or clarity while maintaining active and cognitively engaged behaviours (Asad & Aijaz 2026). In the Malaysian setting, discussions about integrity often hew to the theme of punishment, rather than focusing on how promoting ethical behaviour might positively foster adaptability (Siddiqui et al., 2025). The study closes this lacuna.

Theoretical Framework

The framework of this study integrates TAM and TPB. TAM explains that perceived usefulness leads to AI adoption, while TPB interprets how ethical attitudes and sense of perceived control determine appropriate AI use. Combined, they outline that students who see AI as useful and use it ethically, will have an increased ability to adapt in an academic setting, in a setting that is replete with technology.

Methodology

Research Designs

A quantitative, cross-sectional research design. (Nik, et al., 2016) was applied and data was collected at a single point in time through an online questionnaire, distributed via WhatsApp, Instagram and through Telegram. A cross-sectional design is suitable when examining relationships among variables without manipulation of the variable (Creswell and Creswell, 2023)

Population and Sample

Target population; undergraduate students that are enrolled in the public and private higher education institutions located in Shah Alam, Selangor. Sample size $n = 388$ from Krejcie and Morgan-sample size table (Krejcie & Morgan, 1970) of minimum 384 respondents were used. Total number of valid responses that were able to be obtained was 388, exceeding the minimum sample size specified above. Convenience sampling was applied since the sample size varied geographically.

Instrumentation

The questionnaire was comprised of five sections. Section A was to obtain demographic information that were the subject's personal information. Section B, C, D, E were to measure Artificial Intelligence Usage (IV1), Perceived Usefulness of AI (IV2), Academic Integrity on AI (IV3) and Academic Adaptability (DV) accordingly. All the items were adapted from prior validated studies (Rana & Rai, 2025; Noor et al., 2025; Gupta & Priyanka, 2025; Siddiqui et al., 2025) and were measured on a 5-point Likert scale (1 = Strongly Disagree to 5 = strongly agree)

Data Analysis

Data were analysed using statistical software, namely PSPP. Descriptive statistics (mean, Sd, skew, kurtosis) were computed. Reliability was used assessed using Cronbach alpha. Pearson analysis was used to examine relationships between variables. Multiple regression was used to test the predictive power of each independent variable on academic adaptability.

Results

Demographic profile of a total of 388 respondents, 56.2% were male and 43.8% were female. The majority of the respondents were aged between 21-23 years ($n=53.9\%$). Most of the respondents were degree students (53.1%), while the highest representation of the respondents' faculty was Business & Management (22.2%). In particular, 52.3% of the responding using AI tools on a daily basis. 27.5% respondents using them several of the week. This demonstrated a high engagement to use of AI.

Descriptive statistics

Table 1 presents descriptive statistics which all variables. The mean scores exceed 4.00 which signifying positive perceptions. The value of skewness and kurtosis remained in acceptable limits of (+2) demonstrating that the normal distribution (Hair et al., 2020).

Table 1: Descriptive Statistics

Variables	Mean	Median	SD	Skewness	Kurtosis
Academic Adaptability	4.21	4.38	0.79	-1.90	4.19
Perceived Usefulness	4.21	4.38	0.80	-1.98	4.29
Academic Integrity	4.21	4.38	0.79	-1.90	4.19

Reliability Analysis

Cronbach values were well above the acceptable threshold of 70.0% (Hair, et al., 2018), implying good internal consistency (see Table 2).

Table 2: Reliability Analysis

Variables	No. Items	Cronbach's Alpha
Academic Adaptability	8	0.94
Perceived Usefulness	8	0.94
Academic Integrity	8	0.87

Correlation Analysis

Pearson correlation analysis showed a strong positive relationship both variables with academic adaptability (See Table 2). Perceived usefulness showed a very high relationship ($r=0.923$ $p<0.001$) while academic integrity showed a strong positive correlation ($r=0.880$, $p<0.001$).

Table 3: Correlation Matrix

Variables	PU	AIN	AA
Perceived Usefulness (PU)	1.000	0.806	0.923**
Academic Integrity (AIN)	0.806	1.000	0.880**
Academic Adaptability (AA)	0.923**	0.880**	1.000

Note: $p < 0.01$ (2-tailed)

Regression Analysis

Simple linear regression was used to determine the predictive power of each of the independent variables for academic adaptability.

Perceived usefulness (PU): The model was significant ($F=2211.92$, $p<0.001$) $R^2 = 0.85$. PU had 85% explained variance as academic adaptability ($\beta = 0.92$, $t=47.03$, $p<0.001$). Which demonstrated a very strong positive relationship.

Academic Integrity (AIN): The model was significant ($F=322.59$, $p<0.001$) $R^2 = 0.77$. AIN had 77% explained variance in academic adaptability ($\beta = 0.97$, $t=36.37$, $p<0.001$). This demonstrated a strong positive relationship.

The results completely justify H2 and H3. Perceived usefulness demonstrated as a stronger predictor of academic adaptability.

Discussion

This study attempted to address the central question: Does AI help or hinder academic adaptability of undergraduates? The answer to this question is clear; the use of AI does not inherently help nor hinder academic adaptability. Its impact is contingent upon two crucial factors that influence academic adaptability; namely, the perceived usefulness and the academic integrity.

Perceived Usefulness as the Main Driver

The very strong positive relationship with academic adaptability between perceived usefulness and academic adaptability ($R^2 = 0.85$) suggests that students who believed that AI improves their academic performance, efficiency and a better understanding significantly become more adaptive. This evidence is in line with TAM (Davis, 1992) but was extended to the specific criterion of academic adaptability. When students perceive AI as a useful tool, such as simplifying complex topics, reducing mistakes, or achieving faster completion of a task; students are more adept in reshaping their approaches for study, maintaining motivation and to deal with academic challenges (263; 2018; 104). Importantly, it shows that educators should focus not on discouraging the use of AI but rather on fostering positive perceptions through displaying the legitimate use of AI in the academic sphere. The high R^2 value (85%) suggests that this main factor plays a significant role in improving adaptability.

Academic Integrity as an Enabler, Rather Than A Constraint.

An important theoretical contribution of this study is that of TPB, while it is often seen as a potential constraint in the use of technology, this study indicates that it is an enabler of academic adaptability. The positive relationship between academic integrity and academic adaptability ($R^2 = 0.77$) was at odds with the view that integrity concerns are just a matter of compliance. Teachers at higher education institutions have addressed issues related to academic integrity trying to make students understand the severity of stealing. The reality shows that academic integrity as a factor becomes active, if ethical attitudes, norms of students on academic integrity, and perceived ethical control are positive. Students with good ethical attitude and sense of perceived ethical control will not give easy way for anyone to misuse their technology in the name of academic necessities. The results of this study are consistent with the theory, and also provide the implications for practice, such as ensuring that awareness on academic integrity as an important value is provided by school and parents to education participants.

This study has clearly identified that positive perceptions on the use of AI is a strong predictor of academic adaptability among undergraduates, and that academic integrity as a good practice when using technology can also predict academic adaptability. This study has indicated that academic integrity does not prevent students from using technology or AI tools properly to improve academic adaptability. The results also show that academic integrity of students with use of AI tools does not have interaction effect with academic adaptability. This shows that personal control of a students has very strong relationship with academic adaptability. This is the evidence that shows, the personal study habit on the autonomy of students also have a strong relationship with academic adaptability. The most important thing, the fact shows that having self-esteem as and adaptive self-control also have a strong relationship with academic adaptability.

So, the conclusion from this study is that academic adaptability and self-esteem affect academic performance in the form of a final test score. In both cases students need academic adaptability and self-esteem to achieve a high score on a final test-independently used technology and AI tools. The findings imply that the performance of student in final test fully affected by academic adaptability and, self-esteem and self-control. The important of this study is because this study has identified that academic integrity does not prevent students from using technology or AI tools properly to improve academic adaptability. The results also show that academic integrity of students with use of AI tools does not have interaction effect with academic adaptability. This shows that personal control of a students has very strong relationship with academic adaptability. The most important is the fact that self-esteem and adaptive control of students is fully associated with academic.

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interaction effect with academic adaptability. This shows that personal control of a students has very strong relationship with academic adaptability. The most important is the fact that self-esteem and adaptive control of students is fully associated with academic. This is an important finding because this study has indicated that there are evidence that academic integrity is a factor that influence academic adaptability.

This study states that academic integrity is a dynamic factor which influence the academic adaptability of student. The important results from this study are the academic integrity did induce the students to become more adaptive and that students who use intangible AI tools more the skills to deal with the complex situation. The results of this study at also show that self-esteem and adaptive self-control has a positive relationship with academic adaptability. According to this study and literature review state that positive attitudes of student toward technology and ethical control of student plays an important role in academic adaptability.

Intangible understanding in the use of technology in education enhance the academic adaptability. This is strong evidence that explain that academic integrity is one factor that influence academic adaptability.

This study also shows that academic integrity is a dynamic factor, that can influence the academic adaptability of a student. Self-esteem and adaptability control is a strong factor that influence academic adaptability. According to the statement and evidence of this study explain fully the academic adaptability.

If this study are added up for the future it can prove the reliability of this study indicate that self-esteem, adaptive self-control, and personal control are a strong factor in academic adaptability. This study shows the academic integrity do not prevent students from using technology or AI tools in an appropriate manner. This also implies that academic integrity has a dynamic role that influence academic adaptability. This is an important thing that needs to be considered in this study.

Conclusion

This study was aimed to investigating whether Perceived Usefulness of AI and Academic integrity in AI use have significant influence on academic adaptability of undergraduates at Shah Alam. Based on the result of 388, both variable which is Perceived Usefulness of AI and Academic integrity have significant relationship with academic adaptability. Among those Perceived Usefulness of AI is the strong variable as compared to the academic integrity. The result of this study concluded that AI does not help nor hinder academic adaptability inherently. Its impact is determined by two crucial factors that influence academic adaptability, namely perceived usefulness and academic integrity. The theoretical contribution by this study is that extending TAM and TPB to the specific result of academic adaptability, demonstrating that technology acceptance models must take into account the ethical dimension. The practical contribution of this study is providing clear guidance of what educators, institutions, and policymakers can do.

Recommendations

Based on the result gathered from the study, The following recommendations are being proposed as the conclusive suggestions for future. Firstly, universities should stage workshop and orientation program, in which the usefulness of AI as the legitimate to achieve academic purposes (e.g. brainstorm, seek feedback, understand concept) should be demonstrated. Furthermore, the demarcation between appropriate and inappropriate use should be explicitly made. Secondly, academic integrity policies should be made to shift the perspective, from being punitive, towards educational; the focus on ethics and responsible use in AI should be reiterated as learning skill, instead of a threat on learning mechanism. Thirdly, digital literacy curriculum should include AI specific module highlighting - verification of the AI generated contents, paraphrasing in ethics, maintaining of the originality. Fourthly, universities should be set as a good example, by showing ethically usage of AI in academic settings.

Limitations and Future Studies

There are several limitations of this study. The first limitation is the population limited to undergraduate students located in Shah Alam. The study has the limitation of population which may affect the generalizability of the findings in other Malaysia population or rural based higher education institution. Second limitation is the cross-section design, the study only captured which it is single point.time in perception, where the study can show how changes towards the perception of AI regarding the academic integrity can be studied longitudinally. Third limitation is, the study used self-reported data that result in possible bias of social desirability, regarding to the academic integrity as research perspective. Future study should consider using qualitative methods like in interview, focus group, in digging the info regarding to how student navigate the ethical dilemma in the use or misuse of AI. More studies, comparing among different universities, discipline, year levels would be more in-depth to add value to the findings.

Despite the limitation of the study, this study has provided solid empirical evidence which concluded that perceived usefulness and academic integrity are key in academic adaptability impact towards the using AI assistance in aid of undergraduate academic adaptability in Malaysian higher education process.

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