Consumer Purchase Intention Toward AI-Designed Fashion Products: An Extension of the UTAUT Framework

Yutong Zhu[1], Xinjie Ye*[2], Yanwen Ruan[3]

[1] Shanghai University of Engineering Science, 201620, China
[2] The London School of Economics and Political Science, WC2A 2AE, Britain
[3] Shanghai University of Engineering Science, 201620, China

*xinjieye@outlook.com

Abstract. As artificial intelligence increasingly assumes creative roles in product design, consumers respond not only to its technological performance but also to the social qualities embodied by AI agents. Drawing on the UTAUT and SCM frameworks, this study examines consumers' purchase intentions toward AI-designed fashion products through two pathways: an expectation-oriented path (performance expectancy, effort expectancy) and an environmental support path (social influence, facilitating conditions). Results show that both pathways positively influence purchase intention and shape perceptions of AI designers' ability and warmth, which further enhance purchase intention—especially perceived warmth—indicating that acceptance of AI-designed products depends not only on functional evaluation but also on social perceptions of AI as a design agent.

Keywords: Artificial intelligence; AI-generated design; UTAUT; Perceived warmth and competence; Purchase intention

1 Introduction

In recent years, artificial intelligence has been increasingly applied to product design, making consumers' purchase intentions toward AI-designed products an important research focus. Although the novelty and technological appeal of AI may enhance purchase intentions, many consumers still show hesitation, suggesting that the mode of AI involvement in the design process is a critical yet underexplored factor[1].

Prior research has mainly treated AI as a design-support tool, emphasizing technical performance and efficiency while overlooking situations in which AI acts as a primary designer and how consumers' social and emotional perceptions influence decisions. As AI evolves from a technical instrument into a creative partner in design contexts [1], this study conceptualizes AI as a lead designer and integrates the UTAUT framework with a social perception perspective to examine how technology acceptance factors shape consumers' purchase intentions toward AI-designed fashion products.

D. Magni et al. (eds.), *Proceedings of the 2026 3rd International Conference on Applied Economics, Management Science and Social Development (AEMSS 2026)*, Advances in Economics, Business and Management Research 389,
https://doi.org/10.2991/978-94-6239-672-2_66

2 Theoretical Background and Hypotheses

2.1 Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT) proposed by Viswanath Venkatesh integrates several technology acceptance theories and identifies four key determinants of behavioral intention: performance expectancy, effort expectancy, social influence, and facilitating conditions [2]. The framework has been widely applied to explain individuals' adoption of emerging technologies [3].

2.2 Stereotype Content Model

The Stereotype Content Model (SCM) proposes that social perceptions are primarily structured along two dimensions: warmth and ability [4]. In consumer contexts, perceived ability often enhances functional trust and product evaluation, while perceived warmth strengthens emotional attachment and purchase intention [5].

2.3 Hypotheses

2.3.1 UTAUT and Purchase Intention.

According to UTAUT, performance expectancy, effort expectancy, social influence, and facilitating conditions are key determinants of behavioral intention [2]. In the context of AI-designed fashion, these factors are expected to positively influence consumers' purchase intentions.

Based on UTAUT, this study proposes the following hypotheses:

H1: Performance expectancy, effort expectancy, social influence, and facilitating conditions each exert a significant positive effect on consumers' purchase intention toward AI-designed products.

2.3.2 UTAUT and Perceived Ability and Warmth.

2.3.2.1 Expectation-oriented pathway: performance expectancy and effort expectancy.

In design contexts, performance expectancy reflects whether an AI system improves design quality and efficiency, and stronger functional performance may enhance perceptions of competence and trustworthiness [6][7]. Effort expectancy refers to the perceived ease of using a technology, with easier systems more likely to be perceived as competent and favorable by users [8][9].

Based on the above reasoning, this study proposes the following hypotheses:

H2a: Performance expectancy is positively associated with perceived ability of the AI designer.

H2b: Effort expectancy is positively associated with perceived ability of the AI designer.

H2c: Performance expectancy is positively associated with perceived warmth of the AI designer.

H2d: Effort expectancy is positively associated with perceived warmth of the AI designer.

2.3.2.2 Environmental support pathway: social influence and facilitating conditions.

In design contexts, performance expectancy reflects whether an AI system improves design quality and efficiency, and stronger functional performance may enhance perceptions of competence and trustworthiness [6][7]. Effort expectancy refers to the perceived ease of using a technology, with easier systems more likely to be perceived as competent and favorable by users [8][9].

Based on the above arguments, the following hypotheses are proposed:

H3a: Social influence is positively associated with perceived ability of the AI designer.

H3b: Facilitating conditions are positively associated with perceived ability of the AI designer.

H3c: Social influence is positively associated with perceived warmth of the AI designer.

H3d: Facilitating conditions are positively associated with perceived warmth of the AI designer.

2.3.2.2 Perceived Ability, Perceived Warmth, and Purchase Intention.

The Stereotype Content Model proposes that ability and warmth are two fundamental dimensions shaping social evaluation, both of which can influence consumers' purchase intentions through functional trust and emotional attachment [10]. When AI acts as a designer, consumers evaluate not only its design outcomes but also these perceived social attributes, which may affect their purchasing decisions.

Based on the above analysis, the following hypotheses are proposed:

H4: Perceived ability of the AI designer is positively associated with purchase intention.

H5: Perceived warmth of the AI designer is positively associated with purchase intention.

Based on the above hypotheses, this study constructs a conceptual model integrating UTAUT factors and the Stereotype Content Model (SCM), as shown in Fig. 1. The model illustrates two parallel pathways: an expectation-oriented path (performance expectancy and effort expectancy) and an environmental support path (social influence and facilitating conditions), both influencing purchase intention directly and indirectly through perceived ability and perceived warmth.

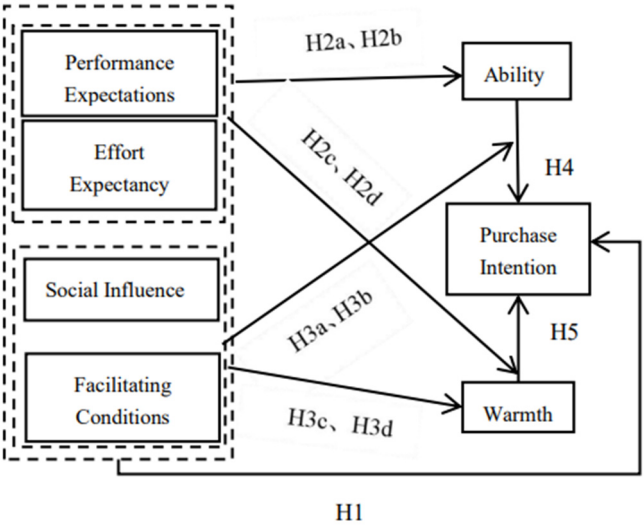

Fig. 1. Model

3 Method

3.1 Questionnaire Design and Measurement

The questionnaire was developed based on the UTAUT and Stereotype Content Model (SCM) frameworks and adapted to the AI-assisted fashion design context. All constructs were measured on a seven-point Likert scale, including UTAUT variables (performance expectancy, effort expectancy, social influence, and facilitating conditions), SCM perceptions (ability and warmth), and outcome variables (purchase intention and willingness to pay), along with demographic information and prior AI usage. Data were collected through the Credamo platform, yielding 209 valid responses. Reliability and validity tests indicated acceptable psychometric properties (Cronbach's $\alpha = 0.667$–0.840), and exploratory factor analysis supported the measurement structure after removing one low-loading warmth item.

4 Results

Multiple linear regression analysis was conducted to examine the effects of the core UTAUT variables on consumers' purchase intentions toward AI-designed fashion products. The results for Hypothesis H1 are reported in the following table 1.

Table 1. UTAUT's return to purchasing behavior

Model	Unstandardized Coefficients		Standardized Coefficients	t	P	Collinearity Statistics	
	B	SE	Beta			Tolerance	VIF
C	0.000	0.055		0.000	1.000		
PE	0.368	0.062	0.368	5.937	0.000	0.782	1.278
EE	0.352	0.062	0.352	5.672	0.000	0.782	1.278
C	0.000	0.062		0.000	1.000		
SI	0.280	0.066	0.280	4.261	0.000	0.891	1.123
FC	0.279	0.066	0.279	4.252	0.000	0.891	1.123
a. Dependent variable: Purchase behavior							

Both regression models were significant. In the expectation-oriented model, performance expectancy ($\beta = 0.368$, $p < .001$) and effort expectancy ($\beta = 0.352$, $p < .001$) positively predicted purchase intention ($R^2 = 0.380$). In the environmental support model, social influence ($\beta = 0.280$, $p < .001$) and facilitating conditions ($\beta = 0.279$, $p < .001$) also showed significant positive effects ($R^2 = 0.208$). Overall, all four UTAUT variables significantly predicted purchase intention, with expectancy factors showing stronger effects. Further regressions examined their influence on perceived ability and warmth (H2a–H2d; H3a–H3d), as reported in the following table 2.

Table 2. The regression of the dual paths on perceptual ability and perceived warmth respectively

Model	Unstandardized Coefficients		Standardized Coefficients	t	P	Collinearity Statistics	
	B	SE	Beta			Tolerance	VIF
C	0.000	0.063		0.000	1.000		
PE	0.278	0.072	0.278	3.879	0.000	0.782	1.278
EE	0.210	0.072	0.210	2.933	0.004	0.782	1.278
a. Dependent variable: perceived ability							
C	0.000	0.060		0.000	1.000		
SI	0.399	0.064	0.399	6.244	0.000	0.891	1.123
FC	0.198	0.064	0.198	3.096	0.002	0.891	1.123
a. Dependent variable: perceived warmth							

Regression analyses showed that expectation-oriented factors significantly predicted perceived ability ($R^2 = 0.175$), with performance expectancy ($\beta = 0.278$, $p < .001$) and effort expectancy ($\beta = 0.210$, $p = .004$) showing positive effects. Environmental support factors also significantly predicted perceived warmth ($R^2 = 0.251$), with social influence ($\beta = 0.399$, $p < .001$) and facilitating conditions ($\beta = 0.198$, $p = .002$) positively influencing warmth. These findings suggest that usefulness and ease of use enhance per-

ceived ability, whereas social endorsement and support increase perceived warmth. Perceived ability and perceived warmth were then entered as predictors of purchase intention to test H4 and H5, and the results are reported in Table 3.

Table 3. The return of perceptual ability and perceived warmth to purchasing behavior

Model	Unstandardized Coefficients		Standardized Coefficients	t	P	Collinearity Statistics	
	B	SE	Beta			Tolerance	VIF
C	0.000	0.056		0.000	1.000		
warmth	0.416	0.057	0.416	7.248	0.000	0.959	1.043
ability	0.345	0.057	0.345	6.009	0.000	0.959	1.043

As shown in Table 3, the regression model was significant ($R^2 = 0.350$), indicating that perceived ability and perceived warmth jointly explained 35% of the variance in purchase intention. Both predictors had significant positive effects, supporting H4 and H5. Notably, perceived warmth ($\beta = 0.416$, $p < .001$) exerted a stronger influence than perceived ability ($\beta = 0.345$, $p < .001$), suggesting that emotional perceptions of AI designers play a more prominent role than functional evaluations in shaping consumers' purchase intentions.

5 Conclusion

This study investigates consumers' purchase intentions toward AI-designed fashion products by integrating the UTAUT framework with the Stereotype Content Model (SCM). The findings reveal that both expectation-oriented factors (performance expectancy and effort expectancy) and environmental support factors (social influence and facilitating conditions) significantly enhance purchase intention. Moreover, these factors shape consumers' perceptions of AI designers' ability and warmth, which further influence purchase decisions.

Importantly, perceived warmth exerts a stronger effect than perceived ability, indicating that consumers respond not only to the functional performance of AI but also to its perceived social and emotional characteristics. This highlights a shift in consumer evaluation from purely technological assessment to a more socially embedded perception of AI as an autonomous design agent.

Theoretically, this study extends the UTAUT framework by incorporating social perception dimensions, offering a more comprehensive understanding of AI acceptance in creative contexts. Practically, the results suggest that brands should not only emphasize the technical capabilities of AI designers but also cultivate their emotional and human-like attributes to enhance consumer trust and acceptance.

Despite its contributions, this study has several limitations. The sample size is relatively limited, and the research context focuses specifically on fashion products, which may affect generalizability. Future research could expand to different product categories and explore additional mediating mechanisms, such as trust or perceived risk, to further enrich the understanding of AI-driven consumption behavior.

References

1. Wilson, H. J., & Daugherty, P. R. (2018). Collaborative intelligence: Humans and AI are joining forces. Harvard business review, 96(4), 114-123.
2. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS quarterly, 425-478.
3. Venkatesh, V., & Thong, J. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. Journal of the association for Information Systems.
4. Fiske, S. T. (2018). Stereotype content: Warmth and competence endure. Current directions in psychological science, 27(2), 67-73.
5. Kolbl, Ž., Diamantopoulos, A., Arslanagic-Kalajdzic, M., & Zabkar, V. (2020). Do brand warmth and brand competence add value to consumers? A stereotyping perspective. Journal of Business Research, 118, 346-362.
6. Longoni, C., Bonezzi, A., & Morewedge, C. K. (2019). Resistance to medical artificial intelligence. Journal of consumer research, 46(4), 629-650.
7. Castelo, N., Bos, M. W., & Lehmann, D. R. (2019). Task-dependent algorithm aversion. Journal of marketing research, 56(5), 809-825.
8. Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. MIS quarterly, 51-90.
9. Waytz, A., Heafner, J., & Epley, N. (2014). The mind in the machine: Anthropomorphism increases trust in an autonomous vehicle. Journal of experimental social psychology, 52, 113-117.
10. Aaker, J., Vohs, K. D., & Mogilner, C. (2010). Nonprofits are seen as warm and for-profits as competent: Firm stereotypes matter. Journal of consumer research, 37(2), 224-2