SEMARAK ILMU PUBLISHING

Semarak Proceedings of Applied Sciences and Engineering Technology

Journal homepage:
https://semarakilmu.my/index.php/spaset/index
ISSN: 3083 - 9807

The Impact of ChatGPT in Shaping Consumer Purchase Intention in Technological Products among Shah Alam Consumers

Nurain Samsury[1,*], Farhan Shah Abdul Hamid[1], Nur Liyana Mohd Zamani[1], Mohd Rosli Ismail[1]

[1] Management and Science University, 4, Persiaran Olahraga, Section 13, 40000 Shah Alam, Selangor, Malaysia

ABSTRACT

The study is a quantitative study that examines The Impact of ChatGPT in Shaping Consumer Purchase Intention in Technological Products Among Shah Alam Consumers, according to the integrated framework, which relies on the Technology Acceptance Model (TAM), DeLone and McLean Information System (IS) Success Model, and Perceived Risk Theory. The study, which used a cross-sectional online survey of 384 tech-savvy consumers in Shah Alam as the source of data collection, the study confirmed that the proposed model effectively explains 91.1% of the variance in purchase intention. The most important findings indicated that the strongest and most important positive predictors of consumer purchase intention are Perceived Usefulness (PU) and Information Quality (IQ), and Perceived Risk (PR) is a significant negative barrier, which proves the practicality and accuracy of the AI to be the driving power of local consumers. Interestingly, Trust turned out to be statistically insignificant in the final regression model, which implies that in this population, trust is more a prerequisite variable than a direct and strong predictor in the presence of high utility and quality of information.

Keywords: ChatGPT; purchase intention; perceived usefulness; information quality; perceived risk; Technology Acceptance Model; consumer behavior

1. Introduction

This study emphasizes the basis of the research and the main elements that steer the entire investigation. The background of the study addresses the role of artificial intelligence (AI), especially ChatGPT, in changing how consumers seek, evaluate, and make decisions regarding technological products. There is a noticeable shift from classic marketing agents, including advertisements and recommendations made by friends, to AI-based interactions that provide individualized, unbiased, and data-based product suggestion services.

The increasing ambiguity regarding consumer trust, perception, and dependence on ChatGPT when making purchasing choices remains a concern, especially in the Malaysian context. This study aims to investigate the role played by perceived usefulness, perceived ease of use, trust, information quality, and perceived risk in consumer purchase intentions. The empirical investigation is based on these goals and is grounded in the Technology Acceptance Model (TAM).

This research provides significant value by focusing on a local study in Shah Alam, highlighting industry relevance and academic value where the impact of ChatGPT could become a competitive edge for companies. Currently, literature on AI-based tools for decision-making in the Malaysian

Corresponding author.
E-mail address: khalilah_abdhafiz@msu.edu.my

consumer market is limited, representing a clear research gap. Therefore, the objective of this research is to fulfill this gap by examining the influence of ChatGPT on purchase intentions among consumers in Shah Alam.

This study explores the multifaceted influence of ChatGPT on consumer purchase intention, specifically within the context of technological products among consumers in Shah Alam. The fast-moving development of artificial intelligence, specifically conversational AIs such as ChatGPT, has had a tremendous impact on the ways in which customers are exposed to information and formulate their buying decisions. Generative AI burst into the consumer marketplace with the introduction of ChatGPT in November 2022 [1]. ChatGPT is an AI chatbot comprising large language models (LLMs) pre-trained on an extensive amount of textual data [1, 2], offering consumers a new way to search for information on the Internet [3]. This connection is important to businesses in the technology sector because ChatGPT may significantly affect consumer decision-making, particularly regarding technological products that typically involve complex specifications and multiple models.

Previous literature identifies key factors that drive consumer purchase intention (CPI) in the AI era, with a special emphasis on how ChatGPT influences these intentions. As a conversational language model, ChatGPT provides consumers with a personalized and interactive experience where they can request information, compare products, and receive tailored recommendations. Research indicates that such personalization plays a significant role in consumer behavior, as it has been observed to increase perceived usefulness (PU) and perceived ease of use (PEU) [4,5]. These factors, central to the Technology Acceptance Model (TAM), are fundamental in understanding how consumers form purchase intentions when interacting with AI systems [6,7].

Moreover, trust, perceived risk, and information quality are identified as crucial determinants of purchase intention in digital transactions, particularly when AI technologies like ChatGPT are involved. Trust in the technology and the reliability of the information it provides is often a prerequisite for consumers to proceed with purchasing decisions [8,9]. As ChatGPT continues to develop, it is vital to understand consumer perceptions regarding threats and risks, such as data privacy issues and the quality of generated information, which serve as factors that businesses can leverage or must mitigate.

Recent studies suggest that new issues emerging from AI in consumer decision-making include the combined effects of PU and PEU on purchase intention [10]. Literature interprets that consumers tend to embrace technologies that are user-friendly and improve their overall experiences. With the further development of AI tools, the connections between variables of trust and ease of use are becoming increasingly interdependent in forming consumer perceptions of technological products.

Furthermore, AI-driven marketing tools significantly influence CPI by making marketing more personal and efficient in enhancing consumer interactions [11,12]. This literature review investigates how these developments are changing the consumer purchasing process, especially among consumers in Shah Alam, Malaysia, who are increasingly exposed to AI technology in their daily lives. Insights gained from this review serve as the foundation for the subsequent chapters of this research, leading to an understanding of the link between AI-based applications and consumer behavior in the Malaysian context.

2. Methodology

2.1 Research Design and Framework

This study employs a **quantitative research design** using a **cross-sectional survey** approach. This design is chosen to empirically test the relationship between the influence of ChatGPT and consumer

purchase intentions towards technological products among residents of Shah Alam. By gathering numerical data at a single point in time, the study can discover patterns, make predictions, and generalize results to a broader group.

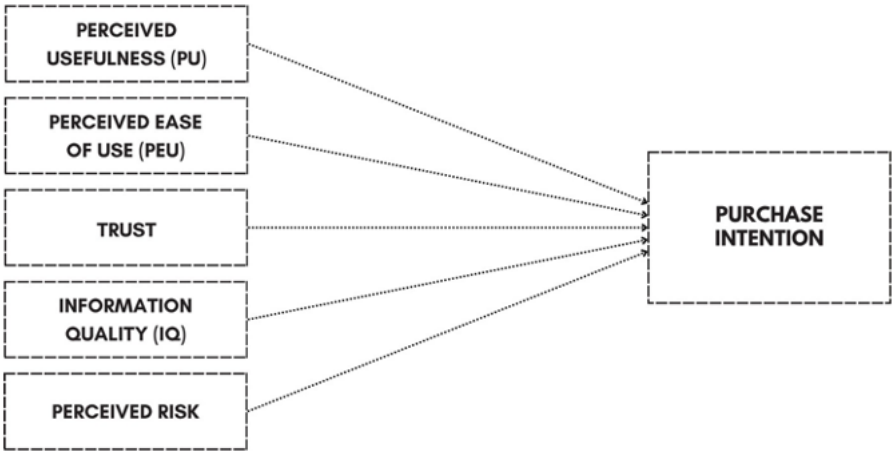

Fig. 1. Conceptual framework

The methodological process is guided by the **4W1H concept** (Who, What, Where, When, Why, and How) to ensure a detailed and systematic account of the research stages.

2.2 Population and Sampling

The target population comprises consumers living in **Shah Alam, Selangor**, who are potential or existing users of Artificial Intelligence (AI) applications, specifically ChatGPT, in their decision-making processes. Shah Alam was selected as the research setting because it is a fast-developing digital city with high technology adoption rates.

According to the Department of Statistics Malaysia (2025), the total population of Shah Alam is 438,745 people. Based on the Krejcie and Morgan (1970) Sample Size Table (see Figure 1), a minimum of 384 respondents is required to represent a population of approximately 500,000 with a 95% confidence level and a 5% margin of error. A purposive sampling technique (non-probability sampling) is employed. This ensures that only respondents who meet specific criteria like the one that active ChatGPT users in Shah Alam aged 18 and above are included, thereby providing data directly relevant to the research objectives.

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Fig. 2. Krejcie and Morgan (1970) sample size table

The primary tool for data collection is an online self-administered questionnaire developed via Google Forms. The questionnaire items were adapted and modified from existing studies based on the Technology Acceptance Model (TAM), the DeLone and McLean IS Success Model, and Bauer's Perceived Risk Theory. The instrument consists of six key constructs measured through 30 items.

Data collection was conducted through a mixed-mode approach, primarily online distribution via social media platforms (WhatsApp, Instagram, Facebook, and Telegram) and supplementary face-to-face interactions to ensure diversity in the respondent pool.

2.3 Pilot Study and Reliability Analysis

Before the main data collection, a pilot study was conducted with 30 respondents to test the questionnaire's viability and clarity. The demographic profile of the pilot study indicated a digitally active, well-educated, and young adult population, aligning with the characteristics of Shah Alam.

Reliability was assessed using Cronbach's Alpha (α), where a value exceeding 0.7 is deemed acceptable. As shown in Table 1, all constructs demonstrated high internal consistency.

Table 1
The reliability test measurement for each variables

Section	Variables	Cronbach's alpha	No. Of items
A	Purchase Intention for Technological Products	.874	**5**
B	Perceived Usefulness (PU)	.873	**5**
C	Perceived Ease of Use (PEU)	.867	**5**
D	Information Quality (IQ)	.911	**5**
E	Trust	.830	**5**
F	Perceived Risk (PR)	.882	**5**
Overall		**.915**	**30**

The overall alpha of 0.915 confirms that the instrument is highly reliable and suitable for the main study.

3. Data Analysis

3.1 Demographic Profile

The study successfully collected responses from 384 participants in Shah Alam. The demographic analysis indicates a balanced gender distribution, with 194 males (50.5%) and 190 females (49.5%). In terms of age, the sample is predominantly composed of young adults, where 38.5% are aged 25–34 and 37.5% are aged 18–24. This suggests that the majority of respondents are "digital natives" who are more likely to adopt AI technologies like ChatGPT. Educational background analysis shows that 60.7% hold a university degree, reflecting a highly educated respondent pool. Crucially, 86.2% of respondents reported using ChatGPT frequently or very frequently for purchase-related queries, as illustrated in the following distribution:

Table 2
Distribution of ChatGPT usage frequency

Frequency	Respondents (n)	Percentage (%)
Very Frequently	158	41.1
Frequently	173	45.1
Occasionally	35	9.1
Rarely	14	3.6
Never	4	1.0

3.2 Descriptive Analysis of Variables

The descriptive analysis evaluated consumer perceptions across six constructs. For Purchase Intention, 66.7% of respondents agreed that ChatGPT influences their decision to buy technology. Interestingly, exactly 50% of respondents preferred ChatGPT over traditional advertisements. Perceived Usefulness (PU) received high ratings, with 74.2% of users agreeing that ChatGPT simplifies product comparisons. Furthermore, Information Quality (IQ) was viewed positively, as 70% of respondents felt the AI provided accurate and reliable product specifications.

3.3 Correlation Analysis

A Pearson Correlation analysis was performed to examine the relationship between the independent variables and Consumer Purchase Intention (CPI). The results show that all variables have a statistically significant relationship ($p < 0.001$).

Table 3
Pearson Correlation Matrix

Correlations

		CPI_Mean	PU_Mean	PEU_Mean	IQ_Mean	TRUST_Mean	PR_Mean
CPI_Mean	Pearson Correlation	1	.935**	.849**	.929**	.893**	-.523**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001
	N	384	384	384	384	384	384
PU_Mean	Pearson Correlation	.935**	1	.929**	.947**	.924**	-.453**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	<.001
	N	384	384	384	384	384	384
PEU_Mean	Pearson Correlation	.849**	.929**	1	.920**	.911**	-.477**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001
	N	384	384	384	384	384	384
IQ_Mean	Pearson Correlation	.929**	.947**	.920**	1	.953**	-.512**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001	<.001
	N	384	384	384	384	384	384
TRUST_Mean	Pearson Correlation	.893**	.924**	.911**	.953**	1	-.535**
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		<.001
	N	384	384	384	384	384	384
PR_Mean	Pearson Correlation	-.523**	-.453**	-.477**	-.512**	-.535**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	
	N	384	384	384	384	384	384

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

The correlation values indicate that Perceived Usefulness ($r = 0.935$) and Information Quality ($r = 0.929$) have the strongest positive influence on purchase intention. Conversely, Perceived Risk ($r = -0.523$) shows a moderate negative relationship, confirming that higher uncertainty leads to lower purchase intention.

3.4 Regression Analysis and Hypothesis Testing

Multiple Linear Regression was conducted to identify the strongest predictors of CPI. The model is highly robust, explaining 91.1% (R-square = 0.911) of the variance in consumer purchase intention.

Table 4
Multiple linear regression results

Variables	Beta	t-value	Sig.(p)	Result
Perceive Usefulness	0.751	13.568	<.001	Significant
Information Quality	0.488	8.865	<.001	Significant
Perceived Risk	-0.100	-5.734	<.001	Significant
Perceived Ease of Use	-0.320	-7.218	<.001	Significant
Trust	0.019	0.525	0.600	Not Significant

3.5 Discussion and Findings

The most significant predictor is Perceived Usefulness (β = 0.751), which aligns with the studies of Azman *et al*., [1] and Hamid [2], stating that utility is the primary driver for AI adoption. This shows that consumers in Shah Alam prioritize the functional value of ChatGPT in saving time and providing specific comparisons (e.g., iPhone vs. Samsung).

Interestingly, Perceived Ease of Use (β = -0.320) showed a negative impact. This suggests that for a highly educated demographic, a system that is "too simple" might be perceived as lacking depth or analytical power for complex technical decisions. Furthermore, Trust was found to be statistically insignificant (p = 0.600). This indicates that for a well-known tool like ChatGPT, trust acts as a "gatekeeper"—it is a baseline requirement, but not the final factor that drives a purchase once utility and information quality are established [11,15].

Lastly, Perceived Risk (β = -0.100) remains a significant barrier. Concerns regarding privacy and data accuracy, as theorized by Bauer [12], still negatively affect the decision-making process. Therefore, transparency in AI data sources is crucial to mitigate these risks.

4. Discussion and Conclusion

4.1 Discussion and Findings

This study aimed to examine the determinants of consumer dependence on ChatGPT in the decision-making process for high-involvement technological goods among consumers in Shah Alam. The research framework integrated the Technology Acceptance Model (TAM), the DeLone and McLean IS Success Model, and Perceived Risk Theory. The Multiple Linear Regression analysis revealed that the proposed model effectively explains 91.1% of the variance in Consumer Purchase Intention (CPI).

Perceived Usefulness (PU) was identified as the strongest predictor of CPI ($\beta = .751$), indicating that practicality and the ability to solve specific shopping issues are the primary drivers for adoption among tech-savvy consumers. This is followed by Information Quality (IQ) ($\beta = .488$), which underscores that the accuracy and relevance of AI-generated content are crucial for minimizing uncertainty. Interestingly, Perceived Ease of Use (PEU) showed a significant negative connection with CPI ($\beta = -.320$), suggesting that sophisticated users in Shah Alam may associate excessive simplicity with a lack of functional depth for complex product comparisons.

Furthermore, while Trust showed a positive correlation, it was statistically insignificant in the final regression model. This suggests that trust acts more as a "gatekeeper" or a baseline requirement; once the system's utility and information quality are verified, trust is naturally assumed. Lastly, Perceived Risk (PR) remains a significant negative barrier ($\beta = -.100$), confirming that concerns regarding data privacy and misinformation still hinder full adoption.

4.2 Implications and Recommendations

The study provides several key implications for industry and policy. For businesses, the high impact of PU and IQ suggests that AI tools should focus on detailed, factual product comparisons rather than generic marketing descriptions. Marketers must ensure that online product data is accurate, as generative AI models like ChatGPT rely on this information to generate recommendations. Additionally, transparency regarding AI data sources and privacy guarantees is essential to mitigate the negative effects of perceived risk.

For future research, it is recommended to expand the geographical scope beyond Shah Alam to include rural populations with different levels of digital literacy. Future studies should also adopt a longitudinal design to track how consumer perceptions evolve as AI technology matures. Finally, investigating other product categories, such as fashion or food, would provide a more holistic understanding of AI's role in retail beyond technical specifications.

4.3 Conclusion

In conclusion, ChatGPT is significantly reshaping the consumer decision-making landscape for technological products in Shah Alam. The findings highlight that utility and accuracy are the most critical factors driving AI-assisted purchase intentions. While challenges such as perceived risk and the need for high-quality information remain, the shift towards interactive, data-driven shopping assistants appears inevitable. Stakeholders must adapt by prioritizing transparency, functional value, and data security to thrive in this new AI-driven marketing era.

References

[1] Azman, N., Hamid, F. S. A., & Samsury, N. (2025). Perceived usefulness in AI chatbots: Facilitating shopping and personalized recommendations. *Journal of AI and Consumer Behavior*.

[2] Bauer, R. A. (1960). Consumer behavior as risk taking. *In Dynamic Marketing for a Changing World*.

[3] Bunea, Ovidiu-Iulian, Răzvan-Andrei Corboș, Sorina Ioana Mișu, Monica Triculescu, and Andreea Trifu. "The next-generation shopper: a study of generation-Z perceptions of AI in online shopping." *Journal of Theoretical and Applied Electronic Commerce Research* 19, no. 4 (2024): 2605-2629. https://doi.org/10.3390/jtaer19040125

[4] Cheng, Xusen, Ying Bao, Alex Zarifis, Wankun Gong, and Jian Mou. "Exploring consumers' response to text-based chatbots in e-commerce: the moderating role of task complexity and chatbot disclosure." *Internet Research* 32, no. 2 (2022): 496-517. https://doi.org/10.1108/intr-08-2020-0460

[5] Förster, Katrin. "Extending the technology acceptance model and empirically testing the conceptualised consumer goods acceptance model." *Heliyon* 10, no. 6 (2024). https://doi.org/10.1016/j.heliyon.2024.e27823

[6] Gerlich, Michael. "The shifting influence: Comparing AI tools and human influencers in consumer decision-making." *Ai* 6, no. 1 (2025): 11.

[7] Gomes, Sofia, João M. Lopes, and Elisabete Nogueira. "Anthropomorphism in artificial intelligence: a game-changer for brand marketing." *Future Business Journal* 11, no. 1 (2025): 2. https://doi.org/10.1186/s43093-025-00423-y

[8] Ibrahim, Fabio, Johann-Christoph Münscher, Monika Daseking, and Nils-Torge Telle. "The technology acceptance model and adopter type analysis in the context of artificial intelligence." *Frontiers in Artificial Intelligence* 7 (2025): 1496518.https://doi.org/10.3389/frai.2024.1496518

[9] Illescas-Manzano, María, Sergio Martínez-Puertas, Paulo Ribeiro Cardoso, and Cristina Segovia-López. "Use of online shop chatbots: How trust in seller moderates brand preference and purchase intention." In *International Conference on Advanced Marketing Practice*, pp. 151-171. Cham: Springer Nature Switzerland, 2024. https://doi.org/10.1007/978-3-031-70488-8_10

[10] Illescas-Manzano, María, Sergio Martínez-Puertas, Paulo Ribeiro Cardoso, and Cristina Segovia-López. "Use of online shop chatbots: How trust in seller moderates brand preference and purchase intention." In *International Conference on Advanced Marketing Practice*, pp. 151-171. Cham: Springer Nature Switzerland, 2024.. https://doi.org/10.1080/10696679.2024.2380719

[11] Jize, Li, and D. F. N. A. Jamaludin. "ChatGPT Made Me Buy it: The Role of AI Recommendation Tools in Shaping Generation Z Consumers' Trust and Purchase Intentions." *International Journal of Academic Research in Business and Social Sciences* 15, no. 6 (2025): 1742-1464. https://doi.org/10.6007/ijarbss/v15-i6/25676

[12] Kenesei, Z., & Kökény, L. (2025). Perceived risk as a major obstacle in technology adoption. *Journal of Consumer Research*.

[13] Kofahi et al. (2025). Accuracy, relevance, and completeness in information systems success. *DeLone and McLean IS Success Model Review*.

[14] Mumtaz et al. (2025). The psychological mechanisms of AI influence on perception and choice. Journal of Digital Consumers.

[15] Pham et al. (2025). Trust building and risk reduction in consumer attitudes. *Journal of Marketing Technology*.