

CHAPTER II

LITERATURE REVIEW

2. 1. Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to the simulation of human cognitive functions by machines and computer systems, allowing them to learn from experience, solve problems, and adapt to new inputs. These systems emulate tasks such as language understanding, visual perception, and decision-making, which were traditionally thought to require human intelligence. With the evolution of machine learning and neural networks, AI has transitioned from a theoretical concept to a practical tool that is widely adopted in both personal and professional domains (Dwivedi et al., 2023). AI has drastically shaped user experiences through real-time personalization, content recommendation, and intelligent automation. This is particularly evident in sectors such as education, customer service, and healthcare, where AI tools like ChatGPT are used for generating text, aiding research, and supporting communication. The ability of these systems to produce coherent, context-aware responses has transformed how users interact with digital platforms, making processes more efficient and less time-intensive (A. Al-Zahrani, 2024). Despite these advantages, the widespread deployment of AI brings ethical and ecological concerns. High energy consumption associated with training large models, such as GPT-4, contributes significantly to carbon emissions, raising sustainability questions (United Nations Regional Information Centre (UNRIC), 2025). Furthermore, issues such as data misuse, algorithmic bias, and surveillance pose risks to user privacy and equity. As AI continues to permeate daily life, it is

crucial to implement responsible governance frameworks and develop sustainable practices to mitigate these challenges (Dwivedi et al., 2023).

2. 2. Gen Z and Millennials

Generational cohorts play a significant role in the adoption and diffusion of new technologies. Millennials (born between 1981–1996) and Gen Z (1997–2012) are often regarded as digital natives due to their lifelong exposure to technology. These cohorts are generally more receptive to innovation and are quick to adopt tools that enhance efficiency and customization. Their natural inclination toward technology makes them primary users of AI tools like ChatGPT for academic, social, and professional purposes (SurveyMonkey, 2024)

Studies indicate that university students most of whom fall within these generational brackets use ChatGPT for a wide range of academic functions, including writing support, studying, and preparing for exams(J. Abbas et al., 2024) . Their comfort with digital platforms, coupled with their desire for personalized learning experiences, has led to high levels of engagement. ChatGPT's user-friendly interface, conversational tone, and responsiveness align well with Gen Z's communication preferences and expectations for immediacy. Understanding the behaviors and preferences of these generations is essential for developing AI solutions that resonate with their values. Features such as sustainability, social responsibility, and transparency in data use are particularly appealing to Gen Z and Millennials. Tailoring AI applications to support these values not only enhances user loyalty but also fosters a sense of community and ethical engagement (Dwivedi et al., 2023; O. Tyrväinen & Karjaluo, 2024)

2. 3. Independent

2. 3. 1. ChatGPT Affodances

Affordances represent the actionable possibilities a technology offers to its users, shaped by both the tool's design and the user's perception (Gibson, 1977). In the context of ChatGPT, these include efficiency, convenience, and generative capabilities that help users perform tasks quickly and effectively. These features are especially attractive in high-pressure scenarios, such as academic settings, where students must manage tight deadlines and heavy workloads. Research indicates that students under time constraints often rely on AI as a support mechanism to cope with academic demands (J. Abbas 2024) While the affordances of ChatGPT can significantly aid productivity, they also introduce risks of overreliance. When users depend excessively on AI-generated content, it can negatively impact cognitive engagement, reducing the need for deep thinking, analysis, and memory recall. This phenomenon has led scholars to explore the long-term implications of automated assistance on human cognitive development, particularly among younger populations who are still cultivating foundational academic skills (A. M. Al-Zahrani, 2024).

Understanding these affordances is essential for developing AI tools that complement, rather than replace, critical human skills. Designers and educators must find ways to integrate ChatGPT meaningfully into workflows while maintaining the integrity of cognitive learning outcomes. Balancing the tool's utility with strategies that promote critical engagement such as guided

use, transparency, and digital literacy training can help users harness its potential without diminishing essential intellectual development (A. Abbas et al., 2024).

2.3.2. Interactivity

Interactivity in digital platforms refers to the extent to which users can engage, communicate, and receive responses in real-time, shaping both the form and content of their interactions. (Liu & Shrum, 2002) define interactivity as the degree to which a communication technology allows for user participation and influence over the information exchange. In marketing and technology contexts, interactivity is a fundamental element that enhances user engagement, satisfaction, and perceived control over the platform experience. With the rise of AI-powered services such as ChatGPT, interactivity has taken on a new level of sophistication. These systems simulate natural conversation and provide immediate, contextual responses, which can significantly enrich the user experience. Research by (Mior Shariffuddin et al., 2023) highlights that users are more likely to be influenced by platforms that enable real-time, responsive interaction. Interactivity enhances users' perceptions of usefulness and enjoyment, both of which are key precursors to behavioral outcomes like online purchase intention. The relevance of interactivity is also evident in user-centered platform design. In an age where users demand seamless digital experiences, interactivity can determine whether they choose to engage with or abandon a service. When users can customize their journey, access instant feedback, or

converse with intelligent systems, their cognitive and emotional engagement increases. This behavioral involvement often leads to stronger attitudes toward the platform and higher likelihood of conversion. Interactivity is tied to both utilitarian and hedonic values. While utilitarian aspects include efficiency and informativeness, hedonic value stems from enjoyment and entertainment. Both value dimensions contribute to increased user satisfaction and intention to engage in commercial transactions. This dual impact positions interactivity as a powerful antecedent of purchase-related behaviors.

2.3.3. Stickiness

Platform stickiness refers to a user's tendency to stay longer on a digital platform and to return repeatedly due to its design, functionality, and emotional resonance. It reflects not only time spent but also the frequency and depth of user engagement. Stickiness is a crucial construct in marketing, especially in the context of e-commerce and AI platforms, where user retention and habitual use are key to sustainable success.

According to (Zhang et al., 2021) stickiness is formed through repeated positive experiences, personalized content, and ease of use, all of which contribute to creating habitual behavior. In AI-enabled services like ChatGPT, stickiness can be driven by convenience, information quality, and consistent service delivery. Once users become accustomed to relying on such platforms for solutions, recommendations, or decision-making support, they are more likely to develop usage habits that reinforce their intent to engage in

purchases. (Mior Shariffuddin et al., 2023) demonstrated the significance of stickiness in driving user behavior in the ChatGPT premium model. Their research found that stickiness strongly predicts online purchase intention, independent of other factors like trust or perceived usefulness. This shows that a user's tendency to return to and spend time on a platform can be a powerful motivator for conversion.

2.3.4. Word of Mouth (WOM)

Word of Mouth (WOM) refers to informal, person-to-person communication about a product or service. WOM is a vital force in shaping customer perceptions, attitudes, and behaviors, particularly in high-risk or information-sensitive decisions such as online purchases. (Cheung & Thadani, 2012) emphasized that e-WOM serves as a form of social proof, reducing perceived risk and increasing confidence in purchasing decisions. Consumers trust peer recommendations more than promotional messages because they are perceived as unbiased. In AI services and platforms like ChatGPT, WOM can play a crucial role in user adoption, especially when prospective users are uncertain about the reliability or effectiveness of the technology. Although WOM influences the early stages of the consumer decision journey, such as awareness and consideration, its impact on purchase intention can vary depending on the source, credibility, and relevance of the message. (Mior Shariffuddin, Hamid, et al., 2023) noted that while WOM has the potential to shape positive perceptions, it may not always lead directly to purchase intention unless supported by direct user experience. This implies that WOM

acts more as a facilitator than a direct driver of purchase behavior. WOM remains a cornerstone of digital marketing strategies. Platforms that encourage user reviews, ratings, and content sharing often benefit from viral marketing effects. Positive WOM can significantly enhance brand visibility, trust, and ultimately influence consumers to act.

2.3.5. Technology Readiness (TR)

Technology Readiness (TR) refers to an individual's psychological disposition toward adopting and using emerging technologies in various life domains. This construct, developed by (Parasuraman, 2000a), encompasses four key dimensions: optimism, innovativeness, discomfort, and insecurity. People with high levels of optimism and innovativeness are more open to experimenting with new tools such as ChatGPT, often perceiving them as helpful in simplifying tasks and achieving goals. These early adopters tend to see AI as an enabler rather than a threat. Individuals who score high in discomfort and insecurity may resist engaging with AI technologies due to fears about usability, data privacy, or lack of control. These concerns can hinder adoption even when the technology offers clear functional advantages. For instance, a student might avoid using ChatGPT despite its benefits, simply due to fear of misusing it or misunderstanding its capabilities (Dwivedi, Hughes, Baabdullah, Gupta, et al., 2023; Parasuraman, 2000a). Recognizing the components of TR allows developers and educators to design AI systems that cater to diverse user profiles. Simplifying interfaces, offering onboarding tutorials, and providing transparent privacy policies can reduce discomfort

and insecurity. These interventions not only improve user experience but also promote more equitable access to digital tools, ensuring that technological advancement benefits a broader spectrum of society (Dwivedi, Hughes, & Rana, 2023).

2.3.6. Innovativeness

Innovativeness refers to an individual's tendency to be a pioneer in trying out new technologies and digital solutions. In the Technology Readiness Index (TRI), it is one of the four key personality traits used to measure a user's readiness to adopt technological products and services (Parasuraman, 2000b) . Highly innovative users are naturally inclined to explore new tools, apps, and platforms, often being among the first to try new services, including AI tools like ChatGPT. (M. Wolf & Maier, 2024) highlight that innovativeness is a major determinant of continuance intention among users of generative AI platforms. Users high in innovativeness find these tools appealing for their novelty and the enhanced capabilities they offer, such as automation, creativity, and personalized recommendations. These users are more likely to view AI services as valuable aids to decision-making, which can translate into a stronger intention to use such platforms for purchases or other actions.

Innovativeness has been linked with early adoption, opinion leadership, and higher perceived value of technological offerings. These users are also more willing to accept the risk of trying out unfamiliar interfaces or systems, making them a key target segment for introducing advanced features or

subscription models. For instance, ChatGPT's premium features are more likely to attract technologically adventurous users who seek the latest innovations.

2.3.7. Discomfort

Discomfort is a psychological barrier associated with the perceived complexity and lack of control over technological tools. As part of the Technology Readiness Index (TRI), discomfort reflects a user's uneasiness or resistance toward using new digital platforms, particularly when these systems appear difficult to operate or understand (Parasuraman & Colby, 2015). Users who experience discomfort often feel overwhelmed or intimidated by unfamiliar technology, leading to avoidance behaviors. In the context of AI platforms like ChatGPT, discomfort can arise from uncertainty about the tool's functions, technical jargon, or fear of making errors while interacting with the system. These emotional and cognitive hurdles reduce the likelihood that users will embrace the platform for practical tasks like online purchasing. (J. Abbas et al., 2024) found that students who reported higher discomfort levels were less inclined to trust or rely on ChatGPT, citing difficulties with understanding system logic or navigating its interface.

Discomfort is a critical inhibitor of digital engagement. Users who are uncomfortable with a platform are less likely to explore its features, complete transactions, or recommend it to others. Brands that fail to reduce discomfort through intuitive design, onboarding support, or educational content may experience low conversion rates and poor retention. Therefore, identifying

and addressing sources of discomfort can be key to improving user adoption and purchase intention.

2.3.8. Optimism

Optimism, in the context of technology usage, refers to a positive view about the role of technology in enhancing productivity, convenience, and overall quality of life. Optimism is one of the enablers in the Technology Readiness Index (Parasuraman, 2000b). Optimistic users believe in the benefits of technological advancements and are more inclined to explore new platforms and tools, expecting positive experiences. (M. Wolf & Maier, 2024) found that optimism plays a significant role in motivating users to adopt and continue using ChatGPT in both professional and personal contexts. Optimistic users were more confident in the tool's potential to assist with tasks, provide useful information, and simplify decision-making processes. This proactive attitude fosters higher engagement, leading to increased willingness to use such platforms for commercial activities, including online purchases.

Optimism can enhance the perceived value and utility of a platform, making users more open to subscribing to services, using premium features, or completing transactions. Optimism also reduces perceived risk by fostering trust in the platform's reliability and performance. For companies promoting AI or digital solutions, targeting optimistic users may yield higher returns due to their natural predisposition toward adoption.

2.3.9. Insecurity

Insecurity reflects users' concerns about the integrity, privacy, and reliability of technology. As a component of the Technology Readiness Index, it captures the fear that technology may not function correctly or that it may expose users to risks, such as data misuse, misinformation, or system errors (Parasuraman & Colby, 2015b). Insecure users often hesitate to trust digital platforms, which can severely hinder their adoption and usage intentions. In the realm of AI platforms like ChatGPT, insecurity is often linked to fears of biased output, hallucinated answers, or privacy breaches. (J. Abbas et al., 2024) noted that some university students refrained from using ChatGPT due to concerns about academic integrity and the reliability of generated content. These concerns suggest that perceived insecurity can negatively influence user behaviour, including reluctance to engage in purchase-related activities on the platform.

From a consumer behaviour standpoint, insecurity translates to high perceived risk, which is a major deterrent in online environments. Users who are not confident in the security or dependability of a platform are unlikely to input personal information, complete purchases, or engage in long-term interactions. Therefore, addressing insecurity through transparency, ethical AI use, and strong data protections is essential for increasing online purchase intention.

2. 3. 10. Trust

Trust in digital platforms is defined as the user's confidence in the platform's reliability, competence, and ethical responsibility. In online contexts, trust reduces perceived risk and fosters positive attitudes toward engaging with a service. It is especially important in high-involvement or uncertainty-laden environments like e-commerce and AI services (Gefen et al., 2003) . In platforms such as ChatGPT, trust influences not only the decision to use the tool but also whether users are willing to act on the information provided. (Wolf & Maier, 2024) observed that users who trusted ChatGPT were more likely to integrate it into daily routines and rely on its output for work-related tasks. This trust can also strengthen the link between users' initial purchase intentions and their long-term commitment to the platform.

2. 4. Dependent Variable

2. 4. 1. Online Purchase Intention

Online purchase intention is defined as a consumer's willingness or plan to buy a product or service via an internet-based platform. This behavioral construct is strongly influenced by perceived value, usability, trust, and past experiences & user experience (Fishbein & Ajzen, 1975; H. Van Pham & Nguyen, 2020) Within digital ecosystems, users evaluate services based on their functionality and relevance to personal or professional goals. For ChatGPT, offering premium subscriptions represents a clear example of

leveraging these psychological triggers to convert free users into paying subscribers. Many users particularly students and professionals are drawn to the premium version due to its enhanced speed, availability during high traffic, and improved performance. These upgrades enhance the perceived usefulness and value of the product, thereby increasing the likelihood of subscription. Moreover, trust in the service provider (OpenAI, 2023) as well as the consistent delivery of quality output, can further strengthen a user's intention to commit financially to the platform (O. Tyrväinen & Karjaluo, 2024). The freemium model plays a crucial role in shaping this consumer behavior. By initially offering value without cost, the model reduces barriers to entry and fosters a sense of reciprocity. Users become accustomed to the platform and are more willing to pay when they perceive a gap between free and premium features. When coupled with clear communication and demonstrated benefits, this strategy significantly improves conversion rates and user satisfaction (H. Van Pham & Nguyen, 2020; O. Tyrväinen & Karjaluo, 2024).

2. 5. Previous Research

In supporting the study, previous literatures are needed as a guidance in conducting the study. This study used previous studies within 5 years range. **Table 2. 1** represents the previous research for this study.

Table 2. 1 Previous Research

No	Title/Author/Year	Variable	Research Methods	Results	Future Research
1	Navigating the tourism digital landscape: The interrelationship of online travel sites' affordances, technology readiness, online purchase intentions, trust, and E-loyalty / (Shariffuddin et al., 2023)	H1a. Online travel sites affordances' interactivity influences online purchase intentions. H1b. Online travel sites affordances' stickiness influences online purchase intentions. H1c. Online travel sites' affordances' word of mouth influences online purchase intentions. H2a. Technology readiness's innovativeness influences online purchase intentions. H2b. Technology readiness's discomfort influences online purchase intentions. H2c. Technology readiness's optimism influences online purchase intentions. H2d. Technology readiness's insecurity influences online purchase intentions. H3. Online purchase intentions influence e-loyalty. H4. Trust moderates the relationship	This study employed a quantitative and cross-sectional methodology. The data was collected from September 2022 until November 2022 through an online questionnaire on 306 participants who were selected purposively and analyzed using Partial Least Squares-Structural Equation Analysis (PLS-SEM).	H1a: Supported H1b: Supported H1c: Not Supported H2a: Supported H2b: Not Supported H2c: Not Supported H2d: Not Supported H3: Supported H4: Supported	Future studies could test other affordances (e.g., personalization, gamification) and their effect on trust and loyalty. Longitudinal approaches may reveal how technology readiness evolves over time.

		between online purchase intentions and e-loyalty.			
2	ChatGPT usage in everyday life: A motivation-theoretic mixed-methods study / (V. Wolf & Maier, 2024)	H1: Intrinsic motivation to accomplish (InMacomplish) influences continuance intention. H2: Intrinsic motivation to know (InMknow) influences continuance intention. H3: Intrinsic motivation to experience stimulation (InMstimulation) influences continuance intention. H4: Perceived usefulness (ExMPU) influences continuance intention. H5: Perceived ease of use (TeCPEOU) influences continuance intention. H6: Perceived novelty (TeCNVL) influences continuance intention.	Mixed-methods design: Quantitative: fsQCA on 279 users of ChatGPT from the US. Data collected in 3 survey waves. Qualitative: 15 interviews conducted to explore and validate motivations and use cases.	H1: Partially Supported H2: Supported H3: Supported H4: Supported H5: Supported H6: Supported	Future research can explore cross-cultural differences in motivations and conduct longitudinal studies to track motivational shifts.
3	Is it harmful or helpful? Examining the causes and consequences of generative AI usage among university students / (M. Abbas et al., 2024)	H1. Workload will be positively related to the use of ChatGPT. H2. Time pressure will be positively related to the use of ChatGPT. H3a. Sensitivity to rewards will be positively related to the use of ChatGPT. H3b. Sensitivity to rewards will be negatively related to the use of ChatGPT. H4. Sensitivity to quality will be positively related to the use of ChatGPT. H5. Use of ChatGPT will be positively related to procrastination. H6. Use of ChatGPT will be positively related to memory loss. H7. Use of ChatGPT will be negatively	Mixed-methods study: Study 1 – Development of 8-item ChatGPT Usage Scale using survey data from 165 university students in Pakistan. Study 2 – Three-wave time-lagged survey of 494 students. Data analyzed using PLS-SEM.	H1: Supported H2: Supported H3a: Not Supported H3b: Supported H4: Not Supported H5: Supported H6: Supported H7: Supported H8: Supported H9: Supported H10: Supported H11: Not Supported	More research is needed on long-term cognitive and behavioral effects of ChatGPT, and comparisons across academic levels/disciplines.

		related to academic performance. H8. ChatGPT use mediates workload's effect on procrastination, memory loss, and academic performance. H9. ChatGPT use mediates time pressure's effect on procrastination, memory loss, and academic performance. H10. ChatGPT use mediates sensitivity to rewards' effect on procrastination, memory loss, and academic performance. H11. ChatGPT use mediates sensitivity to quality's effect on procrastination, memory loss, and academic performance.			
4	Validating the ChatGPT Usage Scale: psychometric properties and factor structures among postgraduate students / (Nemtallah et al., 2024)	H1: The ChatGPT Usage Scale has a valid three-factor structure. H2: The three factors (Academic Writing Aid, Academic Task Support, Reliance and Trust) contribute significantly to overall ChatGPT usage. H3: The scale demonstrates acceptable reliability and validity (internal consistency, construct validity, and convergent validity).	Quantitative cross-sectional design. Sample: 443 postgraduate students from two Egyptian universities, selected via stratified random sampling. Data collected via a 39-item questionnaire reduced to 15 items after EFA. Tools: SPSS 23 & AMOS 23 (for EFA and CFA).	H1: Supported H2: Supported H3: Supported	Extend scale validation across cultures, languages, and professional users beyond postgraduate students.
5	Acceptance and use of ChatGPT in the academic community /	H1: Performance Expectancy → Behavioral Intention H2: Effort Expectancy → Behavioral Intention H3: Social Influence → Behavioral	Quantitative cross-sectional study using UTAUT2 extended model + PI (Personal Innovativeness). Participants: 629 academic	H1: Supported H2: Not Supported H3: Supported H4: Not Supported H5: Supported	Investigate discipline-specific adoption patterns and longitudinal changes as ChatGPT evolves.

	(Strzelecki et al., 2024)	Intention H4: Facilitating Conditions → Behavioral Intention H5: Facilitating Conditions → Use Behavior H6: Hedonic Motivation → Behavioral Intention H7: Price Value → Behavioral Intention H8: Habit → Behavioral Intention H9: Habit → Use Behavior H10: Personal Innovativeness → Behavioral Intention H11: Behavioral Intention → Use Behavior H12: Gender moderates Behavioral Intention H13: Age moderates Behavioral Intention & Use Behavior	staff from 10 Polish universities. Analysis: PLS-SEM using SmartPLS 4 software. Data collection: April 25 – May 25, 2023.	H6: Supported H7: Supported H8: Supported H9: Supported H10: Supported H11: Supported H12: Not Supported H13: Partially Supported	
6	ChatGPT in higher education: Measurement instruments to assess student knowledge, usage, and attitude / (Köhler & Hartig, 2024)	H1: The knowledge scale about ChatGPT is valid and reliable. H2: The actual usage scale of ChatGPT is valid and reliable. H3: The perceived value of ChatGPT use scale is valid and reliable. H4: The attitude toward ChatGPT scale is valid and reliable. H5: ChatGPT knowledge, use, use value, and attitude are interrelated. H6: Differences exist in these dimensions based on academic field and semester.	Quantitative study using scale development and validation approach. Participants: 693 students from various German universities. Instruments: 3 new scales (Knowledge, Actual Use, Attitude). Analysis: CFA, reliability testing, MANOVA, correlation analysis.	H1: Supported H2: Supported H3: Supported H4: Supported H5: Partially H6: Partially	Extend instruments to include ethical awareness and academic integrity; test differences across academic levels.

7	I Am ChatGPT, The Ultimate AI Chatbot! Investigating The Determinants Of Users' Loyalty And Ethical Usage Concerns of ChatGPT / (Niu & Mvondo, 2024)	H1a–d: Information Quality (Relevance, Reliability, Conciseness, Quickness) → Perceived Usefulness H2a–d: Information Quality → Perceived Coolness H3a–d: Information Quality → Satisfaction H4: Perceived Usefulness → Satisfaction H5: Technology Affinity → Satisfaction H6: Perceived Coolness → Satisfaction H7: Posthuman Ability → Satisfaction H8: Satisfaction → Loyalty H9: User Ethical Perceptions moderate Satisfaction → Loyalty H10: User Ethical Beliefs moderate Satisfaction → Loyalty	Quantitative cross-sectional survey Sample: 456 ChatGPT users in the US via MTurk Tools: SPSS 27, AMOS 24 for SEM analysis Analysis: Model fit, path analysis, moderation	H1a–d: Supported H2a–d: Supported H3a–d: Supported H4: Supported H5: Supported H6: Supported H7: Supported H8: Supported H9: Supported H10: Supported	Compare ethical perceptions across cultures and examine the role of regulations in shaping satisfaction and loyalty.
8	“Chatting with ChatGPT”: Analyzing the factors influencing users’ intention to use OpenAI’s ChatGPT using the UTAUT model / (Menon & Shilpa, 2023)	H1. Performance Expectancy influences intention to use ChatGPT. H2. Effort Expectancy influences intention to use ChatGPT. H3. Social Influence affects intention to use ChatGPT. H4. Facilitating Conditions influence usage of ChatGPT. H5. Perceived Interactivity affects user adoption of ChatGPT. H6. Privacy Concerns influence intention to use ChatGPT. H7. Perceived Human Touch influences ChatGPT usage.	Qualitative approach using semi-structured interviews. Sample: 32 ChatGPT users in India. Data collection: January 2023 via purposive sampling. Thematic analysis based on UTAUT using NVivo software.	- H1 : Supported - H2: Supported - H3: Supported - H4: Supported - H5: Supported - H6: Not Supported -H7: Not Supported	Explore privacy/security influences on long-term adoption; validate findings quantitatively with larger samples.

9	The impact of perceived experience with ChatGPT on online consumers' information searching behavior: an empirical study of Iranian college students / (Alizadeh & Kashani, 2024)	H1. Perceived personalization impacts online consumers' information searching behavior. H2. Perceived relevance impacts online consumers' information searching behavior. H3. Perceived accuracy impacts online consumers' information searching behavior. H4. Perceived convenience impacts online consumers' information searching behavior. H5. The gender variable moderates perceived experience and online consumers' information searching behavior. H6. The age variable moderates perceived experience and online consumers' information searching behavior. H7. The education level variable moderates perceived experience and online consumers' information searching behavior.	This study used a quantitative approach with PLS-SEM (Partial Least Squares Structural Equation Modeling). Data was collected via an online survey from 370 university students in Iran using a non-probability convenience sampling technique. The survey measured perceived personalization, relevance, accuracy, convenience, and consumer information searching behavior, and analyzed the moderating roles of gender, age, and education.	H1: Supported H2: Supported H3: Supported H4: Supported H5: Supported H6: Supported H7: Supported	Extend to different consumer contexts (e-commerce, healthcare, education); explore demographic interaction effects.
10	Exploring Consumers' Response to Text-Based Chatbots in E-Commerce: The Moderating Role of Task Complexity and	H1. Chatbot empathy positively influences consumer trust. H2. Chatbot friendliness positively influences consumer trust. H3. Task complexity negatively moderates the relationship between friendliness and consumer trust. H4. Chatbot identity disclosure	This study employed a quantitative approach using a survey method. Data were collected from 299 participants who interacted with text-based chatbots in e-commerce settings. The analysis was conducted	H1: Supported H2: Supported H3: Supported H4: Supported H5: Supported H6: Supported H7: Supported	Compare ChatGPT-based chatbots with other AI chatbots in complex tasks (e.g., complaints, financial advising).

	Chatbot Disclosure / (Cheng et al., 2024)	negatively moderates the relationship between empathy and consumer trust. H5. Chatbot identity disclosure positively moderates the relationship between friendliness and consumer trust. H6. Consumer trust in the chatbot increases reliance on the chatbot. H7. Consumer trust in the chatbot decreases resistance to the chatbot in future interactions.	using ordinary least squares regression to test the hypotheses.		
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2. 6. Hypothesis Development

2. 6. 1. Interactivity and Online Purchase Intention

Interactivity is one of the most defining characteristics of digital systems. It reflects the degree to which users can actively engage and influence their communication with a platform. On interactive platforms like ChatGPT, users are not merely passive consumers of information; instead, they participate in an ongoing dialogue where their input directly shapes the system's responses. The natural, responsive, and adaptive nature of ChatGPT's conversations fosters a sense of personal involvement and psychological connection, leading to a richer user experience.

(Xu & Pratt, 2018) emphasize that interactivity in online environments significantly enhances consumer engagement and can directly influence purchase intentions. When a platform allows users to feel heard and understood, it builds satisfaction and encourages users to value the experience more deeply. This emotional connection often translates into a higher willingness to pay for additional benefits. For ChatGPT, this could mean that users who perceive strong interactivity may view the Premium version as an investment that enhances communication quality, response speed, and personalization. Furthermore, high interactivity reduces users' uncertainty and perceived risk by increasing transparency and system responsiveness. When users experience smooth and consistent performance, their trust in the platform deepens, making them more likely to engage in a financial commitment. Hence, interactive experiences not only improve perceived

enjoyment but also serve as precursors to purchasing decisions in AI-powered services.

2. 6. 2. Stickiness and Online Purchase Intention

Stickiness refers to a platform's ability to keep users engaged and encourage repeated visits. It reflects both user satisfaction and habitual behaviour developed through frequent interaction. In the context of ChatGPT, stickiness occurs when users continuously depend on the platform for studying, writing, generating ideas, or solving complex tasks. The more frequently users return to ChatGPT, the more likely they are to form a routine and emotional bond with the tool.

According to (Xu & Pratt, 2018), repeated engagement strengthens attachment and reinforces users' loyalty toward a digital platform. When individuals find consistent value in a service, they are less likely to switch to alternatives, and their perceived dependence increases. For ChatGPT users, this behavioural loyalty translates into a desire to sustain access without limitations, which can motivate them to subscribe to ChatGPT Premium.

Stickiness is also a behavioural indicator of user satisfaction and perceived usefulness. (Liu et al., 2024) found that continuous platform engagement positively correlates with purchase intention, particularly in digital ecosystems where value is derived from ongoing interaction. In ChatGPT's case, the sense of reliance users feel can make the Premium

version not just an upgrade, but a necessity to maintain workflow efficiency and creativity.

2. 6. 3. Word of Mouth (WOM) and Online Purchase Intention

Word of Mouth (WOM) remains one of the most influential drivers of consumer behaviour, particularly in online environments. It refers to the process through which users share their experiences and opinions about a product or service, either directly or through social media platforms. In digital ecosystems, WOM often carries greater credibility than advertisements because it is based on authentic user experiences.

For ChatGPT, positive WOM manifests when users publicly share how the AI tool helps them accomplish academic, professional, or personal tasks. Such endorsements can shape potential users' perceptions and significantly influence their decision to try or upgrade to ChatGPT Premium. (Han & Kim, 2020) assert that favourable WOM reduces perceived risk and uncertainty by providing social proof that supports purchase decisions. When users observe consistent positive feedback from others, they develop a stronger belief in the product's value and reliability.

WOM can be both a consequence and a catalyst of user satisfaction. Satisfied ChatGPT users are more likely to recommend the tool to others, which, in turn, expands its user base and reinforces the platform's reputation. Positive WOM can also amplify the effects of interactivity and stickiness; users who experience engaging and consistent interactions are naturally

inclined to share their satisfaction, creating a virtuous cycle that promotes purchase intentions. WOM functions as a bridge between individual experience and collective influence. It translates personal satisfaction into community trust, which becomes a critical determinant of online purchase behaviour in digital ecosystems like ChatGPT.

2. 6. 4. Innovativeness and Online Purchase Intention

Consumers who are naturally innovative tend to show greater readiness to try and buy products online. Their openness to new experiences makes them more comfortable experimenting with unfamiliar websites or mobile applications. This enthusiasm leads to frequent exploration of new stores, promotions, or payment systems, directly increasing the likelihood of online purchases. As a result, innovativeness and online purchase intention are positively linked through curiosity and excitement about technological change.

Several studies confirm that consumers who enjoy exploring digital innovations are more likely to make online purchases. They adapt quickly to new features such as digital wallets, live shopping events, or virtual product previews. Empirical evidence from e-commerce and mobile shopping shows that innovative consumers are often early adopters who display stronger trust and commitment to online buying (Liljander et al., 2006; Wang et al., 2023). Their willingness to experiment with technology minimizes hesitation and enhances purchasing frequency.

The correlation between innovativeness and online purchase intention lies in how innovative individuals treat technology as a tool for self-expression and convenience. They see digital purchasing not only as a necessity but also as an enjoyable experience. The higher a consumer's innovativeness, the stronger their motivation to perform and repeat online purchases.

2. 6. 5. Discomfort and Online Purchase Intention

Consumers who experience discomfort with technology usually demonstrate lower intention to purchase online. Feelings of confusion, frustration, or anxiety reduce their willingness to engage in digital transactions. When individuals believe that online shopping is complicated or prone to error, they tend to postpone or avoid it. Consequently, discomfort and online purchase intention are inversely related as discomfort increases, the likelihood of purchasing online decreases.

Evidence from user-behaviour research confirms this negative link. People who find technology stressful are less likely to trust online payment systems and more inclined to prefer face-to-face shopping (Liljander et al., 2006; Lin et al., 2007) . Discomfort creates cognitive barriers such as uncertainty or fear of making mistakes during checkout, which discourages consumers from finalizing transactions. In many cases, even minor technical issues can strengthen this hesitation, further lowering online purchase intention. Discomfort weakens the relationship between consumers and

digital commerce. The more uncomfortable they feel, the less they engage with online platforms. Therefore, reducing discomfort through better design, support, and clarity is essential to encourage higher online purchasing behaviour.

2. 6. 6. Optimism and Online Purchase Intention

Consumers who feel optimistic about technology generally show a stronger intention to shop online. When users perceive that online platforms make their activities easier and more convenient, they are more willing to make digital transactions. Optimistic individuals tend to focus on the positive side of online shopping, such as time efficiency, wide product choices, and the ability to compare prices quickly. This positive outlook encourages them to explore e-commerce platforms more often, which leads to greater confidence in purchasing products through digital channels. Research shows that optimism and online purchase intention move in the same direction. Studies in various digital settings indicate that individuals with higher optimism levels engage more frequently in online buying because they expect satisfying results from the process (Lin et al., 2007; Martin, 2014). Optimistic consumers interpret the convenience of online systems as proof of reliability and value, which in turn strengthens their purchasing decisions. They are less distracted by potential risks such as delivery delays or product mismatches, focusing instead on perceived benefits.

optimism correlates positively with the desire to buy online because it nurtures trust and enthusiasm toward digital interactions. The more optimistic a consumer is about the outcomes of using online services, the more likely they are to develop strong purchase intentions and consistent buying behaviour.

2. 6. 7. Insecurity and Online Purchase Intention

Insecurity has a negative correlation with consumers' intention to purchase online. When individuals doubt the safety or reliability of digital platforms, their confidence in making online transactions decreases. Concerns about data theft, payment errors, or product fraud often discourage people from completing online purchases. As insecurity rises, the desire to transact online tends to decline. Empirical findings across online shopping and banking studies reveal that higher insecurity leads to lower trust and purchase intention (Hoffman et al., 1999; Lin et al., 2007; T. Pham et al., 2025). Consumers who are uncertain about privacy protection or system performance usually avoid sharing personal or financial information. This lack of assurance weakens their engagement with digital commerce, even when the products or prices are attractive. Insecurity and online purchase intention move in opposite directions. The less secure consumers feel, the weaker their purchasing motivation becomes. Conversely, when insecurity is reduced through visible safety measures or positive past experiences, purchase intention rises significantly. Hence, minimizing insecurity is key to maintaining strong and consistent online buying interest.

2. 6. 8. Trust and Online Purchase Intention

Trust is a central factor that underlies all forms of online transaction behaviour. It reflects users' confidence that a platform will operate ethically, securely, and reliably. In technology-based services like ChatGPT, trust determines whether users feel comfortable investing both time and money. Without trust, even the most interactive or engaging experiences may fail to convert free users into paying customers.

(Gefen et al., 2003) describe trust as a critical enabler of e-commerce, asserting that it reduces perceived risks and enhances users' willingness to make online purchases. Similarly, (J. Kim et al., 2020) found that trust significantly influences users' satisfaction and purchase intentions in digital platforms by creating a sense of security and reliability. For ChatGPT, users' trust may stem from OpenAI's brand credibility, data protection policies, and the consistent quality of AI-generated responses. Trust not only supports the direct path to purchase intention and when users trust that ChatGPT protects their information and delivers reliable performance, they are more inclined to upgrade to the Premium plan for long-term benefits. Moreover, trust helps sustain user loyalty and encourage positive WOM, creating a network effect where credible experiences drive both retention and conversion. Establishing and maintaining trust is essential for transforming positive user experiences into actual purchase behaviour. In ChatGPT's ecosystem, trust becomes the psychological foundation that links users' emotional attachment to their economic decisions.

2. 7. Theoretical Framework

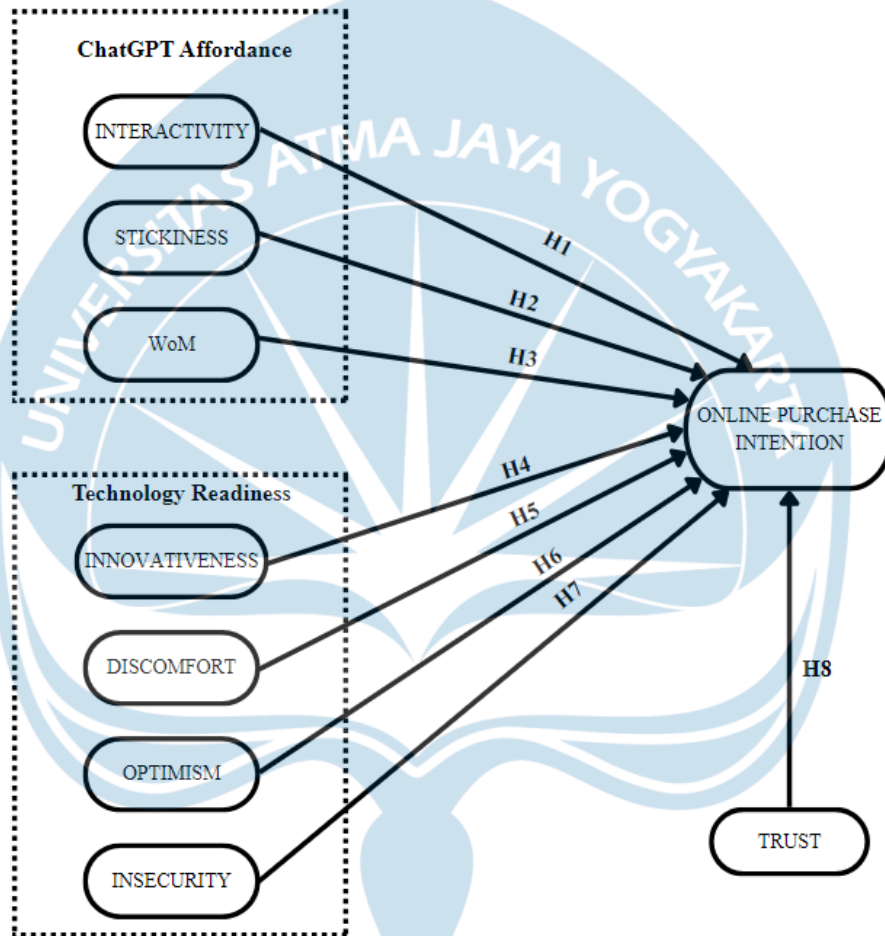


figure 2. 1 Theoretical Framework

Sources: (Habib, 2022; Mior Shariffuddin, Azinuddin, et al., 2023)