MULTIDISCIPLINARY SCIENCE JOURNAL

RESEARCH ARTICLE
Published Online: August 13, 2025
https://doi.org/10.31893/multiscience.2026055

Analysis on ChatGPT user acceptance as a daily assistance AI tool in Melaka

Muhammad Muizzuddin Zulkafli[a] | Norhafizah Mohamad Dasuki[a] ✉ | Nurul Ibtisyami Yasin[a] | Norashiken Othman[b]

[a]Universiti Teknikal Malaysia Melaka, Fakulti Pengurusan Teknologi dan Teknousahawanan, Centre of Technopreneurship Development, 75450 Ayer Keroh, Melaka, Malaysia.
[b]Universiti Malaysia Perlis, Fakulti Kejuruteraan Mekanikal dan Teknologi, Human Factors and Ergonomics Reseacrh Group, Malaysia.

Abstract: This study examines the factors influencing user acceptance of ChatGPT as a daily reference tool in Melaka, Malaysia and assesses varying levels of user adoption. Utilizing an integrated model based on the Technology Acceptance Model (TAM) and incorporating external constructs such as Privacy and Security, the research provides an in-depth understanding of user acceptance by measuring diverse perspectives. A quantitative research approach was employed, surveying 357 ChatGPT users in Melaka to evaluate attitudes, beliefs, and behaviors related to adoption. The results highlight that perceived ease of use ($\beta = 0.300$, $p < 0.001$), perceived usefulness ($\beta = 0.200$, $p < 0.001$), and security ($\beta = 0.270$, $p < 0.001$) significantly predict behavioral intention, while privacy concerns were found to be statistically insignificant ($\beta = 0.006$, $p = 0.876$). The study also reveals strong correlations between ease of use and behavioral intention ($r = 0.959$), underscoring the importance of user friendly design in AI adoption. These findings align with the TAM framework and extend its applicability to AI tools, offering practical insights for developers, policymakers, and educational institutions. The research contributes to bridging the gap between technology and users by shedding light on actual user experiences and considerations, thereby informing the design of more intuitive, secure, and user-centric AI systems. Additionally, the study addresses cultural and contextual factors specific to Melaka, suggesting that users prioritize utility and security over privacy. Recommendations are provided to enhance ChatGPT's adoption, including improving interface design, strengthening security measures, and integrating AI literacy programs in educational settings. The study's limitations, such as potential biases in self-reported data and a geographically limited sample, are acknowledged, with suggestions for future research to explore cross-cultural variations and longitudinal adoption trends.

Keywords: ChatGPT, technology acceptance model, user adoption, artificial intelligence, Malaysia, AI literacy

1. Introduction

Artificial intelligence (AI) has attracted the attention of researchers, engineers, and scholars since the emergence of computing technology. The origins of AI can be traced back to the 1950s, heralding the onset of a vast journey that has culminated in the creation of complex systems capable of autonomous thought, learning, and reasoning (Ahuja, 2019). These advanced systems, commonly referred to as intelligent agents, are increasingly integrated into various aspects of daily life, executing a wide range of tasks from basic manual operations to more intricate functions. This paper explores the user acceptance of ChatGPT as a daily AI assistance tool in Melaka. Artificial intelligence (AI) has become a focal point for researchers and engineers, leading to systems capable of learning and reasoning. Notably, chatbots serve as fundamental yet pervasive illustrations of intelligent human–computer interactions (HCIs) (Bansal & Khan, 2018). While chatbots demonstrate proficiency in mimicking human conversation and providing entertainment, their functionality extends well beyond these roles (Aciang Iku-Silan et al., 2023). These technologies are implemented across a variety of sectors, including education, information retrieval, business, and e-commerce, where they deliver significant utility (Shawar & Atwell, 2007). A noteworthy advancement in this field is OpenAI ChatGPT, a cutting-edge chatbot powered by a large language model (LLM). By utilizing extensive datasets, ChatGPT employs advanced machine learning techniques to generate nuanced and contextually relevant responses. This innovative technology has substantial implications for both scientific inquiry and societal applications. Professionals and researchers have harnessed ChatGPT and similar large language models (LLMs) for diverse purposes, including the composition of essays and speeches, literature summarization, refinement of academic manuscripts, identification of research gaps, and generation of computer code, which is inclusive of conducting statistical analyses (Van Dis et al., 2023). Since its launch on November 30, 2022, ChatGPT has garnered significant attention, amassing over one million subscribers within its initial week (Baidoo-Anu & Owusu Ansah, 2023).

For enterprises in Melaka, the insights derived from this research may inform marketing strategies and guide product development, thereby fostering innovation and establishing a competitive edge. By addressing the user concerns identified in

 Received: April 23, 2025 | Accepted: June 10, 2025

the study, there is potential to enhance user engagement with ChatGPT, cultivating trust and a positive relationship between users and the technology. Furthermore, recognizing the barriers to AI adoption across diverse demographic groups could facilitate initiatives aimed at promoting digital inclusion and ensuring equitable access to the advantages of AI.

The rapid advancement of artificial intelligence (AI) technology and its integration into everyday life have raised questions regarding the adoption of AI-based tools, particularly among specific user demographics. In the context of Melaka, Malaysia, where AI adoption is on the rise, it is imperative to investigate the adoption, concerns, and preferences of users toward ChatGPT, a prominent AI-based chatbot. While ChatGPT presents promising capabilities for enhancing productivity and accessibility, its successful integration into daily routines is contingent upon user acceptance and trust. As such, it is crucial to address any potential barriers to its adoption and promote a better understanding of its benefits (Geetha et al., 2024). This study addresses questions about the adoption of AI tools such as ChatGPT among different users in Melaka, Malaysia. It emphasizes the need to understand user adoption, concerns, and preferences to facilitate the integration of AI technologies into daily routines. These issues include user awareness, privacy and security, ethical implications, and impacts on education.

The central issue pertains to the understanding and facilitation of the effective integration of artificial intelligence (AI) tools, such as ChatGPT, into the daily lives of users in Melaka. This involves investigating user acceptance, addressing potential barriers, and aligning the deployment of AI technologies with the user's needs and ethical considerations. Prominent concerns include user awareness and acceptance, privacy and security issues, ethical implications, transparency deficits, the impact on educational outcomes, and the influence of social and cultural contexts. The study employs the Technology Acceptance Model (TAM) framework to explore these facets and aims to provide actionable recommendations for developers, educational institutions, and policymakers. The goal is to create AI tools that are intuitive, user friendly and secure. Ultimately, this research seeks to bridge the gap between technology and users by examining their experiences and considerations, thereby offering valuable insights for the responsible development and implementation of AI in educational environments (Albayati, 2024). This research aims to analyze the correlation between individuals' perceived advantages of technology and their acceptance of ChatGPT in Melaka.

2. Literature Review

2.1. ChatGPT growth

The exponential growth of ChatGPT aligns with broader trends in AI adoption, where rapid user engagement is often driven by perceived utility and social influence (Dwivedi et al., 2019). Studies on technology diffusion emphasize that early adopters play a critical role in accelerating acceptance, particularly in regions with high digital literacy (Rogers, 2003). In Southeast Asia, the proliferation of AI tools such as ChatGPT is further amplified by increasing internet penetration and government initiatives promoting digital transformation (UNDP, 2023). These factors contextualize ChatGPT's adoption trajectory in Melaka, where technological readiness and infrastructural support may moderate growth rates (World Bank, 2022).

The growth of ChatGPT from its inception in November 2022 to November 2024 exemplifies the rapid adoption and increasing reliance on advanced AI language models. Starting with 152.7 million visits in November 2022, ChatGPT quickly gained traction. By December 2022, visits surged to 266 million, representing a remarkable 74.2% increase over the previous month (OpenAI, 2022). This trend continued into January 2023, when the number of visits soared to reach 616 million, a staggering increase of 131.58% (OpenAI, 2023). This exponential growth highlights the initial excitement and curiosity surrounding the capabilities of ChatGPT.

The momentum carried into February 2023, with visits reaching 1 billion, a significant milestone achieved with a 62.34% increase from the previous month (OpenAI, 2023). The platform's popularity continues to rise, with visits reaching 1.6 billion in March 2023, a 60% increase (OpenAI, 2023). By April 2023, the number of visits had increased to 1.8 billion, showing a smaller but still substantial 12.5% increase (OpenAI, 2023). This period marked a stabilization in growth, indicating that ChatGPT secured a substantial user base.

The data then show a notable pause, with visits remaining at 1.8 billion by April 2024. However, by November 2024, there was a dramatic resurgence in activity, with visits skyrocketing 3.8 billion people. This significant increase suggests a renewed interest or perhaps the introduction of new features that attracted more users (OpenAI, 2024). The overall growth trajectory of ChatGPT underscores its transformative impact and the increasing integration of AI language models into daily use, reflecting its broad acceptance and utility in various applications.

This growth narrative illustrates not only the swift adoption of the platform but also the notable advancements in artificial intelligence technologies that have contributed to its widespread acceptance. The considerable month-over-month increases in user engagement indicate the rapid emergence of ChatGPT as an essential resource for a diverse array of users, thereby highlighting the evolving dynamics between humans and AI technology (OpenAI, 2024).

2.2. Revolution of ChatGPT

The timeline depicting the development of ChatGPT illustrates significant technological progress in the fields of artificial intelligence and natural language processing. Commencing the introduction of GPT-1 on June 11, 2018, OpenAI ushered in a new era of language models that possessed the capacity to comprehend and produce human-like text (Brown et al., 2020). This initial iteration established a foundational framework for a succession of advancements that have consistently expanded the limitations of AI proficiency. The launch of the GPT-2 on February 14, 2019, represented a substantial performance improvement, highlighting the models' ability to generate coherent and contextually appropriate text across extended prompts (Radford et al., 2019).

Month	Number of Visits	Change Over Previous Month	Change Over Previous Month (%)
November 2022	152.7 million	-	-
December 2022	266 million	↑ 113.3 million	↑ 74.2%
January 2023	616 million	↑ 350 million	↑ 131.58%
February 2023	1 billion	↑ 384 million	↑ 62.34%
March 2023	1.6 billion	↑ 600 million	↑ 60%
April 2023	1.8 billion	↑ 200 million	↑ 12.5%
April 2024	1.8 billion	-	-
November 2024	3.8 billion	-	-

Figure 1 ChatGPT's User from 2022-2024 (Duarte, 2024).

The development of GPT-3, which was launched on June 11, 2020, marked a pivotal advancement in the domain of artificial intelligence. GPT-3 featured a substantial enhancement in model size, encompassing 175 billion parameters in contrast to the 1.5 billion parameters of its predecessor, GPT-2 (Brown et al., 2020). This remarkable increase in the number of parameters facilitated an unprecedented level of precision and fluency in model performance, rendering it a versatile instrument suitable for a diverse array of applications, ranging from creative writing to intricate problem solving. Furthermore, the Beta release on May 28, 2020, provided an opportunity for extensive testing and refinement, thereby laying the groundwork for its official launch (OpenAI, 2020). The iterative improvements continued with the release of GPT-3.5 on November 30, 2022, and GPT-4 on March 14, 2023 (OpenAI, 2023). These versions are built upon the robust architecture of GPT-3, offering even greater sophistication in terms of language understanding and generation. The release of GPT-4 Turbo in November 2023 further exemplified advancements in efficiency and performance, catering to the growing demand for AI-driven solutions across various industries (OpenAI, 2023).

The culmination of these advancements is exemplified by the release of GPT-4.0, the prevailing version, on May 13, 2024 (OpenAI, 2024). Each successive iteration has not only augmented the models' capabilities but also expanded their applicability across various domains, rendering ChatGPT an essential instrument in fields such as education, healthcare, customer service, and creative industries. The ongoing innovation and rapid progression in the development of ChatGPT highlight the transformative influence of artificial intelligence on society, fundamentally altering how humans engage with technology and unveiling new opportunities for research and application.

The evolution of GPT models reflects advancements in computational linguistics and neural network architectures. Research by Bender et al. (2021) critiques the ethical implications of scaling language models, highlighting biases and environmental costs. Conversely, studies by Floridi and Chiriatti (2020) argue that GPT-3's capabilities represent a paradigm shift in human-AI collaboration, enabling applications in education and creative industries. The transition to GPT-4 introduced multimodal functionalities, enhancing contextual understanding and reducing hallucination rates (Bubeck et al., 2023), which may explain its resurgence in user engagement by 2024 (Duarte, 2024).

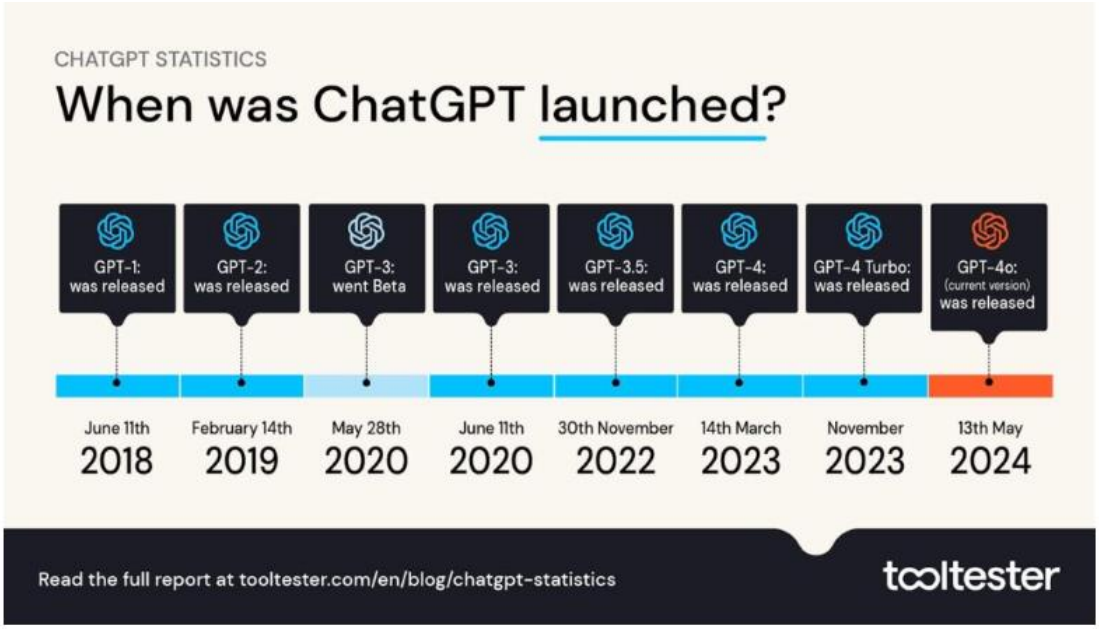

Figure 2 ChatGPT timeline (Robert & Cai, 2024).

2.3. Trust in ChatGPT Adoption in Malaysia

Trust in AI systems is culturally contingent. In Malaysia, where communal values emphasize collective decision-making, users may prioritize institutional endorsements over individual risk assessments (Hofstede, 2011). A study by Mohamed et al. (2022) on AI adoption in Malaysian universities revealed that trust is mediated by perceived transparency and alignment with local norms. Similarly, Sulaiman et al. (2023) emphasize that regulatory frameworks, such as Malaysia's National AI Framework (MDEC, 2021), mitigate skepticism by ensuring accountability. These insights align with the Malaysian Ministry of Higher Education's guidelines, which stress ethical deployment to foster trust (Selvanathan & Narayanan, 2024).

User trust is a fundamental factor influencing the adoption and utilization of AI-driven technologies, with significant implications across multiple domains. Trust in AI systems involves an awareness of their reliability, transparency, and competence, which collectively affect users' willingness to depend on and engage with these technologies. Previous research has underscored the complex and multifaceted nature of trust, emphasizing its crucial role in shaping user attitudes and behaviors toward artificial intelligence (Choudhury & Shamszare, 2023).

The implementation of ChatGPT in Malaysia is intricately associated with the level of trust that users, particularly within the educational sector, have in the technology. The Malaysian Ministry of Higher Education has established guidelines for the integration of the ChatGPT into universities, emphasizing that while technology presents considerable advantages, it must be applied responsibly and ethically. This regulatory framework aims to delineate clear parameters for its utilization, thereby fostering trust among users through the promotion of accountability and safety. Moreover, the ministry is dedicated to assessing the impact of the ChatGPT on educational quality and integrity. By proactively addressing potential challenges such as misinformation and academic dishonesty, the government seeks to cultivate a safer environment that enhances user confidence in the technology. This forward-thinking strategy is vital for encouraging a constructive experience with ChatGPT within the context of Malaysian higher education (Selvanathan & Narayanan, 2024).

In the realm of ChatGPT, an advanced artificial intelligence model distinguished by its human-like conversational capabilities and comprehending the mechanics of user trust is of paramount importance. A study conducted by Choudhury and Shamszare (2023) examined the influence of user trust on the adoption and utilization of ChatGPT. Their research findings indicate a significant positive correlation between trust and both the intention to utilize and the actual use of ChatGPT. This emphasizes the critical role that trust plays in facilitating adoption behavior and fostering engagement with artificial intelligence technologies (Choudhury & Shamszare, 2023).

The ramifications of these findings extend well beyond ChatGPT, encompassing the broader landscape of AI-driven technologies. Developers and policymakers need to prioritize the cultivation and maintenance of user trust, which requires the implementation of strategies such as transparent communication and user-centered design. Additionally, addressing the risks associated with excessive dependence on AI, particularly in sensitive fields such as healthcare, is crucial. Future research should investigate the nuances of trust in AI-mediated interactions, focusing on elements such as explainability, accountability, and human-AI collaboration (Choudhury & Shamszare, 2023). By elucidating the intricate relationships among trust, the intent to engage, and actual usage, this research enhances researchers' understanding of the determinants influencing AI adoption in contemporary society.

2.4. Underpinning Theories

The proposed research framework is grounded in the Technology Acceptance Model (TAM) (Davis, 1989–Sep 1993; Davis et al., 1989; Venkatesh & Davis, 2000), which incorporates external factors such as privacy and security concerns. According to the TAM, technology acceptance is predominantly influenced by individuals' perceptions of its usefulness and ease of use (Albayati, 2024). Within the context of ChatGPT, perceived usefulness pertains to users' beliefs regarding the extent to which ChatGPT enhances their productivity and accessibility, whereas perceived ease of use relates to their understanding of the simplicity involved in engaging with ChatGPT.

While the TAM remains central, the unified theory of acceptance and use of technology (UTAUT) offers a complementary lens by incorporating social influence and facilitating conditions (Venkatesh et al., 2003). For instance, performance expectancy (akin to perceived usefulness) and effort expectancy (perceived ease of use) are critical determinants of behavioral intention in AI contexts (Rana et al., 2021). Additionally, privacy calculus theory (PCT) posits that users weigh perceived risks against benefits when adopting technologies (Dinev & Hart, 2006), contextualizing why privacy concerns may be secondary to utility in Melaka's ChatGPT adoption (Zhou & Li, 2014; Shin, 2010).

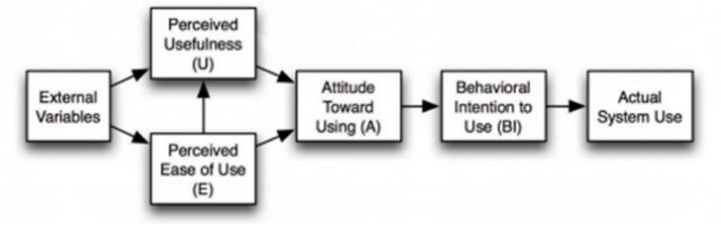

Figure 3 Technology acceptance model (TAM) (Davis, 1989).

The researcher utilized is derived from Albayati (2024) and integrates the Technology Acceptance Model (TAM) into the study. TAM offers valuable insights into the acceptance of ChatGPT among undergraduate students by highlighting the critical roles of perceived usefulness and ease of use in fostering technology acceptance. Figure 4 illustrates the presence of external variables necessary for achieving acceptance among undergraduate students, specifically social influence, privacy, security, and trust. By synthesizing these theoretical perspectives, researchers can establish a coherent conceptual framework that aligns with the research objectives.

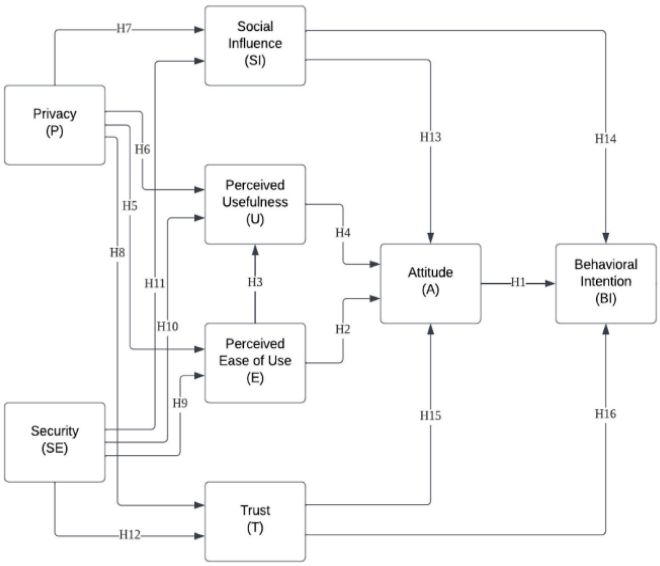

Figure 4 Theoretical acceptance of the ChatGPT.

Source: Investigating undergraduate students' perceptions and awareness of using the ChatGPT as a regular assistance tool: A user acceptance perspective study, Albayati (2024).

The framework depicted in Figure 4, as utilized by the researcher, is derived from Albayati (2024) and integrates the Technology Acceptance Model (TAM) into the study. TAM offers valuable insights into the acceptance of ChatGPT among undergraduate students by highlighting the critical roles of perceived usefulness and ease of use in fostering technology acceptance. Figure 4 illustrates the presence of external variables necessary for achieving acceptance among undergraduate students, specifically social influence, privacy, security, and trust. By synthesizing these theoretical perspectives, researchers can establish a coherent conceptual framework that aligns with the research objectives.

3. Methodology

The researcher's methodology in this study provides comprehensive details on the research design, data collection, and analysis procedures. This research aims to examine the user adoption and acceptance of ChatGPT. The research employs a quantitative approach in which surveys are used to evaluate attitudes, beliefs, and behaviors related to ChatGPT adoption. The survey uses quantitative techniques to gather data for hypothesis assessment, examining independent variables such as social influence, privacy, security, trust, perceived usefulness, and ease of use and their impact on the dependent variable, behavioral intention (Albayati, 2024).

In this study, the data sources included both primary and secondary data. The researcher obtained primary data through an online survey by distributing questionnaires to respondents. The secondary data were gathered from a variety of published materials, including academic journals and news articles. Specifically, secondary data were sourced from platforms such as ScienceDirect, Google Scholar, and Emerald Insight, as well as published reports from organizations such as UNESCO and the United Nations, along with information from the official website of the National Economic and Social Research (NESR). Furthermore, relevant textbooks, including the fifth, sixth, and eighth editions of the "Research Methods for Business Students" published by Pearson Education Limited, were also utilized.

This research focuses on the state of Melaka as the primary research setting, specifically targeting users engaging with ChatGPT. Melaka, renowned for its diverse e-commerce market, presents a compelling demographic of potential participants utilizing ChatGPT in their daily activities. This geographical context allows for a nuanced exploration tailored to the unique cultural, social, and economic dynamics of Melaka, ensuring that the findings resonate with and apply to the targeted audience. The distribution of the survey via online platforms such as social media facilitates convenient access to a broad spectrum of respondents, irrespective of their geographical location. The selection of ChatGPT users as survey participants is justified by their direct interaction with the platform, which integrates seamlessly with various AI tools available online. Thus, these users are pivotal stakeholders in evaluating the acceptance and utilization of ChatGPT. Their first-hand experiences, perceptions, and behavioral intentions offer valuable insights into the awareness and adoption of ChatGPT among Melaka users.

Primary data are collected through online surveys distributed to ChatGPT users in Melaka; the questionnaire includes demographic questions and uses a five-point Likert scale to measure opinions and attitudes (Tavakol & Dennick, 2011). To ensure the questionnaire's relevance and readability, a pilot test is conducted. The study adopts both probability and nonprobability sampling techniques, including simple random sampling and snowball sampling, to ensure a representative sample. The sample size is determined on the basis of the population size of Melaka, which targets approximately 384 participants (Cochran, 1977).

Data analysis was conducted via the Statistical Package for the Social Sciences (SPSS) version 27, with methods including descriptive statistics, Cronbach's alpha for reliability analysis, correlation analysis, multiple regression analysis, and ANOVA (Hair et al., 2016). These analyses help assess relationships between variables and test the research hypotheses. Reliability analysis is performed to ensure the consistency and dependability of the measurement instruments, with Cronbach's alpha used to assess internal consistency.

The foundation for this research is the Technology Acceptance Model (TAM), which posits that the acceptance of technology is influenced by two primary constructs: perceived usefulness and perceived ease of use. Perceived usefulness is defined as the belief that ChatGPT increases productivity and accessibility, whereas perceived ease of use pertains to the user friendliness of interacting with ChatGPT.

The primary method for data collection is the administration of surveys, a widely utilized quantitative research approach designed to evaluate attitudes, beliefs, behaviors, or characteristics within a given population. The survey employs quantitative techniques to gather foundational data for the assessment of the stated hypotheses. The independent variables identified in this study encompass external factors such as social influence, privacy, security, trust, perceived usefulness, and ease of use. The dependent variable, behavioral intention, serves as an indicator for measuring the degree of adoption and acceptance of ChatGPT among users. In this framework, the study proposes that the independent variables significantly impact the dependent variable. This framework, which draws upon the work of Albayati (2024), further integrates external determinants such as privacy, security, social influence, and trust to comprehensively examine the factors affecting acceptance among undergraduate students.

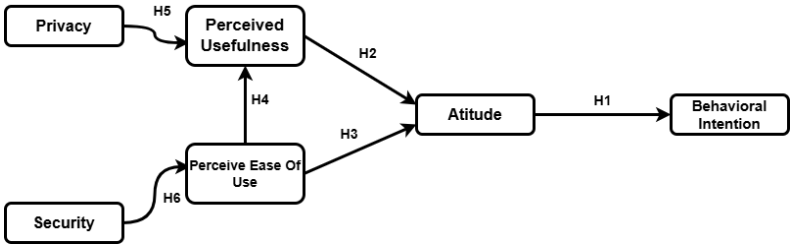

Figure 5 Conceptual Framework.

4. Results

The pilot test involved 30 participants who completed a questionnaire aimed at assessing the relevance and readability of various variables, along with providing feedback on their experiences. The reliability analysis conducted on the pilot test yielded a Cronbach's alpha value of 0.772. Cronbach's alpha serves as a metric for assessing internal consistency, reflecting the extent to which the items within the questionnaire collectively measure a single underlying construct. A value of 0.772 indicates a strong level of internal consistency, suggesting that the items are effectively and reliably measuring the intended variables. This high value suggests that the questionnaires employed in the pilot test are reliable. A detailed breakdown of the Cronbach's alpha values for each variable measured in the pilot test is as follows: Attitude (A) scored 0.755, Perceived Ease of Use (EU) was 0.746, Perceived Usefulness (U) received a score of 0.761, Privacy (P) was 0.758, Security (S) had a score of 0.776, and Behavioral Intention (BI) was rated at 0.770. These values indicate that the internal consistency for each of these variables is commendable. The overall findings suggest that both the independent and dependent variables maintain acceptable levels of internal consistency. Consequently, the questionnaires utilized in this pilot study are deemed reliable and suitable for future distribution among prospective respondents (Table 1).

Table 1 Reliability Analysis of the Pilot Test.

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N
0.772	0.762	18

In the results section of this research, a thorough analysis and interpretation of data related to ChatGPT user adoption in Melaka are presented. After the pilot test was conducted, the survey was distributed among 357 respondents. Table 2 shows the demographic profile of the respondents in this study. The majority of the respondents in the survey were female, with a total frequency of 204 or 57.1%. The male participants subsequently accounted for a total of 153 participants, which corresponds to 42.9% of the total. Furthermore, individuals who are 41 years old and above have the lowest occurrence rate, specifically 25 and 7%, respectively. The primary focus of this study is the educational attainment of individuals with a degree, accounting for 261 cases or 73.1% of the total. Moreover, respondents with an SPM or below have the lowest frequency, with only 16 individuals, accounting for a total proportion of 4.4%. The primary frequency that contributed to this study was Indian, accounting for 180 or 50.4% of the sample. In contrast, Chinese respondents had the lowest frequency, at 77 or 21.6%. The majority of responders, comprising 188 individuals or 52.7% of the total, are in the private sector. Next, unemployed individuals and students have the lowest occurrence rates, specifically 15 and 7 or 3.9% and 1.9%, respectively. The key elements of this analysis include reliability evaluation, demographic profiling of respondents, correlation analysis, multiple regression analysis, and ANOVA.

Table 2 Demographic profile of the respondents (n=357).

Demographic Variables	Categories	Frequency (n)	Percentage(%)
Gender	Male	153	42.9
	Female	204	57.1
Age	18 - 25 years old	109	30.5
	26- 30 years old	105	29.4
	31 - 35 years old	73	20.4
	36 - 40 years old	45	12.6
	41 years old and above	25	7
Educational level	Master/PhD or above	17	4.7
	Degree	261	73.1
	STPM/Diploma/Certificate	63	17.6
	SPM or below	16	4.4
Ethnicity	Malay	100	28
	Chinese	77	21.6
	Indian	180	50.4
Occupational level	Government sector	100	28
	Private sector	188	52.7
	Self-employed	47	13.2
	Unemployed	15	3.9
	Student	7	1.9
How long have you stayed in Melaka	1 year	68	19
	3 years	125	35
	5 years	97	27.2
	10 years	61	17.1
	More than 10 years	6	1.6

4.1. Reliability analysis for variables

4.1.1. Reliability analysis for independent variables

Table 3 shows the results of the Cronbach's alpha of the independent variable (IV) in this study. This study has a total of 5 independent variables (IVs) to allow respondents to answer. The first independent variable, Attitude (A), has a Cronbach's alpha value of 0.915, Perceived Ease of Use (EU) has a value of 0.903, Perceived Usefulness (U) has a value of 0.908, Privacy (P) has a value of 0.914, and Security (S) has a value of 0.918. All the independent variables have excellent results for the Cronbach's alpha value. In the presented table, the variable "security" has the highest Cronbach's alpha value, recorded at 0.918, which signifies an excellent level of internal consistency among the items associated with this construct. Conversely, the variable "Perceived ease of use" has the lowest Cronbach's alpha value of 0.903. Despite being the lowest in the dataset, this value still reflects a robust level of internal consistency.

Table 3 Reliability analysis for independent variables.

Independent Variables	Cronbach's Alpha	Result
Attitude (A)	0.915	Excellent
Perceived Ease of Use(EU)	0.903	Excellent
Perceived Usefulness (U)	0.908	Excellent
Privacy (P)	0.914	Excellent
Security (S)	0.918	Excellent

4.1.2. Reliability analysis for the dependent variables

Table 4 presents the Cronbach's alpha coefficient for the dependent variable of the study. The Cronbach's alpha for Behavioral Intention (BI) is recorded at 0.899, indicating a strong level of internal consistency for this variable. Overall, the results for Cronbach's alpha suggest that the dependent variable has good reliability.

Table 4 Reliability analysis for independent variables.

Dependent Variables	Cronbach's Alpha	Result
Behavioral Intention (BI)	0.899	Good

4.2. Pearson's correlation analysis

In Table 5, the correlation matrix results elucidate significant relationships between various independent variables (attitude, ease of use, usefulness, privacy, and security) and the dependent variable (behavioral intention). Specifically, Attitude is strongly positively correlated with Privacy (0.939) and Behavioral Intention (0.935), suggesting that a favorable attitude toward ChatGPT is associated with greater privacy perception and greater behavioral intention. Ease of use also strongly correlates with behavioral intention (0.959), highlighting that ease of use significantly impacts user acceptance. Furthermore, usefulness is strongly correlated with behavioral intention (0.949), underscoring its pivotal role in user acceptance and usage of ChatGPT. The correlations between privacy, security, and other variables emphasize the importance of these factors in shaping users' attitudes and perceptions. The statistically significant correlations (p values < 0.001) confirm that these relationships are unlikely to be due to chance, providing insights for prioritizing interventions to increase user acceptance. This analysis substantiates the hypotheses and elucidates key factors influencing user behavior.

The highest observed correlation is 0.959 between ease of use and behavioral intention, denoting a very strong positive relationship. This implies that users who perceive ChatGPT as easy to use are highly inclined to exhibit a strong intention to use it. The robustness of this correlation underscores the critical role of user friendliness in fostering the intention to adopt and utilize ChatGPT. Furthermore, this relationship is statistically significant, with a p value less than 0.001, indicating that the observed correlation is unlikely to be due to chance and is supported by strong empirical evidence.

Conversely, the lowest correlation observed is 0.892 between attitude and security, although it still denotes a strong positive relationship. This finding indicates that there remains a significant positive association between users' attitudes toward ChatGPT and their perceptions of its security. All the correlations presented are statistically significant at the 0.01 level, underscoring the vital interrelationships among these variables, which can provide valuable insights for research and analysis. This understanding of correlations aids in identifying key factors influencing user acceptance and satisfaction with ChatGPT, offering a nuanced perspective on how different variables interact with and impact user behavior.

4.3. Multiple regression

Multiple regression is a statistical technique employed to analyze the relationship between a single dependent variable and several independent variables. The objective of multiple regression analysis is to utilize known values of independent variables to predict the value of a single dependent variable (Moore et al., 2006). Each predictor variable is assigned a weight, which denotes its relative contribution to the overall prediction.

The results of the multiple regression analysis indicate that several independent variables significantly predict Behavioral Intention. Specifically, Attitude, Ease of Use, Usefulness, and Security exhibit strong positive relationships with Behavioral Intention. This suggests that individuals who possess a favorable attitude toward ChatGPT, find it easy to use, perceive it useful, and feel secure in using it are more likely to intend to use ChatGPT.

Table 5 Correlations between the independent and dependent variables.

		A	EU	U	P	S	BI
A	Pearson Correlation	1	.918**	.908**	.939**	.892**	.935**
EU	Pearson Correlation	.918**	1	.957**	.925**	.924**	.959**
U	Pearson Correlation	.908**	.957**	1	.934**	.912**	.949**
P	Pearson Correlation	.939**	.925**	.934**	1	.902**	.931**
S	Pearson Correlation	.892**	.924**	.912**	.902**	1	.942**
BI	Pearson Correlation	.935**	.959**	.949**	.931**	.942**	1

**. The correlation is significant at the 0.01 level (2-tailed).

Note: Attitude (A), ease of use (EU), usefulness (U), privacy (P), security (S), and behavioral intention (BI).

Table 6 reveals that the multiple regression analysis demonstrates the significant predictive power of several independent variables on Behavioral Intentions. Notably, the variable Attitude (A) is characterized by a standardized beta of 0.231, a t value of 6.331, and a p value of less than 0.001. This finding indicates a significant positive relationship between attitudes toward ChatGPT and behavioral intentions, suggesting that individuals with more favorable attitudes are more likely to intend to use the technology. The perceived ease of use (EU) variable has a standardized beta of 0.300, a t value of 6.532, and a p value of less than 0.001. Ease of use is the strongest predictor of behavioral intention, indicating that the easier ChatGPT is to use, the more likely users are to utilize it. This highlights the significance of user-friendly design in increasing user adoption.

Similarly, the measure perceived usefulness (U) has a substantial positive link with behavioral intention, with a standardized beta of 0.200, a t value of 4.495, and a p value of less than 0.001. This suggests that the perceived usefulness of ChatGPT is a critical element affecting users' desire to use the tool, implying that additions that improve the utility of ChatGPT can increase its acceptability. The Privacy (P) variable, on the other hand, has no significant predictive power for Behavioral Intention, with a low standardized beta of 0.006, a t value of 0.156, and a p value of 0.876. Privacy issues appear to have little to no effect on users' intentions to use ChatGPT. This might suggest that people prioritize other aspects, such as simplicity of use and utility, over privacy when selecting to adopt technology. Security (S) has a strong and substantial positive correlation with behavioral intention. Security perceptions are a significant determinant of user intention, with a standardized beta of 0.270, a t value of 8.332, and a p value of less than 0.001. This implies that making users feel safe while using ChatGPT is crucial to increasing user adoption.

Table 6 Multiple regression analysis predicting the independent variable from the dependent variable.

Model	Standardized Beta(β)	t value	p value	Decision
(Constant)		2.911	0.004	-
A	0.231	6.331	<0.001	Significant
EU	0.300	6.532	<0.001	Significant
U	0.200	4.495	<0.001	Significant
P	0.006	0.156	0.876	Not Significant
S	0.270	8.332	<0.001	Significant

Note: Attitude (A), ease of use (EU), usefulness (U), privacy (P), security (S), and behavioral intention (BI).

This study emphasizes the importance of attitudes, ease of use, usefulness, and security in promoting behavioral intention. While privacy issues are not major, simplicity of use, perceived utility, and security are important variables affecting users' adoption and desire to use ChatGPT. The regression model's constant (or intercept) has a t value of 2.911 and a p value of 0.004, suggesting statistical significance. This indicates that if all of the independent variables (Attitude (A), Perceived Ease of Use (EU), Perceived Usefulness (U), Privacy (P), and Security (S)) are zero, the predicted value of the dependent variable, Behavioral Intention, is 0.122. The constant significance supports the existence of a baseline level of behavioral intention even in the absence of effects from the independent variables. This serves as a reference point for comprehending the IV contributions and anchors the regression equation, allowing for a more accurate assessment of the unique impacts of each IV on Behavioral Intention.

Table 7 displays the analysis of variance (ANOVA) for the regression model used to predict behavioral intention (BI) based on numerous independent variables, including Attitude (A), Perceived Ease of Use (EU), Perceived Usefulness (U), Privacy (P), and Security (S). The entire result indicates that the discrepancy between the F-ratio regression and residual is precisely 1442.441. The regression sum of squares (561.266) represents the overall variance in behavioral intention, which can be

explained by the independent variables. The total sum of squares (588.581) represents the overall variation in Behavioral Intention by combining the regression and residual sums of squares. The statistical significance of this result is extremely high, with a p value less than 0.001. This result suggests that the statistical significance of these variables is below the threshold of 0.05 (P<0.05). Overall, this ANOVA study demonstrates that the regression model is extremely significant in predicting behavioral intention, with the independent variables accounting for a considerable percentage of the variation. This indicates that the models successfully capture the elements that impact users' intent to utilize ChatGPT, offering useful insights for further study and interpretation.

Table 7 ANOVA of the independent variable to the dependent variable.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	561.266	5	112.253	1442.441	<.001[b]
Residual	27.315	351	0.078		
Total	588.581	356			

Dependent variable: Behavioral Intention (BI). Predictors: (Constant), Attitude (A), Perceived Ease of Use (EU), Perceived Usefulness (U), Privacy (P), Security (S).

4.4. Relationships between independent variables and dependent variables

This section aims to establish the relationships between the independent factors and dependent variables. When the R square value is 1.0, the study explains all of the variation and provides perfect accuracy. When the R square is closer to 1.0, the link between the independent and dependent variables is generally better for the study than when the R square is closer to 0. Perceived usefulness (U) is most strongly related to behavioral intention (BI) (r = 0.959), followed by perceived ease of use (EU) (r = 0.956), security (S) (r = 0.942), and attitude (A) (r = 0.945). Finally, Privacy (P) has the smallest correlation with Behavioral Intention (BI) (r = 0.931). As a result, all the independent factors are positively related to behavioral intention, which is statistically significant at the 0.01 level. Table 8 presents the correlations between the independent variables and the dependent variables.

Table 8 Correlations between independent variables and dependent variables.

Variables	MP
A	0.945**
EU	0.956**
U	0.959**
P	0.931**
S	0.942**

** Correlation is significant at the 0.01 level (2-tailed).

Note: Independent Variables: Attitude (A), ease of use (EU), usefulness (U), privacy (P), Security (S), Dependent Variables: Behavioral Intention (BI).

5. Discussion

The comprehensive analysis and interpretation of the results reveal significant insights into the factors influencing the acceptance of ChatGPT by users in Melaka. The findings underscore the importance of a user-friendly design in AI adoption, as ease of use emerged as a strong predictor of behavioral intention (β = 0.300, $p < 0.001$). This aligns with the foundational principles of the Technology Acceptance Model (TAM), which posits that perceived ease of use directly enhances technology adoption by reducing cognitive effort (Davis et al., 1989; Venkatesh & Davis, 2000). Recent studies on AI tools, such as those by Choudhury and Shamszare (2023), further validate that intuitive interfaces significantly lower barriers to adoption, particularly in educational and daily use contexts. However, the study also has limitations, such as potential biases in self-reported data, which require careful consideration (Ajzen & Fishbein, 1972).

Comparing the study's results with those of previous studies reveals interesting contrasts and similarities. For instance, while prior work by Shin (2010) and Zhou and Li (2014) emphasized privacy concerns as critical inhibitors of technology adoption, this study revealed no significant impact of privacy on behavioral intention (β = 0.006, $p = 0.876$). This discrepancy may stem from cultural or contextual differences in Melaka, where users prioritize immediate utility over abstract privacy risk, a phenomenon observed in emerging AI markets by Al-Mughairi and Bhaskar (2024). Future research should explore these cultural nuances, potentially integrating frameworks such as the unified theory of acceptance and use of technology (UTAUT) to account for moderating factors such as societal norms (Venkatesh et al., 2012).

The practical implications of the study's findings are significant. Developers can leverage these insights to design more user-centric interfaces, aligning with recommendations by Sicari et al. (2015) on embedding security and usability into AI systems. Policymakers, particularly in regions such as Melaka with increasing AI integration, should prioritize regulatory frameworks that balance innovation with ethical safeguards, as advocated by Van Dis et al. (2023). For educational institutions, the strong correlation between perceived usefulness and adoption (β = 0.200, $p < 0.001$) suggests the need to integrate AI literacy programs to increase perceived value, as highlighted in Albayati (2024) work on undergraduate AI acceptance.

The rejection of Hypothesis H5 (privacy insignificance) challenges conventional narratives but echoes findings in contexts where functionality outweighs privacy concerns, such as in e-commerce adoption studies (Limbu et al., 2012). This underscores the need for context-specific models rather than universal theories. Moreover, the strong influence of security ($\beta = 0.270$, $p < 0.001$) reaffirms the critical role of trust in AI systems, which is consistent with Sicari et al. (2015) emphasis on security as a nonnegotiable pillar for user acceptance.

The multiple regression analysis verifies this, revealing that the privacy variable does not substantially predict behavioral intention, with a low standardized beta of 0.006, a t value of 0.156, and a p value of 0.876. This finding shows that consumers' concerns about privacy do not affect their decision to utilize ChatGPT. According to the study, while determining whether to utilize ChatGPT, consumers may prioritize other criteria, such as simplicity of use and security, above privacy. This is not to say that privacy is irrelevant; rather, in this study, it had no statistically significant effect on users' opinions of ChatGPT's utility or desire to use it, a phenomenon also observed in other AI adoption studies (Al-Mughairi & Bhaskar, 2024; Mohamed et al., 2022).

The findings demonstrate that Attitude, Perceived Usefulness, Ease of Use, and Security all have substantial impacts on users' Behavioral Intentions toward ChatGPT. In this case, however, privacy has no substantial influence on perceived usefulness. These findings provide useful insights into the elements that influence user acceptability and identify potential areas for change to improve the overall user experience. The results are consistent with the Technology Acceptance Model (TAM) (Davis et al., 1989) and extend its applicability to AI tools like ChatGPT, as highlighted in recent studies (Albayati, 2024; Rana et al., 2021). Future research could further explore these dynamics in diverse cultural and institutional settings to validate and generalize the findings (Table 9).

Table 9 Summary of Hypothesis Results.

Hypothesis	Significant value	Result
H1: Attitude positively and significantly impacts the user's Behavioral Intention toward the use of ChatGPT.	P<0.001 (P<0.05)	Supported
H2: Perceived usefulness positively and significantly impacts users' attitudes toward using ChatGPT	P<0.001 (P<0.05)	Supported
H3: Perceived Ease of Use positively and significantly impacts users' attitudes toward using ChatGPT.	P<0.001 (P<0.05)	Supported
H4: Perceived Ease of Use positively and significantly impacts users' perceived usefulness of ChatGPT as a daily reference.	P<0.001 (P<0.05)	Supported
H5: Privacy positively and significantly impacts the Perceived Usefulness of the use of ChatGPT	P>0.001 (P>0.05)	Not Supported
H6: Security positively and significantly impacts Perceived Ease of Use toward the use of ChatGPT	P<0.001 (P<0.05)	Supported

This study identifies Attitude, Ease of Use, Usefulness, and Security as key determinants of ChatGPT adoption in Melaka, aligning with the Technology Acceptance Model (Davis et al., 1989; Venkatesh & Davis, 2003) and prior AI adoption research (Dwivedi et al., 2019; Rana et al., 2021). The robust statistical validation (e.g., Cronbach's $\alpha > 0.90$) underscores the reliability of these findings (Hair et al., 2016), while the insignificance of Privacy contrasts with conventional narratives but mirrors context-specific trade-offs observed in other studies (Zhou & Li, 2014; Al-Mughairi & Bhaskar, 2024). These insights advance understanding of AI acceptance in regional contexts and inform practical design and policy recommendations.

The summary of the research results explains the consequences and draws conclusions on the basis of the analysis. It also discusses the study aims and makes recommendations for future studies and practical applications. This section provides a quick summary of the study's principal results. The study revealed significant determinants of Behavioral Intention toward ChatGPT, including Attitude, Ease of Use, Usefulness, and Security. The findings from the reliability study, correlation analysis, multiple regression analysis, and ANOVA are summarized to show the elements that impact ChatGPT adoption and usage in Melaka.

6. Conclusions

The conclusion section of the research paper provides a concise summary of key outcomes and implications, addresses the research objectives and hypotheses, and discusses limitations and future research directions. This study highlighted ease of use as the most influential factor in ChatGPT adoption and revealed that privacy had no meaningful impact. These conclusions are supported by evidence from the results and discussion sections. It is also important to acknowledge limitations, such as a limited sample size, that may affect generalizability.

Potential areas for future research include exploring cross-cultural adoption variations. Overall, the conclusion ties together all aspects of the research, enhancing the understanding of the field. The researchers present their final thoughts and insights via data analysis and interpretation, highlighting the significance and novelty of the research outcomes. This

comprehensive summary not only reinforces the study's findings but also suggests avenues for further exploration and practical applications in AI technology adoption.

Acknowledgment

Special thanks to Universiti Teknikal Malaysia Melaka and Fakulti Pengurusan Teknologi dan Teknousahawanan for their support throughout the research process. This study is funded by Universiti Teknikal Malaysia Melaka (UTEM), through a publication incentive from Grant FRGS-EC, Kementerian Pendidikan Tinggi (Ministry of Higher Education) with project number FRGS/1/2024/SS02/UTEM/03/1. The authors would also like to thank the Research and Innovation Management Center (CRIM) for their support.

Ethical considerations

The authors affirm that they have obtained consent from participants in research articles utilizing the questionnaire.

Conflict of interest

The authors declare that they have no conflicts of interest.

Funding

This study is funded by Universiti Teknikal Malaysia Melaka (UTEM), through a publication incentive from Grant FRGS-EC, Kementerian Pendidikan Tinggi (Ministry of Higher Education) with project number FRGS/1/2024/SS02/UTEM/03/1.

References

Aciang Iku-Silan, Hwang, G.-J., & Chen, C.-H. (2023). Decision-guided chatbots and cognitive styles in interdisciplinary learning. *Computers & Education, 201,* 104812. https://doi.org/10.1016/j.compedu.2023.104812

Ahuja, A. S. (2019). The impact of artificial intelligence in medicine on the future role of the physician. *PeerJ, 7,* e7702. https://doi.org/10.7717/peerj.7702

Ajzen, I., & Fishbein, M. (1972). Attitudes and normative beliefs as factors influencing behavioral intentions. *Journal of Personality and Social Psychology, 21*(1), 1–9. https://doi.org/10.1037/h0031930

Albayati, H. (2024). Investigating undergraduate students' perceptions and awareness of using ChatGPT as a regular assistance tool: A user acceptance perspective study. *Computers and Education: Artificial Intelligence, 6,* 100203. https://doi.org/10.1016/j.caeai.2024.100203

Al-Mughairi, H., & Bhaskar, P. (2024). Exploring the factors affecting the adoption AI techniques in higher education: Insights from teachers' perspectives on ChatGPT. *Journal of Research in Innovative Teaching & Learning.* https://doi.org/10.1108/JRIT-09-2023-0129

Autry, C. W., Grawe, S. J., Daugherty, P. J., & Richey, R. G. (2010). The effects of technological turbulence and breadth on supply chain technology acceptance and adoption. *Journal of Operations Management, 28*(6), 522–536. https://doi.org/10.1016/j.jom.2010.03.001

Baidoo-Anu, D., & Owusu Ansah, L. (2023). Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of ChatGPT in promoting teaching and learning. *Journal of AI, 7*(1), 52–62. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4337484

Bansal, H., & Khan, R. (2018). A review paper on human computer interaction. *International Journal of Advanced Research in Computer Science and Software Engineering, 8*(4), 53. https://doi.org/10.23956/ijarcsse.v8i4.630

Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). On the dangers of stochastic parrots: Can language models be too big? *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency,* 610–623. https://doi.org/10.1145/3442188.3445922

Brandl, R. (2023, February 15). *ChatGPT statistics and user numbers 2023 - OpenAI chatbot*. Tooltester. https://www.tooltester.com/en/blog/chatgpt-statistics

Brown, T., Mann, B., Ryder, N., Subbiah, M., Kaplan, J. D., Dhariwal, P., Neelakantan, A., Shyam, P., Sastry, G., Askell, A., Agarwal, S., Herbert-Voss, A., Krueger, G., Henighan, T., Child, R., Ramesh, A., Ziegler, D., Wu, J., Winter, C., Hesse, C., Chen, M., Sigler, E., Litwin, M., Gray, S., Chess, B., Clark, J., Berner, C., McCandlish, S., Radford, A., Sutskever, I., & Amodei, D. (2020). Language models are few-shot learners. *Advances in Neural Information Processing Systems, 33,* 1877–1901. https://papers.nips.cc/paper/2020/hash/1457c0d6bfcb4967418bfb8ac142f64a-Abstract.html

Bubeck, S., Chandrasekaran, V., Eldan, R., Gehrke, J., Horvitz, E., Kamar, E., Lee, P., Lee, Y. T., Li, Y., Lundberg, S., Nori, H., Palangi, H., Ribeiro, M. T., & Zhang, Y. (2023). Sparks of artificial general intelligence: Early experiments with GPT-4. *arXiv preprint.* https://doi.org/10.48550/arXiv.2303.12712

Choudhury, A., & Shamszare, H. (2023). Investigating the impact of user trust on the adoption and use of ChatGPT: Survey analysis. *Journal of Medical Internet Research, 25*(1), e47184. https://doi.org/10.2196/47184

Cochran, W. G. (1977). *Sampling techniques.* John Wiley & Sons.

Dasuki, N. M., Yu, Y. X., Siman, A., Yasin, N. I., & Romli, F. I. (2024). Medical insurance: Factor influencing medical insurance purchase decisions among Malaysians. *Multidisciplinary Science Journal, 7*(4), 2025160. https://doi.org/10.31893/multiscience.2025160

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

Dinev, T., & Hart, P. (2006). An extended privacy calculus model for e-commerce transactions. *Information Systems Research, 17*(1), 61–80. https://doi.org/10.1287/isre.1060.0080

Duarte, F. (2024, March 27). *Number of ChatGPT users (2023).* Exploding Topics. https://explodingtopics.com/blog/chatgpt-users

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., Medaglia, R., Meunier-FitzHugh, K. L., Meunier-FitzHugh, L. C. L., Misra, S., Mogaji, E., Sharma, S. K., Singh, J. B., Raghavan, V., Raman, R., Rana, N. P., Samothrakis, S., Spencer, J., Tamilmani, K., Tubadji, A., Walton, P., & Williams, M. D. (2019). Artificial

Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management, 57,* 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002

Floridi, L., & Chiriatti, M. (2020). GPT-3: Its nature, scope, limits, and consequences. *Minds and Machines, 30*(4), 681–694. https://doi.org/10.1007/s11023-020-09548-1

Geetha, C., Ayub, M. S., & Chandran, E. V. V. (2024). The influence of adopting artificial intelligence (AI) on Malaysia's economic environment. *Malaysian Journal of Business and Economics, 11*(1). https://doi.org/10.51200/mjbe.v11i1.5294

Hair, J., Anderson, R., Black, B., & Babin, B. (2016). *Multivariate data analysis.* Pearson.

Hofstede, G. (2011). Dimensionalizing cultures: The Hofstede model in context. *Online Readings in Psychology and Culture, 2*(1). https://doi.org/10.9707/2307-0919.1014

Limbu, Y. B., Wolf, M., & Lunsford, D. (2012). Perceived ethics of online retailers and consumer behavioral intentions. *Journal of Research in Interactive Marketing, 6*(2), 133–154. https://doi.org/10.1108/17505931211265435

Martins, C., Oliveira, T., & Popovič, A. (2014). Understanding the Internet banking adoption: A unified theory of acceptance and use of technology and perceived risk application. *International Journal of Information Management, 34*(1), 1–13. https://doi.org/10.1016/j.ijinfomgt.2013.06.002

Mohamed, N., Ahmad, I. H., & Hassan, Z. (2022). AI readiness in Malaysian higher education: A stakeholder analysis. *Journal of Educational Technology & Society, 25*(3), 1–15. https://www.jstor.org/stable/48629247

Moore, D. S., & McCabe, G. P. (2006). *The basic practice of statistics* (4th ed.). W.H. Freeman.

OpenAI. (2020). *Introducing GPT-3.* https://www.openai.com/blog/openai-api

OpenAI. (2022). *GPT-3.5 release.* https://www.openai.com/research/gpt-3-5

OpenAI. (2023). *GPT-4 release.* https://www.openai.com/research/gpt-4

OpenAI. (2024). *GPT-4.0 release.* https://www.openai.com/research/gpt-4

Patel, K. J., & Patel, H. J. (2018). Adoption of internet banking services in Gujarat. *International Journal of Bank Marketing, 36*(1), 147–169. https://doi.org/10.1108/IJBM-08-2016-0104

Radford, A., Wu, J., Child, R., Luan, D., Amodei, D., & Sutskever, I. (2019). Language models are unsupervised multitask learners. OpenAI. https://cdn.openai.com/better-language-models/language_models_are_unsupervised_multitask_learners.pdf

Rana, N. P., Chatterjee, S., Dwivedi, Y. K., & Akter, S. (2021). Adoption of AI in healthcare: Extending the UTAUT model. *Technological Forecasting and Social Change, 163,* 120460. https://doi.org/10.1016/j.techfore.2020.120460

Robert, B., & Cai, E. (2024). ChatGPT statistics 2025: All the latest statistics about OpenAI's chatbot. Tooltester. https://www.tooltester.com/en/blog/chatgpt-statistics/

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.

Selvanathan, B., & Narayanan, S. (2024). ChatGPT in higher education Malaysia: An opportunity or threat to the education system? *International Journal of Academic Research in Progressive Education and Development, 13*(3). https://doi.org/10.6007/IJARPED/v13-i3/21455

Shawar, B., & Atwell, E. (2007). Chatbots: Are they really useful? *Journal for Language Technology and Computational Linguistics, 22*(1). https://jlcl.org/article/download/88/86

Shin, D.-H. (2010). The effects of trust, security and privacy in social networking: A security-based approach to understand the pattern of adoption. *Interacting with Computers, 22*(5), 428–438. https://doi.org/10.1016/j.intcom.2010.05.001

Sicari, S., Rizzardi, A., Grieco, L. A., & Coen-Porisini, A. (2015). Security, privacy and trust in Internet of Things: The road ahead. *Computer Networks, 76,* 146–164. https://doi.org/10.1016/j.comnet.2014.11.008

Sulaiman, T., Ismail, S., & Ramli, N. (2023). Trust dynamics in AI adoption: A Malaysian perspective. *Journal of Global Information Management, 31*(1), 1–22. https://doi.org/10.4018/JGIM.320898

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*(2), 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd

United Nations Development Programme. (2023). *Digital transformation in Southeast Asia: Challenges and opportunities.* https://www.undp.org/publications/digital-transformation-southeast-asia

Van Dis, E. A. M., Bollen, J., Zuidema, W., van Rooij, R., & Bockting, C. L. (2023). ChatGPT: Five priorities for research. *Nature, 614*(7947), 224–226. https://doi.org/10.1038/d41586-023-00288-7

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science, 45*(2), 186–204. https://doi.org/10.1287/mnsc.45.2.186

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478. https://doi.org/10.2307/30036540

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly, 36*(1), 157–178. https://doi.org/10.2307/41410412

World Bank. (2022). *Malaysia digital economy report: Accelerating inclusive growth.* https://www.worldbank.org/en/country/malaysia/publication/malaysia-digital-economy-report

Wu, S., Irsoy, O., Lu, S., Dabravolski, V., Dredze, M., Gehrmann, S., Kambadur, P., Rosenberg, D., & Mann, G. (2023). BloombergGPT: A large language model for finance. *arXiv preprint.* https://arxiv.org/abs/2303.17564

Wu, T., He, S., Liu, J., Sun, S., Liu, K., Han, Q.-L., & Tang, Y. (2023). A brief overview of ChatGPT: The history, status quo and potential future development. *IEEE/CAA Journal of Automatica Sinica, 10*(5), 1122–1136. https://doi.org/10.1109/JAS.2023.123618

Yu, J., Ha, I., Choi, M., & Rho, J. (2005). Extending the TAM for a t-commerce. *Information & Management, 42*(7), 965–976. https://doi.org/10.1016/j.im.2004.11.001

Zhou, T., & Li, H. (2014). Understanding mobile SNS continuance usage in China from the perspectives of social influence and privacy concern. *Computers in Human Behavior, 37,* 283–289. https://doi.org/10.1016/j.chb.2014.05.008