INVESTIGATING THE DETERMINANTS OF CHATGPT ADOPTION AMONG UNIVERSITY STUDENTS

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(Received 30th June 2024; revised 20th October 2024; accepted 30th October 2024)

Abstract. This research looks at the variables affecting college students' use of ChatGPT. The study highlights how AI is becoming more and more integrated into higher education, concentrating on elements like perceived utility, usability, social impact, enabling circumstances, and individual interest. A questionnaire survey was used to collect data from 256 students across the Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu. The study included both descriptive and inferential analysis to examine the data and answer the research objectives. All analyses were performed using IBM SPSS Statistics version 29. The findings of the investigation indicate that perceive usefulness, social influence, facilitating conditions and personal interest were the factors that influence student's intention to use ChatGPT. The research concludes that by comprehending these factors, educational institutions and instructors may more successfully use ChatGPT and other AI technologies in the classroom. This integration has the potential to enhance students' educational experiences and results, emphasizing the value of encouraging environments and fostering favorable views toward the use of AI technologies in the classroom.
Keywords: *ChatGPT adoption, perceived usefulness, ease of use, social influence, higher education*

Introduction

ChatGPT is an artificial intelligence (AI) program developed in November 2022 by Open AI, a lab specializing in studying smart computers. It is a chatbot capable of understanding and creating text, generating sentences using words used by humans. ChatGPT helps computers communicate with people in the chat window, answer questions, recognize mistakes, ask wrong questions, and reject incorrect requests. It creates text with a conversational style, allowing users to engage more naturally, making it attractive to users (Abdullah and Ward, 2016). Education technology companies, such as Duolingo, are beginning to use it to help students learn languages. Some research papers, blogs, and news articles discuss the advantages of using chatbots for learning (Adam et al., 2020). ChatGPT supports learners by recommending resources, providing guidance, and responding in real-time to questions based on learners' learning needs and interests (Al-Maroof and Al-Emran, 2018). ChatGPT's use in higher education is increasing, with students using it to solve academic issues and increase productivity (Baidoo-Anu and Ansah, 2023). The most recent interactive aid tools constantly improve personalized education using resource-intensive algorithms and complex combinations (Al-Gahtani, 2016). ChatGPT, as a personalized tutoring aid tool, positively affects students' learning performance (Afsay et al., 2023).

When ChatGPT 3 came into the market in November 2022, it brought much attention to itself and made people more conscious about LLMs, especially when GPT-4 was launched in mid-March 2023. An LLM is an AI that employs multilayer recurrent neural networks, fed on large quantities of data, to generate text that is as close to human language as possible. Among the many LLMs available today, ChatGPT has received standing ovations globally because it uses the transformer-based model that facilitates simultaneous processing of massive data sets, making it very efficient in handling similar NLP and generation tasks-or so said Cena (2024) in his well-anticipated 2024 report on the future of AI. Compared with the other two AI programs, it is an open-access and no-charge tool that is designed for the public with an intuitive working window (Kasneci et al., 2023). Comparing ChatGPT with other computer programs, the best approach is supervised learning proficiency which allows it to enhance its functionality without programming. This flexibility enables ChatGPT to determine whether a student requires assistance in comprehending some concept or if a student has mastered a concept and requires a challenge of greater difficulty (Chassignol et al., 2018). Another area that has also taken importance in education is the use of voice recognition and understanding AI-based programs (Adam et al., 2020). These provide help in learning assistance that's personalized in nature and may be availed through various gadgets including computers, hand-held devices as well as speakers. Some of the widely known AI chatbots are ChatGPT, Google Home, and BARD. However, such beneficial usage of ChatGPT in education also has its demerits-especially raising ethical issues and data privacy complications (Kooli, 2023)

Another consideration is the receptiveness of students towards AI-based educational tools and technologies as this shape the bend of encouraging the usage of such tools and technologies among the students (Ding et al., 2023). ChatGPT offers unlimited services for individual customers, making a change in its main user demographic to use LLMs for the common benefit. The general use of ChatGPT is an indication of the potential impact that LLMs can bring (Dwivedi et al., 2023). AI aspires to replicate the cortical structure of the human brain in its approaches to perceiving, learning, and exploring. It presupposes that intelligence can be fully characterized so that it can be duplicated by a computer (Granić, 2023). However, this paper discusses the acceptance of AI from the end-user's view, specifically students (Huang and Rust, 2021). In the case of Malaysia and more specifically among students of Universiti Malaysia Terengganu (UMT), identification of factors that may enhance adoption of ChatGPT is vital in enhancing its undistorted usage in education. The purpose of this research is to examine the factors that influence ChatGPT usage among students including the elements of perceived usefulness, perceived ease of use, social influence, facilitating conditions, and personal interest. Exploring such factors, this research aims at offering insights that may help to enhance the realisation of potential educational applications and subsequent policies that incorporate AI technologies such as ChatGPT in the higher learning environment.

Literature review

Artificial intelligence (ChatGPT) adoption by students

In various ways, ChatGPT offers significant advantages to students to enhance access to information and knowledge and advance the learning process of students as discussed by Baidoo-Anu and Ansah (2023). The chatbot can be helpful with homework, answers questions instantly, and in addition to that performs an accurate

translation of texts into other languages (Baidoo-Anu and Ansah, 2023). Also, ChatGPT may assist students in enhancing the quality of their writing and identify specific areas which require improvement based on the student's performance and skill level (Kasneci et al., 2023). Having one-on-one conversations with the chatbot enables students to engage with it and receive sufficient assistance in their learning process thereby enhancing the self-learning of students (Baidoo-Anu and Ansah, 2023). Moreover, ChatGPT helps develop interactive and game-based formative assessments and problems and makes education engaging for remote learning (Baidoo-Anu and Ansah, 2023). Overall, the positive impact of ChatGPT outweighs the negative impact that has been seen in the education sector (Baidoo-Anu and Ansah, 2023). The last few years have seen a profound change in artificial intelligence systems and how it has impacted the teaching-learning process, as well as the way students gain knowledge and information (Kasneci et al., 2023). While some educators perceive ChatGPT as a chance for innovative conversion of future learning and academic research, others see it as a threat because, through generating content, it can be misused by students (Baidoo-Anu and Ansah, 2023) ChatGPT can both communicate and process different forms of human language and create content based on them (Kasneci et al., 2023).

Nonetheless, the use of ChatGPT within the education domain can cause several ethical issues (Rane, 2023). The key concern of their usage is the issue of cheating because users may not quote the material produced by ChatGPT. After all, it may be a copy of existing material. As a result, it raises concerns as to the credibility and validity of data retrieved from ChatGPT due to the possibility of its training dataset including flaws and prejudice. This could have implications for research and teaching institutions as the information produced may be wrong, inaccurate, or contain biases (Rane, 2023). In addition, the responses that ChatGPT produces, thanks to the algorithm it has, may contribute to the creation and escalation of social and cultural prejudices that are observed in the training material (Seo et al., 2021). Hence, when thinking about the potential of ChatGPT in enhancing the learning of students, an effort should be made to analyze the ethical and academic dishonesty issues that arise from the use of the application in the learning environment.

Determinants of ChatGPT among University students

Perceived usefulness

According to this research, the most important element influencing university students' adoption of and utilization of ChatGPT is perceived usefulness. The TAM is only a conceptual model that applies rational behavior theory to explain why information systems are accepted. TAM states that an individual's behavioral intention which is impacted by two main factors: usefulness and perceived usefulness determines whether a system is used. It is noteworthy that there exists a positive correlation between the behavioral attitude towards the usage of IT and the perceived utility and simplicity of use. Furthermore, perceived usefulness is strongly influenced by perceived ease of use in conjunction with other outside variables. Therefore, the exact antecedents of use intention are perceived utility and perceived ease of use, and both have a positive impact on it. Several writers have noted that the increasing use of ChatGPT by students as a learning tool may be explained by perceived usefulness (Smiderle et al., 2020). According to Wu and Yu (2024), a user's degree of belief in the technology's ability to increase productivity may be characterized as perceived usefulness. It is a gauge of how

well arguments presented via technology work to facilitate the provision of the necessary services. A person's assessment of the technology's perceived utility might influence some of the outcomes of using it. This implies that the user will be able to utilize the technology when he perceives it as helpful.

The advantages of using technology are highly correlated with aspects like production, efficiency, and other related characteristics. For instance, university students said in a Kelly et al. (2023) study that they valued using ChatGPT to get information, particularly on their homework and courses. As a result, comparable research (Jo, 2024) found that students were more likely to utilize ChatGPT if they thought it would be useful for getting individualized academic aid. Consequently, one important factor influencing ChatGPT uptake among college students is perceived utility.

Perceived ease of use

One important aspect influencing how university students feel about and plan to utilise ChatGPT is perceived ease of usage. It alludes to the notion that using ChatGPT will be simple and cognitively burden-free. According to recent research, ChatGPT uptake among students is mostly driven by their perception of its simplicity of use. For instance, a study by Jo (2024) showed that students were more inclined to include ChatGPT into their daily study routines if they considered it simple to use and engage with. According to similar research by Huang and Rust (2021), students were more likely to integrate ChatGPT into their instructional activities if they thought it was simple to use and comprehend. These results highlight the need for ChatGPT to give priority to intuitive interactions and user-friendly interfaces to improve its usability for college students. ChatGPT facilitates computer-to-human communication via the chat window. It can identify errors, reject inappropriate requests, ask the wrong questions, and respond to additional queries. Additionally, it may produce text with a conversational tone and the appearance of writing from a human, encouraging users to engage in more genuine dialogue. Users find ChatGPT appealing because, when spoken to in a conversational language, it may deliver highly insightful and pertinent replies. The benefits of employing chatbots for learning are discussed in a few academic papers, blogs, and news pieces (Fischer, 2017). Giving students the chance to use and practice French enjoyably will help them become more fluent in the language (Granić, 2023). Based on students' learning requirements and interests, ChatGPT may assist students by making resource recommendations, offering advice, and instantly answering inquiries (Dwivedi et al., 2023). The usage of ChatGPT in higher education is growing. It is beginning to be used by certain students to boost their productivity and find solutions to various academic problems (Sok and Heng, 2023).

Perceived ease of use is a key component in influencing a user's desire to interact with a system, claim Dwivedi et al. (2023). This is a crucial component for both the first and ongoing use of technology adoption. Users are more likely to actively utilize a technology when they believe it to be user-friendly. As a result, designers and developers need to put the user experience first and make sure that using their product requires the least amount of work from the user.

Social influence

Recent research has shown that the impact of ChatGPT adoption among university students extends beyond ease of use. Social influence, which includes the influence of technology on social norms, relationships, and communication patterns, has become an important area of study. According to (Sok and Heng, 2023) study, ChatGPT is perceived as a valuable tool for promoting group discussions, peer learning, and collaborative problem-solving, thus enhancing its social impact within academic communities. Additionally, Lin and Yu (2023) found that students who used ChatGPT for academic questions and discussions saw a growth in their social networks and information sharing with other students in their area of study. All things considered, these results show that ChatGPT's impact extends beyond personal usage and encourages interactive and collaborative learning among college students. One of the most important factors in determining whether someone would use a new tool for learning, such as ChatGPT, is social impact. According to Venkatesh and Bala (2008), this is the degree to which the person feels pressured by others in their social circle to adopt the new system, or what is known as perceived normative pressure. People are vulnerable in the early stages of adopting new technologies, so they turn to friends and family for support (Wu and Yu, 2024). This is why people's opinions towards new technologies are greatly influenced by the social component.

According to some earlier research, people's attitudes towards technology are greatly influenced by social impact (Hassani and Silva, 2023). The compatibility of the new technology with the standards of prospective adopters is one of the other elements that affects adoption rate (Al-Gahtani, 2016). According to research on the usage of chatbots, users' intents to utilise them are positively influenced by social influence of Afsay et al. (2023) as well as Terblanche and Kidd (2022). Therefore, the hypothesis of this research is that desire to utilise ChatGPT for learning would be positively and directly influenced by social impact. This is a result of students adopting the norms of the group or trying to improve their reputation among their classmates (Al-Gahtani, 2016). The immediate social context-parents, professors, coworkers, and peers-will have a significant effect on how students see ChatGPT. They have not yet reached a high degree of technological adoption, therefore social influence plays a big role in determining how they see and embrace ChatGPT as a teaching tool.

Facilitating conditions

Facilitating environments is essential for the adoption of innovative technologies such as ChatGPT in academic settings. These requirements include the technology's availability, adaptability, and accessibility to user demands and preferences. Tian et al. (2024) report that students appreciate ChatGPT's and other AI chatbots' round-the-clock accessibility and prompt response when they need help with their academic work, which greatly increases the chatbots' uptake. Additionally, Sok and Heng's study from 2023 shows that giving university students access to ChatGPT via a variety of platforms, including online interfaces and mobile applications, significantly increases the platform's uptake and frequent usage. This emphasizes how crucial it is to create supportive environments when guiding students' use of ChatGPT for academic support. For example, students need specialized knowledge and equipment, such as a laptop or computer and a reliable internet connection, to utilize chatbots efficiently. The ambition to employ AI and associated technologies, such as chatbots, is increased when favorable circumstances are present, according to earlier research. According to this research, students' intentions to utilize ChatGPT for learning are favorably influenced by the

availability of resources, help, and expertise. Students are more inclined to utilize ChatGPT in their studies when they feel that they have access to the information, tools, and assistance they need. Adopting new technology systems requires sufficient resources, and the presence of enabling circumstances has a big impact on students' views and desire to utilize ChatGPT.

Sun and Zhang (2006) research looked at the prerequisites for ChatGPT integration into university students' learning management systems. The results made clear how crucial it is for ChatGPT to be seamlessly integrated and compatible with current platforms to provide simple access to academic materials and help. Furthermore, Han et al. (2023) investigated ChatGPT's enabling circumstances for giving university students timely and easily available academic help. The findings underscored the need for 24/7 accessibility and cross-platform interoperability to cater to the varied schedules and inclinations of students.

Personal interest

One of the main factors influencing university students' adoption of ChatGPT is their perceived interest, or degree of personal interest in a certain technology or system. As seen by a study by Ifenthaler and Schweinbenz (2013), which examined how students' perceived interest in these technologies affected their adoption and use of AI chatbots like ChatGPT, recent research has concentrated on comprehending this function. The findings indicated that students were more likely to utilize ChatGPT as an additional learning resource if they had a high degree of curiosity and enthusiasm in interacting with it. Similarly, Al-Gahtani (2016) looked at how students' perceived interest affected their willingness to use AI chatbots for learning support and found that students used ChatGPT as a learning tool more frequently the more interested they were in exploring its possibilities. Consequently, the research offers insight into how perceived interest influences university students' usage of ChatGPT. Any system may provide one-on-one instruction that adjusts to the preferences of each student in order to satisfy their unique learning requirements (Tapalova and Zhiyenbayeva, 2022). Because of its adaptability, AI can determine quickly whether a pupil can go on to a more difficult task or requires more assistance (Tian et al., 2024). Artificial intelligence-based systems that can identify speech have also grown in importance as teaching aids. One such software is ChatGPT (Adam et al., 2020). They use a variety of technology, including speakers, laptops, and mobile devices, to provide instructional materials. Among the most well-known chatbots created using Al are BARD, Google Home, and ChatGPT. According to Adam et al. (2020), ChatGPT's collaboration with students has the potential to revolutionise the way different subjects of study are taught. The adoption and effectiveness of Al-powered educational tools and technology among students are directly impacted by their acceptance or endorsement of their usage. The authors of the research (Huang and Rust, 2021) investigated university students' reported interest in using ChatGPT to get course guides and personalised learning materials. After analysing the data, they discovered that students were more inclined to utilise ChatGPT for learning if they felt they had a greater interest in AI-based teaching technologies (*Figure 1*).

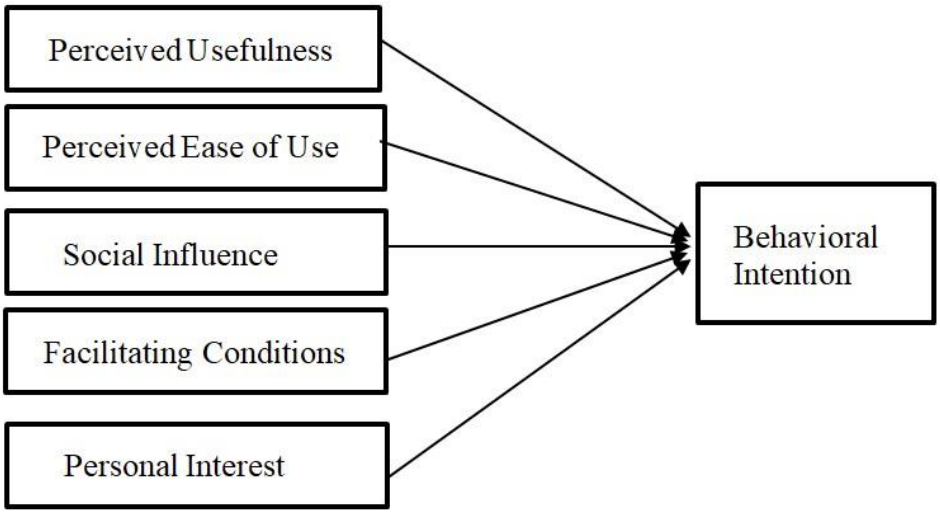

Figure 1. *Conceptual framework.*

Materials and Methods

In this investigation, the researcher employed quantitative research techniques, as these methods are particularly effective for examining factors influencing the adoption of ChatGPT. Quantitative approaches provide numerical data that can be statistically analyzed, aiding in understanding the patterns and interactions among variables such as perceived utility, ease of use, social impact, enabling conditions, and personal interest. The data collection method used in this study was a survey, where questionnaires were distributed to third-year students across various study programs within the Faculty of Business, Economics, and Social Development (FPEPS). The survey used in the study was structured into three distinct sections. Section A collected demographic information, including age, gender, academic major, year of study, current GPA, and other relevant details. Section B explored factors influencing the adoption of ChatGPT, with questions divided into five subsections addressing perceived utility, ease of use, social influence, enabling conditions, and personal interest. Section C focused on the participants' behavioral intentions, examining their willingness, likelihood, or tendency to use ChatGPT in the future or in specific situations. The study utilized a probability sampling method, targeting third-year students from the FPEPS at the University of Malaysia Terengganu. A total of 256 students received the questionnaire. To thoroughly analyze the research objectives, a multi-faceted statistical analysis approach was adopted. Descriptive analysis was first used to examine the extent of ChatGPT usage among students, employing measures of central tendency, variability, and frequency distributions. Subsequently, inferential analysis, such as regression testing, was conducted to identify factors influencing students' adoption of ChatGPT. All analyses were performed using IBM SPSS Statistics version 29.

Results and Discussion

The prevalance of ChatGPT usage among students

The *Figure 2* shows that an overwhelming majority of students (98.9%) have used ChatGPT, while only a small fraction (1.1%) have not. This high percentage indicates

that ChatGPT is widely recognized and utilized among students. The prevalence suggests that ChatGPT has become an integral tool in their academic toolkit, supporting various educational activities such as research, assignment help, and study assistance. The *Figure 3* for the duration of ChatGPT usage reveals that most students have a significant history with the tool. Specifically, 61.6% of students have been using ChatGPT for six months or more, reflecting long-term engagement and suggesting that the tool's benefits are sufficiently compelling to maintain continued use. Additionally, 31.9% of students have been using it for 3-5 months, showing a growing user base that has recently adopted the tool. Only 6.5% of students have been using ChatGPT for less than two months, indicating that new users are continually discovering and starting to use the tool. The *Figure 4* illustrating the frequency of ChatGPT usage per month shows that 55.4% of students use the tool five times or more each month, signifying high reliance and regular interaction with ChatGPT. Another 32.6% of students use it 3-4 times a month, indicating moderate but consistent usage. Meanwhile, 12% of students use ChatGPT 1-2 times a month, suggesting occasional but purposeful engagement. These usage patterns highlight that for many students, ChatGPT is a frequent resource in their academic activities, likely due to its effectiveness in aiding their studies and improving productivity. Together, these charts depict a comprehensive picture of ChatGPT's prevalence among students. The widespread adoption, long-term usage, and frequent interaction underscore ChatGPT's importance and utility in the educational experiences of students. This prevalence points to the significant role that AI tools like ChatGPT play in contemporary learning environments, enhancing students' capabilities and supporting their academic success

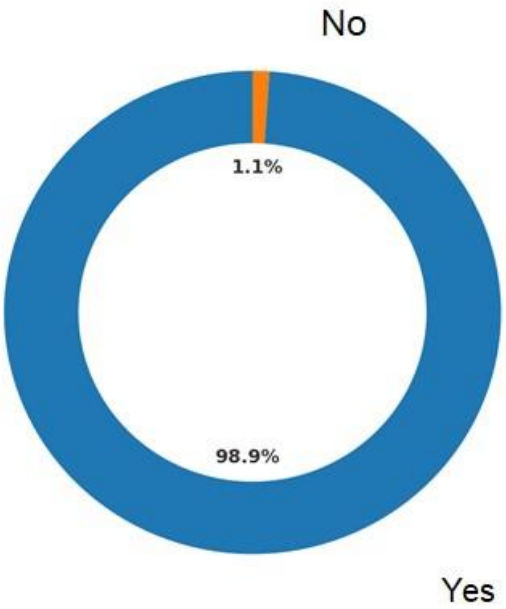

Figure 2. *Usage of ChatGPT.*

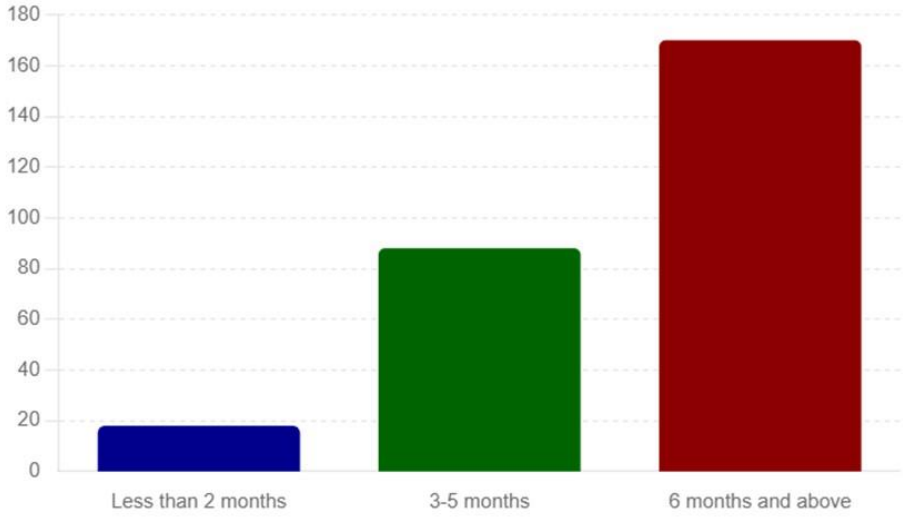

Figure 3. *Duration usage for ChatGPT.*

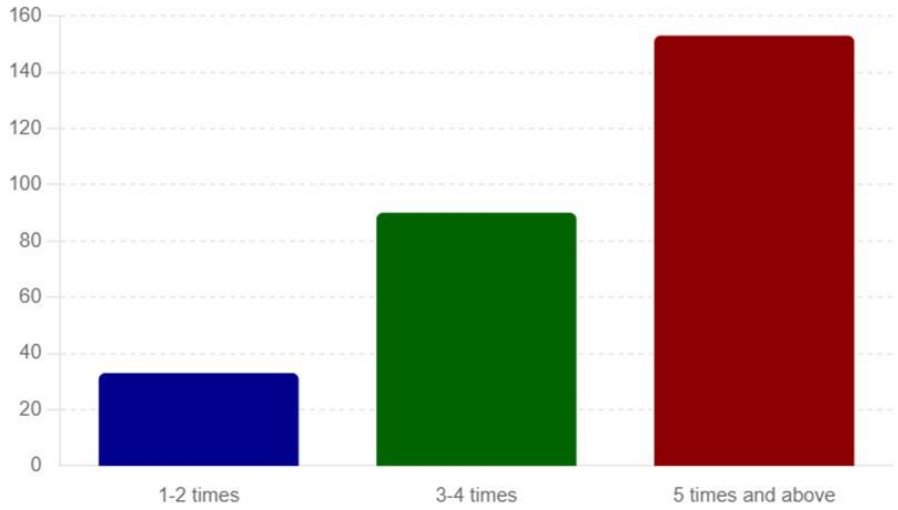

Figure 4. *Frequency of usage for ChatGPT.*

Factors that influence student intention to use ChatGPT

The focal dependent variable in the comprehensive regression analysis is behavioural intention, which is meticulously analysed against a spectrum of independent variables (IVs). These critical independent variables consist of Perceived Usefulness (IV1), Perceived Ease of Use (IV2), Social Influence (IV3), Facilitating Conditions (IV4), and Personal Interest (IV5) (*Table 1*). An unstandardised coefficient (B) of 0.369 and a standardised coefficient (Beta) of 0.322 indicate that perceived usefulness (IV1) has a significant positive influence on behavioural intention. The hypothesis is unequivocally validated by a p-value of 0.000 and a t-value of 4.637, which further substantiate the robustness of this finding. In contrast, behavioural intention is not significantly influenced by perceived ease of use (IV2). This is emphasised by the t-value of 0.682, the standardised coefficient (Beta) of -0.053, the unstandardised coefficient (B) of -0.051, and the p-value of 0.496, which result in the rejection of the second hypothesis. It is intriguing that Social Influence (IV3) exhibits a significant negative impact on behavioural intention, as evidenced by an unstandardised coefficient (B) of -0.216, a

standardised coefficient (Beta) of -0.281, a t-value of -4.226, and a p-value of 0.000. These findings support the third hypothesis. This counterintuitive result implies that social factors may discourage rather than promote the adoption of novel technologies such as ChatGPT among students. Facilitating Conditions (IV4) are identified as the most significant predictor of behavioural intention in the analysis. The data indicates that the fourth hypothesis is accepted, as evidenced by the t-value of 6.265, the standardised coefficient (Beta) of 0.543, the unstandardised coefficient (B) of 0.547, and the p-value of 0.000. This emphasises the importance of facilitating environments and resources in promoting the adoption of ChatGPT. Finally, the fifth hypothesis is confirmed by the unstandardised coefficient (B) of 0.355, the standardised coefficient (Beta) of 0.338, the t-value of 5.906, and the p-value of 0.000, all of which indicate that Personal Interest (IV5) has a substantial positive impact on behavioural intention. This discovery emphasises the intrinsic motivation of students to employ innovative technologies such as ChatGPT for academic purposes. In summary, the regression analysis unequivocally establishes facilitating conditions (IV4) as the most significant predictor of ChatGPT adoption among students, as evidenced by compelling statistical data. This elucidation of the multifarious determinants of behavioural intention offers profound insights into the dynamics of technology adoption in educational settings.

Table 1. *Regression analysis of factors that influence to use ChatGPT.*

Variable	Unstandardized coefficients (B)	Std. Error	Standardized coefficient (Beta)	T	p-value
Constant	-0.030	-.188	-	-0.161	0.872
IV1	0.369	0.080	0.322	4.637	0.000
IV2	-0.051	0.075	-0.053	0.682	0.496
IV3	-0.216	0.051	-0.281	-4.226	0.000
IV4	0.547	0.087	0.543	6.265	0.000
IV5	0.355	0.060	0.338	5.906	0.000

This research tested the following assumptions to better understand why college students have taken to using ChatGPT. According to the statistically significant findings, the following factors are crucial in predicting the behavioural intentions for ChatGPT use: perceived utility, perceived simplicity of use, social impact, enabling circumstances, and personal interest. That is to say, students will use ChatGPT to their learning when they believe it would improve their academic performance. This finding is in line with what Al-Maroof and Al-Emran (2018) found: that students are more likely to embrace technology if they believe it would improve their lives. The student's attitude towards utilising ChatGPT was positively affected by the conducive settings, as predicted by the hypothesis. With a positive and statistically significant coefficient (B=0.547), antecedent circumstances were shown to have the most impact on behavioural intention. This highlights the significance of having the right infrastructure, personnel, and funding in place to facilitate the implementation of ChatGPT. This result lends credence to the claims made by Venkatesh et al. (2012), who used the UTAUT model to establish that enabling circumstances significantly affect technology adoption. Regarding the second study question, the results likewise demonstrate that individual interests influence the likelihood of using ChatGPT. ChatGPT is most likely to be used by students who already have an interest in artificial intelligence and related technologies.

A large portion of this group has a Bachelor of Accounting degree, and the demographic data shows that 75.7% of its members are female and that 91.3% are between the ages of 23 and 24. According to Venkatesh et al. (2012), this generational

tendency could reflect how new technologies are often embraced by the younger generation. Positive academic consequences of ChatGPT are supported by students' higher use frequency and their reported academic accomplishment. Lastly, the results of the regression analysis support the hypotheses that were created. These hypotheses say that students' behavioral intentions to utilize ChatGPT are influenced by their perceived usefulness, enabling circumstances, and personal interest. The inconsistencies seen in the predicted correlations between perceived usability and social influence suggest that these variables may not be as important here or might be playing other roles that need more research. Insights gained from each of these studies may help improve the use of artificial intelligence (AI) in educational settings by expanding our understanding of the elements that motivate students to make good use of technology resources.

Conclusion

This groundbreaking research explores the many factors that drive the use of ChatGPT among college students. The results emphasize the crucial significance of perceived utility, indicating that students are much more likely to use ChatGPT when they see it as a tool that substantially enhances their academic abilities. The study provides further insight into the significant, if indirect, impact of perceived ease of use, emphasizing the need of an intuitive and user-friendly interface to enhance ChatGPT's perceived usefulness. Social influence arises as a complex but powerful force; good peer recommendations can promote adoption, while negative peer pressure may effectively impede it. Access to key information, solid technical support, and extensive training are crucial for enabling students to effectively use ChatGPT's capabilities. Personal interest and intrinsic drive are strong indicators of adoption, with curiosity and a spirit of invention playing a significant role in maintaining engagement. This study examines the factors that influence the adoption of ChatGPT among university students. The findings provide strategic suggestions to improve the integration of AI in academic environments, promoting creativity and productivity. Universities can aggressively showcase ChatGPT's academic advantages via workshops, case studies, and success stories, highlighting its potential to enhance academic achievement and foster a culture of enthusiastic adoption. Streamlining the user interface via the creation of an instinctive and user-centric design is essential in reducing the difficulty of learning and improving the overall user experience. To ensure seamless integration, it is crucial to build continuous feedback systems and provide extensive support materials. Utilising social dynamics via peer ambassador programs may effectively use positive peer influence, reduce negative attitudes, and promote wider acceptance.

This study offers innovative insights into the factors that influence the adoption of ChatGPT among university students, while also recognizing some limitations that should be addressed in future research. The study was conducted at Universiti Malaysia Terengganu. However, it is important to note that the findings may not apply to other geographic and cultural settings. Therefore, more research is needed to ensure the results have wider applicability. The dependence on data provided by individuals themselves, which is vulnerable to prejudices, indicates the need for objective metrics such as data analytics to ensure precise evaluation. Subsequent investigations should examine supplementary variables, including individuals' previous encounters with artificial intelligence, their academic fields of study, their personality characteristics, and the impact of institutional elements. Furthermore, it is crucial to investigate

emotional and psychological obstacles, such as technological phobia. Longitudinal studies are crucial for comprehending the changing perspectives and enduring utilization of ChatGPT. Overcoming these constraints and broadening the scope of the study will facilitate the successful and morally sound incorporation of AI in education, thereby improving educational results worldwide.

Acknowledgement

The authors would like to express their sincere gratitude to the anonymous reviewers for their valuable comments and suggestions, which significantly enhanced the quality of this research. This study was self-funded and conducted as part of the Final Year Research Project (PITA) under the Faculty of Business, Economics, and Social Development, Universiti Malaysia Terengganu.

Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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