

Thai University Students' Perceptions and Behavioral Intention to Use ChatGPT for Academic Purposes: A Technology Acceptance Model Approach

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Abstract

This study investigates Thai university students' perceptions and behavioral intention to use ChatGPT for academic purposes using the Technology Acceptance Model (TAM). A quantitative research design was employed, and data were collected from undergraduate students through a structured questionnaire. Pearson correlation analysis indicated that perceived usefulness had the strongest relationship with behavioral intention, followed by attitude toward use, while perceived ease of use showed a weaker but still significant relationship. The findings suggest that students are more likely to adopt ChatGPT when they perceive it as beneficial to their academic performance. These results contribute to the growing body of research on artificial intelligence in education by highlighting its critical role in predicting technology adoption. The study also offers practical implications for educators and institutions in integrating AI tools into teaching and learning practices.

Keywords: ChatGPT, Technology Acceptance Model, perceived usefulness, perceived ease of use, behavioral intention

INTRODUCTION

The rapid advancement of artificial intelligence (AI) has significantly changed various sectors, including education. Generative AI such as ChatGPT are among the most notable developments in this field, which have significantly increased the capabilities of educational technologies by allowing systems to produce text that is human-like, offer immediate feedback, and facilitate customized learning experiences. According to Kasneci, E. et al. (2023), large language models like ChatGPT offer considerable potential to improve learning by providing instant feedback, facilitating personalized instruction and assisting students with complex cognitive tasks. Zhai, X. (2023) also stressed that AI technologies can support the next generation of learning by encouraging active learning and improving student involvement in learning.

In higher education, AI tools are gaining significant attention due to their potential to enhance students' academic performance and learning efficiency. Crompton, H. and Burke, D. (2023) suggested that AI is changing educational practices by enabling learning environments to be more flexible and student-centered. Additionally, Dwivedi, Y. K. et al. (2023) emphasized that generative AI technologies offer both opportunities and challenges, especially in terms of academic integrity, ethical implications, and evolving responsibilities of educators.

Despite the increasing adoption of ChatGPT in education, it is still crucial to understand the factors that influence students' acceptance of such technologies. The Technology Acceptance Model, created by Davis, F. D. (1989), is one of the most widely used theoretical frameworks in examining technology adoption. The model asserts that perceived usefulness and ease of use are fundamental factors influencing users' attitudes toward a technology, which subsequently affect their behavioral intention to utilize it. Researchers have used this model extensively to investigate the adoption of educational technologies and it continues to be useful in understanding students' interaction with emerging AI tools.

Recent studies have applied the Technology Acceptance Model to investigate the integration of ChatGPT in higher education. For instance, Strzelecki, A. (2023) discovered that students' perceptions and attitudes significantly affect their intention to use ChatGPT for academic purposes. In addition, Chiu, T. K. F. (2023) argued that using generative AI in education requires a deeper understanding of both the technological and pedagogical factors that influence its adoption.

In Thailand, where many university students still struggle with English, the integration of AI tools like ChatGPT presents a promising opportunity to improve language learning and academic performance. However, empirical research regarding Thai students' acceptance of ChatGPT in educational contexts remains limited. Thus, this study aims to investigate how Thai university students perceive and intend to use ChatGPT for academic purposes. This quantitative study explores the relationship between students' behavioral intention to use ChatGPT in an academic setting and their perceived usefulness, perceived ease of use, and attitude toward using the tool, guided by the Technology Acceptance Model. By focusing on Thai university students, this study seeks to contribute empirical data to the expanding body of knowledge on AI adoption in higher education and provide insights that could guide the creation of institutional policies and instructional strategies.

This study adopts a simplified version of the Technology Acceptance Model focusing on the direct effects of key constructs on behavioral intention.

Based on the reviewed literature and the Technology Acceptance Model, the following hypotheses are proposed:

H1: Perceived usefulness significantly influences Thai university students' intention to use ChatGPT for academic purposes.

H2: Perceived ease of use significantly influences Thai university students' intention to use ChatGPT for academic purposes.

H3: Attitude toward using ChatGPT significantly influences Thai university students' intention to use ChatGPT for academic purposes.

METHODS

Research Design

A quantitative descriptive-correlational research design was employed to examine Thai university students' perceptions and behavioral intention to use ChatGPT for academic purposes. The design sought to establish relationships among important constructs derived from the Technology Acceptance Model (TAM), such as perceived usefulness, perceived

ease of use, attitude toward use, and behavioral intention. A survey method was used to gather numerical data appropriate for statistical analysis.

Participants and Sampling

The participants of this study consisted of 80 undergraduate students in English courses at a public university in Thailand under the faculty of Engineering and Industrial Technology. Since the researcher was the course instructor, convenience sampling was used to select respondents from three class sections ($n = 18$, $n = 31$, $n = 31$). There were no academic incentives offered, and participation was entirely voluntary.

Instrument

Data were gathered using a self-administered questionnaire modified from validated Technology Acceptance Model instruments (Davis, 1989; Venkatesh et al., 2003) and contextualized for ChatGPT use in education. The questionnaire consisted of items measuring four key constructs: perceived usefulness (PU), perceived ease of use (PEOU), attitude toward use (ATU), and behavioral intention (BI). Each construct was measured using four items rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

A sample item for perceived usefulness is: "Using ChatGPT improves my academic performance." A sample item for perceived ease of use is: "ChatGPT is easy to use for completing academic tasks." A sample item for attitude toward use is: "I have a positive attitude toward using ChatGPT for learning." A sample item for behavioral intention is: "I intend to continue using ChatGPT for academic purposes."

Three experts in educational technology and language education reviewed the instrument to determine its content validity. Their feedback was incorporated into the final version of the questionnaire. Following data collection, reliability was evaluated using Cronbach's alpha coefficient.

Data Collection

This study was conducted in accordance with established ethical principles for educational research. Data were collected through Google Forms during the second semester of the academic year (2025-2026). Prior to data collection, participants were guaranteed that their responses would be kept confidential and would not have an impact on their academic performance, and participation was entirely voluntary. They were given sufficient time to finish the survey after the link was made available online. All data were used solely for research purposes, and no personally identifiable information was gathered.

Data Analysis

The gathered data were analyzed using Statistical Package for the Social Sciences (SPSS) version 26.0. Students' perceptions were summarized using descriptive statistics (mean and standard deviation). Internal consistency reliability was assessed using Cronbach's alpha.

Relationships among perceived usefulness, perceived ease of use, attitude toward use, and behavioral intention were investigated using Pearson correlation analysis. Significant predictors of students' intention to use ChatGPT for academic purposes were identified using multiple regression analysis.

RESULTS

This section presents the study's findings based on the data gathered from 80 university students in Thailand. Descriptive statistics were used to summarize the participants' demographic profiles and perceptions regarding ChatGPT, while inferential analysis was employed to assess relationships among the study variables.

Table 1. Demographic Profile of the Participants (N=80)

Variable	Category	Frequency	Percentage
Gender	Male	41	51.2
	Female	35	43.8
	Prefer not to answer	4	5.0
Year Level	First Year	0	0
	Second Year	0	0
	Third Year	78	97.5
	Fourth Year	2	2.5
Section	Section 1	18	22.5
	Section 2	31	38.8
	Section 3	31	38.8
ChatGPT Use	Yes	75	93.8
	No	5	6.3

Table 1 shows the demographic information of the participants. A total of 80 Thai university students participated in the study. The majority of the respondents were male (41, 51.2%), followed by female (35, 43.8%), while a small proportion preferred not to disclose their gender (4, 5.0%). Most of the participants were third-year students (78, 97.5%), and only a few were fourth-year students (2, 2.5%). There were 18 students (22.5%) in Section 1, 31 students (38.8%) in Section 2, and 31 students (38.8%) in Section 3. Furthermore, the majority of the participants reported that they had prior experience using ChatGPT (75, 93.8%), while only a small number indicated that they had not used the tool (5, 6.3%).

Table 2. Reliability Analysis of the Research Constructs

Construct	Number of Items	Cronbach's Alpha	Interpretation
Perceived Usefulness	4	.716	Acceptable
Perceived Ease of Use	4	.749	Acceptable
Attitude Toward Use	4	.680	Marginally Acceptable
Behavioral Intention	4	.787	Acceptable

Table 2 presents the reliability analysis of the research constructs used in this study. The results indicate that the scales demonstrated acceptable levels of internal consistency. The reliability of perceived usefulness ($\alpha = .716$), perceived ease of use ($\alpha = .749$), and behavioral intention ($\alpha = .787$) was acceptable. Meanwhile, attitude toward use ($\alpha = .680$) exhibited marginally acceptable reliability, yet it remained within the acceptable range for exploratory research with a limited number of items. Overall, the results indicate that the questionnaire items were sufficiently reliable for subsequent statistical analysis.

Table 3. Descriptive Statistics of the Study Variables

Variable	Mean	Standard Deviation	Interpretation
Perceived Usefulness	3.60	0.69	High
Perceived Ease of Use	3.74	0.72	High
Attitude Toward Use	3.49	0.65	High
Behavioral Intention	3.30	0.77	Moderate

Table 3 presents the descriptive statistics of the study variables. The findings reveal that Thai university students predominantly exhibited favorable perceptions toward the use of ChatGPT for academic purposes. The perceived ease of use had the highest mean score ($M = 3.74$, $SD = 0.72$), followed by the perceived usefulness ($M = 3.60$, $SD = 0.69$), and the attitude toward use ($M = 3.49$, $SD = 0.65$). All of these scores are in the “high” range of interpretation. On the other hand, behavioral intention had a mean score of 3.30 ($SD = 0.77$), which shows a moderate level of intention to use ChatGPT for academic activities.

Table 4. Pearson Correlation Matrix of the Study Variables (N=80)

Variables	PU	PEOU	ATU	BI
Perceived Usefulness (PU)	1	.54**	.47**	.56**
Perceived Ease of Use (PEOU)	.54**	1	.49**	.40**
Attitude Toward Use (ATU)	.47**	.49**	1	.71**
Behavioral Intention (BI)	.56**	.40**	.71**	1

Note: $p < .01$

Table 4 shows the Pearson correlation analysis of the study variables. The results indicated that all constructs exhibited positive and statistically significant correlations with one another at the 0.01 level. There was a moderate correlation between perceived usefulness and perceived ease of use ($r = .54$, $p < .01$), attitude toward use ($r = .47$, $p < .01$), and behavioral intention ($r = .56$, $p < .01$). Similarly, perceived ease of use showed significant positive correlations with attitude toward use ($r = .49$, $p < .01$) and behavioral intention ($r = .40$, $p < .01$). Notably, attitude toward use exhibited a strong positive correlation with behavioral intention ($r = .71$, $p < .01$), indicating that students who have a more favorable attitude toward ChatGPT are more likely to intend to use it for academic purposes.

Table 5. Multiple Regression Analysis Predicting Behavioral Intention (N = 80)

Predictor	B	Beta	t	p
Perceived Usefulness	.347	.311	3.326	.001
Perceived Ease of Use	-.060	-.057	-.598	.551
Attitude Toward Use	.694	.588	6.491	.000

Model Summary:

$R^2 = .566$, $F(3,76) = 33.099$, $p < .001$

A multiple regression analysis was performed to determine whether perceived usefulness, perceived ease of use, and attitude toward use predict students' behavioral intention to utilize ChatGPT for academic purposes. The overall regression model was statistically significant, $F(3,76) = 33.099$, $p < .001$, explaining 56.6% of the variance in behavioral intention ($R^2 = .566$). The findings showed that perceived usefulness ($\beta = .311$, $p = .001$) and attitude toward use ($\beta = .588$, $p < .001$) were significant predictors of behavioral intention. Among the predictors, attitude toward use was the strongest predictor of students' intention to use ChatGPT. However, perceived ease of use did not significantly predict behavioral intention ($\beta = -.057$, $p = .551$).

DISCUSSION

The current study investigated Thai university students' perceptions and intention to use ChatGPT for academic purposes through the framework of the Technology Acceptance Model. The results provide insights on students' perceptions of artificial intelligence tools in higher education and the factors that influence their adoption.

The descriptive result showed that students generally had positive perceptions of ChatGPT, particularly in terms of perceived usefulness and perceived ease of use. This finding aligns with previous studies indicating that artificial intelligence tools are increasingly regarded as beneficial and user-friendly in educational contexts. Kasneci, E. et al. (2023) underscored that large language models like ChatGPT offer considerable potential to enhance learning through immediate feedback, content generation, and personalized assistance. Similarly, Zhai, X. (2023) reported that AI-powered tools can improve students' engagement and facilitate learning processes, especially in complex subject areas. These results indicate that students recognize the practical value of ChatGPT in facilitating their academic tasks.

Although students generally reported positive perceptions of ChatGPT, their behavioral intention to continue using the tool was only at a moderate level. This suggests that while students recognize the usefulness and ease of use of ChatGPT, these positive perceptions do not necessarily translate into a strong intention to use it consistently for academic purposes. According to Venkatesh et al. (2003), behavioral intention may also be influenced by external factors such as social influence and facilitating conditions. Therefore, the moderate level of behavioral intention observed in this study suggests that factors beyond the Technology Acceptance Model may also influence students' intentions to use ChatGPT. These factors were not examined in the present study and may be explored in future research.

The correlation analysis showed that all of the constructs were positively and significantly correlated to each other. Specifically, attitude toward use demonstrated a strong positive correlation with behavioral intention. This finding supports the hypothesis of the Technology Acceptance Model, which proposes that users' attitudes towards technology significantly influence their intention to adopt it (Davis, F. D., 1989). Comparable results have been reported in studies investigating students' acceptance of ChatGPT and other AI technologies in higher education, indicating that positive attitudes towards AI tools substantially affected students' intention to use them (Strzelecki, A., 2023). Moreover, Dwivedi, Y. K. et al. (2023) suggested that users' perceptions and attitudes about generative AI technologies play an important role in deciding their adoption and continued use. These results emphasize the significance of fostering students' positive perceptions and attitudes toward AI tools in educational contexts.

The regression analysis revealed that perceived usefulness and attitude toward use were significant predictors of the behavioral intention to utilize ChatGPT. Among the predictors, attitude toward use was the most significant predictor that affected students' intention to use the technology. This result aligns with prior studies highlighting the significance of perceived usefulness in determining technology adoption. According to Davis, F. D. (1989), users are more likely to adopt a technology when they believe it improves their performance. Crompton, H. and Burke, D. (2023) observed that in the context of AI in education, students are more likely to utilize AI tools when they recognize distinct academic benefits. Thus, the current findings confirm that both perceived usefulness and positive attitudes are essential drivers of students' intention to use ChatGPT.

However, the findings of the current study indicated that perceived ease of use did not significantly predict behavioral intention. This result contradicts the original assumptions of the Technology Acceptance Model, which suggests the ease of use directly affects behavioral intentions (Davis, F. D., 1989). Also, it differs from several empirical studies that found that perceived ease of use to be a positive predictor of technology adoption. Nevertheless, this outcome can be explained by the evolving nature of digital technologies. Kasneci, E. et al. (2023) noted that modern AI tools are becoming more intuitive and user-friendly, which makes usability less of a deciding factor. Similarly, Chiu, T. K. F. (2023) argued that as users attain greater digital literacy, ease of use becomes less influential compared to perceived usefulness and value. The majority of participants in this study were already acquainted with ChatGPT, which may explain why ease of use did not significantly influence their intention to utilize the tool.

Overall, the findings support the applicability of the Technology Acceptance Model in explaining students' adoption of AI-powered tools in higher education. The results indicate that perceived usefulness and attitude toward use are the most significant predictors of behavioral intention, while the influence of perceived ease of use may decrease as students become more familiar with digital technologies. This suggests that functionality and academic value are more critical than usability in determining students' acceptance of ChatGPT. However, these findings should be interpreted with caution due to the limited sample size and reliance on self-reported data.

Limitations and Future Research

Despite the valuable findings of this study, several limitations should be acknowledged.

First, the study had a small sample size of only 80 participants from a single university in Thailand. This limits the generalizability of the findings to alternative educational settings, institutions, or countries. Future research should incorporate a larger and more heterogeneous sample from various universities to enhance the external validity of the findings.

Second, the study focused mainly on third- and fourth-year students, with a predominant number of respondents from the third-year level. This uneven distribution may not accurately reflect the perceptions of students at various academic levels. Future studies may consider including participants from diverse academic year levels to enhance the understanding of students' acceptance of ChatGPT at various levels of higher education.

Third, the research relied on self-reported data obtained through a questionnaire. While this method is commonly used in studies based on Technology Acceptance Model, self-reported responses may be subject to biases such as social desirability or inaccurate self-assessment. Future studies may utilize mixed methods, including interviews or classroom observations, to obtain a deeper understanding of students' actual utilization of ChatGPT in academic contexts.

Fourth, the study focused exclusively on the fundamental constructs of the Technology Acceptance Model, specifically perceived usefulness, perceived ease of use, attitude toward use, and behavioral intention. The results indicated that perceived ease of use did not significantly predict behavioral intention, implying that other factors may affect students' adoption of AI tools. Future research may enhance the model by incorporating variables such as trust in artificial intelligence, perceived risks, ethical considerations, or academic integrity concerns to provide a more comprehensive understanding of technology acceptance.

Finally, the study primarily focused on ChatGPT as an artificial intelligence tool. As technology advances, various generative AI tools with distinct features and functionalities may impact students' perceptions and utilization in diverse ways. Future studies may analyze various AI platforms to assess differences in usability, effectiveness, and acceptance among students.

While the present study contributes to the growing body of literature on AI adoption in education, addressing these limitations in future studies will enhance the understanding of how students interact with emerging technologies in higher education.

CONCLUSION

This study investigated Thai university students' perceptions and intention to use ChatGPT for academic purposes through the Technology Acceptance Model. The results showed that students generally hold positive perceptions of ChatGPT, especially in terms of perceived usefulness and perceived ease of use. These findings indicate that students recognize the potential of artificial intelligence tools to assist their academic tasks and improve their learning experiences.

Furthermore, the study's findings also showed that perceived usefulness and attitude toward use significantly influence students' behavioral intention to use ChatGPT. Attitude toward use was the strongest predictor among these factors, highlighting the importance of students' overall evaluation and perception of the technology. In contrast, perceived ease of

use was not found as a significant predictor, indicating that ease of use alone may no longer be a critical factor in the adoption of modern, user-friendly technologies.

Overall, the results of this study support the applicability of the Technology Acceptance Model in explaining students' acceptance of AI-powered tools in higher education. Simultaneously, the findings suggest that the influence of specific variables, such as perceived ease of use, may change as students gain greater familiarity with digital technologies.

In conclusion, this study contributes to the growing body of knowledge on the integration of artificial intelligence in education by providing empirical evidence on the factors influencing students' adoption of ChatGPT. The results highlight that educators and institutions need to focus not only on the usability of AI tools but also on their perceived value and the attitudes they foster among students. As artificial intelligence continues to reshape educational practices, understanding students' acceptance and responsible use of these technologies is essential for ensuring meaningful and ethical integration in higher education.

Implications of the Study

The results of this study provide significant implications for educators, institutions, and researchers concerning the integration of ChatGPT and other similar artificial intelligence tools in higher education.

First, the findings show the importance of perceived usefulness in influencing students' intention to use ChatGPT. This indicates that teachers should demonstrate how AI tools can help enhance academic performance rather than merely introducing the technology. Teachers can use ChatGPT in the classroom for activities like writing assistance, idea generation and language practice. This will help students recognize its value at improving learning outcomes. Students are more likely to use the technology if they see clear academic benefits.

Second, the study found that attitude toward use is the strongest predictor of behavioral intention. This suggests that for successful integration, it is important to encourage students to have positive attitudes toward AI tools. Teachers and schools should create learning spaces that are safe and encourage responsible and moral use of ChatGPT. Students can develop confidence and positive perception toward AI-assisted learning if they are provided with proper orientation, clear guidelines, and examples of effective usage. Additionally, to ensure that AI is used in a balanced and meaningful way, it is important to address concerns about academic integrity and overreliance on AI.

Third, the result that perceived ease of use does not significantly predict behavioral intention indicates that students may already be at ease with using digital tools like ChatGPT. Therefore, usability alone may no longer be a key factor in technology adoption among university students. Instead, institutions should put more emphasis on integrating teaching with technology training. This means creating learning activities that meaningfully incorporate AI tools into the curriculum, allowing students to experience their practical benefits.

From a theoretical perspective, this study substantiates the relevance of the Technology Acceptance Model in explaining students' adoption of emerging AI technologies in educational contexts. However, the non-significant influence of perceived

ease of use indicates that traditional TAM constructs may require reconsideration or expansion when utilized in contemporary, user-friendly AI systems. Future research may investigate supplementary factors, including trust, ethical concerns, or academic integrity challenges, to enhance the comprehension of students' acceptance of AI tools.

Finally, the findings show that policymakers and higher education institutions need to develop institutional policies and guidelines for the use of AI technologies in education. As tools like ChatGPT become increasingly prevalent, clear rules can ensure that students use them responsibly and get the most out of their learning.

Future research may explore longitudinal designs and incorporate qualitative approaches to provide a deeper understanding of students' interactions with AI tools in educational contexts.

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Conflict of Interest

The author declares no competing interests.

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