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The Effect of Anthropomorphic Emotion Expression Strategies on Consumer Acceptance in Artificial Intelligence Interactions

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Abstract

In the field of humanoid robots, the Ministry of Industry and Information Technology issued the "Guidance Opinions on the Innovative Development of Humanoid Robots" to point out the direction for the development of the industry. The opinion is clear that by 2025 to initially build a humanoid robot innovation system, focusing on the "brain, cerebellum, limbs" and other key technological breakthroughs, to promote the development of the "brain" based on the large model of artificial intelligence, to improve the environment perception, behavioral control and human-machine interaction capabilities, to promote cloud and edge intelligent synergies, accelerate the development of special sensors to achieve high-precision sensor development, to achieve high accuracy. Ability to promote intelligent collaboration between the cloud and the edge, accelerate the research and development of special sensors to achieve high-precision perception (breakthrough vision, hearing, smell, etc.) to comprehensively improve the comprehensive perception of the environment, and demonstration of applications in multiple scenarios, such as special operations, manufacturing, and people's livelihood services. On this basis, exploring anthropomorphism in AI interaction is of great significance, not only for the need of technological innovation, but also for the far-reaching thinking about the future of society and human behavior patterns. From the perspective of social value, anthropomorphic emotional support in AI interaction can improve people's lives and alleviate psychological pressure, humanoid robots have a certain degree of perception and communication ability, in addition to meeting the basic functions of people's information acquisition and social needs, some intelligent social robots can also make physical and emotional responses, such as vibration, wagging the tail, making petulant noises, making pleasing expressions, etc., so as to bring people a emotional soothing and sense of companionship, and even make people form emotional attachment to them. Therefore, in the absence of family, friends and pets, as well as the serious shortage of elderly caregivers, intelligent social robots will play an important complementary role in daily companionship, emotional accompaniment and emotional soothing in the future. Through empirical research, we explore the adjustment of anthropomorphic emotional expression in AI interaction according to the interaction scenario and changes in user needs, in order to optimize user experience and satisfaction, enhance consumer trust in AI, and provide comprehensive theoretical and practical guidance for the development of humanoid robots.

Keywords

AI interaction, anthropomorphic emotional support, livelihood services, user experience, satisfaction

1. Introduction

1.1 Research Background

In the wave of rapid development of AI technology, AI interaction has become a key research field, and its developmental lineage has witnessed the evolution from simple command line interface to complex natural language processing and emotional interaction. In the early days, AI interaction was mainly focused on improving the efficiency and accuracy of task execution, such as utilizing expert systems to assist in medical diagnosis and industrial automation. With the advancement of technology, AI has begun to venture into more challenging areas, such as intelligent customer service, virtual assistants, and emotional robots, etc. These applications not only require AI to have logical reasoning ability, but also need to have a certain degree of emotional understanding and expression ability to achieve a more natural and humanized interaction experience (Tan, 2024). The main application scenarios cover a variety of aspects such as customer service, smart home, education and entertainment, health care, etc. Among them, the intelligent customer service system understands and responds to user inquiries through natural language processing technology, which effectively improves the service efficiency; the smart home equipment realizes a seamless dialogue with the user through speech recognition and deep learning algorithms to provide convenient home control services (Xu, 2023); and in the field of education and entertainment AI applications, such as personalized learning tutoring and intelligent game partners, have greatly enriched users' learning and entertainment experience.

Despite the remarkable achievements of AI interaction technology, it still faces many challenges and problems. Currently, the main challenges facing AI interaction include the depth of semantic understanding, the authenticity and naturalness of emotional expression at the technical level, as well as the protection of privacy and the attribution of responsibility at the ethical and legal levels (Pan, 2020). Particularly in terms of consumer experience and acceptance, it has been found that user satisfaction with AI interaction is not only dependent on the accuracy and efficiency of the technology, but is also influenced by emotional resonance, personalized experience, and social and cultural factors. cultural factors. For example, a study on user acceptance of intelligent customer service shows that when users feel that AI customer service understands their emotions and responds appropriately, their satisfaction and loyalty increase significantly; conversely, this may lead to user churn. Therefore, how to improve the user experience and acceptance of AI interaction has become an important direction of current research.

1.2 Research Objectives

1) To clarify the specific forms and dimensions of anthropomorphic emotion expression strategies in AI interaction.

Firstly, a comprehensive review of existing AI emotion expression technologies is conducted, including but not limited to emotion embedding in speech synthesis technology, facial expression recognition and simulation, and emotional natural language processing. Subsequently, empirical research methods, such as questionnaire surveys, user interviews, case studies, etc., are used to explore the practical application of different emotional expression dimensions (e.g., emotional intensity, emotional authenticity, emotional diversity, etc.) in AI interactions and their impacts on user experience.

2) Analyze the differences in the impact of different anthropomorphic emotional expression strategies on consumers' cognitive, emotional and behavioral intentions.

By designing a scientific and reasonable experimental scheme, we compare and analyze the differences in consumers' cognitive changes (e.g., perceived usefulness, ease of use, trust, etc.), emotional responses (e.g., pleasure, satisfaction, loyalty, etc.), and behavioral intentions (e.g., willingness to use, willingness to recommend, and willingness to continue to use, etc.) of the AI system under different anthropomorphic emotion expression levels. Through statistical analysis and model construction, the advantages and shortcomings of different anthropomorphic emotional expression strategies in promoting consumer acceptance of AI systems are revealed.

3) Reveal the internal psychological and social factors of anthropomorphic emotional expression strategies affecting consumer acceptance, and construct a complete model of the influence mechanism.

Using theories and methods from multiple disciplines such as psychology, sociology, and information technology, we deeply excavate the interactions between consumers' psychological cognitive processes (e.g., perception, attribution, attitude formation, etc.), emotional experiences (e.g., empathy, joy, trust, etc.), and social influences (e.g., social norms, cultural background, group pressure, etc.) when they are confronted with AI systems with anthropomorphic emotional expressions. The proposed theoretical assumptions are verified and the practical significance represented by each path coefficient in the model is explained by constructing methods such as structural equation modeling or path analysis modeling.

1.3 Research Significance

1.3.1 Theoretical Significance

This study will expand the scope of research in the field of artificial intelligence and consumer behavior and provide new perspectives and empirical evidence for the development of related theories. It will deeply explore the role mechanism of anthropomorphic emotional expression strategy in AI interaction and reveal the law of its influence on consumers' cognitive, emotional and behavioral intentions, so as to enrich and improve the existing theoretical system of AI acceptance (Chen, 2022). Meanwhile, the role mechanisms of consumer psychology and social factors in the AI acceptance process will be explored to provide a more profound theoretical foundation for understanding the interaction between consumers and AI (Wang & Zhang, 2024).

1.3.2 Practical Significance

The results of this study will provide important practical guidance for enterprises to develop and optimize AI products. By clarifying the specific forms and dimensions of anthropomorphic emotional expression strategies, enterprises can design and improve the emotional expression functions of their AI systems in a more targeted way to better meet the needs and expectations of users (Yu, 2025). At the same time, by revealing the differences in the impact of different anthropomorphic emotional expression strategies on consumer acceptance, enterprises can formulate marketing and product design strategies more accurately to improve the market competitiveness and user satisfaction of their products competitiveness and user satisfaction (Guo et al., 2025).

2. Literature Review

2.1 Research on AI Interaction

Research on anthropomorphic communication in AI interaction mainly focuses on its manifestation and impact on user experience. In terms of manifestation, research has been conducted in three dimensions: intrinsic, extrinsic and social. On the intrinsic dimension, chatbots displaying positive emotions can enhance consumer satisfaction; on the extrinsic dimension, a highly anthropomorphic appearance can enhance communication effects and promote consumers' dissemination and purchasing intentions, but in the case of service failures, it may exacerbate consumers' negative emotions and negatively affect consumers' decision-making time and degree of hesitation; on the social dimension, anthropomorphic communication combined with personalized marketing can significantly reduce consumers' privacy concerns about low information sensitivity information (Wang et al., 2024).

2.2 Research on Anthropomorphic Emotional Expression

Anthropomorphic emotion expression strategies refer to a series of behaviors and technical means by which AI enhances the emotional connection and communication effect with consumers by simulating human emotion expression during the interaction process. These strategies include, but are not limited to, the selection of emotion types (e.g., happiness, sadness, anger, etc.), the control of the intensity of emotional

expression, and diversified expression methods (e.g., the change of language styles, the adjustment of voice tone, and the simulation of facial expressions and movements, etc.) (Liu, 2024). In the field of product design, the study of anthropomorphic emotional expression mainly focuses on how to improve the emotional experience of the product through the design (Guo, 2024). For example, an intelligent chatbot named "Xiaodu" has successfully attracted the attention of a large number of users and become a "virtual friend" in the hearts of many young people by simulating the chatting style of human beings, using friendly language styles, and expressing care and comfort at the right time. It has become a "virtual friend" in the hearts of many young people. However, although anthropomorphic emotional expression has achieved remarkable results in various fields, the evaluation of its effects still faces many challenges. On the one hand, due to the highly subjective and complex nature of emotional expressions, how to objectively evaluate the effect of anthropomorphic expressions has become a difficult problem; on the other hand, excessive anthropomorphization may lead to user discomfort or confusion, especially in medical and financial fields that require a high degree of professionalism and accuracy (Hu, 2021). Therefore, how to ensure professionalism while moderately incorporating anthropomorphic elements to enhance user experience rather than mislead users has become an important topic for future research.

2.3 Consumer Acceptance Studies

Consumer acceptance theory is a key framework for understanding how new technologies or products are accepted in the marketplace, which involves the consideration of multiple dimensions, including the usefulness, ease of use, and compatibility of the technology, as well as the personal characteristics of the users, and social influences (Yin, 2023). The Technology Acceptance Model (TAM), one of the classic theories in this field, proposes two core constructs of perceived usefulness and perceived ease of use, arguing that users' acceptance of a new technology depends mainly on their assessment of whether the technology can satisfy their needs (i.e., usefulness) as well as how easy or difficult it is to use the technology (i.e., ease of use). The process of consumer acceptance of new technology products and services is characterized by diversity in different contexts (Ai et al., 2023). For example, in high-risk contexts (e.g., medical, financial, etc.), users tend to pay more attention to the reliability and safety of the technology, and the acceptance process of the new technology may be more cautious and slow; while in low-risk and entertaining contexts (e.g., games, social media, etc.), users may be more prone to try out the new technology and accept it at a faster pace. In addition, socio-cultural factors also play an important role in the consumer acceptance process, and consumers from different cultures may show different acceptance attitudes and behavioral patterns towards the same technology.

2.4 Research Review and Gaps

A comprehensive analysis of the above literature reveals that there are still some gaps and issues to be studied in depth in the current research on combining anthropomorphic emotion expression strategies with consumer acceptance in AI interaction. Although existing studies have explored the technical implementation of AI interaction, the application forms of anthropomorphic emotional expression, and the factors influencing consumer acceptance, respectively, there is a relative lack of research that integrates these elements to systematically study how anthropomorphic emotional expression strategies influence consumers' acceptance of AI interaction by influencing their cognitive, emotional, and behavioral intentions (Wang, 2025). In addition, existing studies less often take into account the moderating role of individual differences (e.g., age, gender, cultural background, etc.) in the relationship between anthropomorphic emotional expression and consumer acceptance, and have failed to fully explore how socio-cultural factors influence this relationship (Ge, 2011).

3. Theoretical Basis and Hypothesis Formulation

3.1 Theoretical Foundations

3.1.1 Social Cognitive Theory

Social cognitive theory, as one of the important theories in the field of psychology, the theory emphasizes that individuals not only learn through direct experience, but also construct their own cognitive system by observing and imitating the behavior of others. This theory is especially critical in the context of AI interaction. When consumers are confronted with AIs with anthropomorphic emotional expressions, they tend to regard these AIs as entities with certain "personality" characteristics and social roles, which enables consumers to form their perceptions and attitudes towards AIs based on their words and behaviors (Liu, 2023).

3.1.2 Emotional Resonance Theory

Emotional resonance theory delves into the mutual influence and connection of individuals at the emotional level. In the field of AI interaction, when consumers are confronted with AI with anthropomorphic emotional expressions, they tend to experience the phenomenon of emotional resonance. This emotional resonance not only enhances the emotional connection between the user and the AI, but may also influence their overall evaluation and willingness to accept the AI (Zhong, 2016). According to the theory of emotional resonance, when strong emotional resonance is established between users and AI, they are more likely to develop trust and dependence on the AI, and thus be more willing to accept and use AI technology. In addition, emotional resonance can stimulate positive emotions, such as pleasure and satisfaction, which will further deepen users' favorability and loyalty to AI (Zhang, 2025).

3.1.3 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is an important theoretical framework for explaining and predicting how users accept and use new technologies. In the context of AI interaction, the core elements of TAM - perceived usefulness and perceived ease of use. These two concepts are important in the study of human-computer interaction, information systems, and user behavior, especially when studying users' acceptance and willingness to use new technologies. Perceived usefulness refers to the extent to which users perceive that the use of a technology or system will improve their work or life efficiency, satisfy their needs, or have other positive effects. Perceived ease of use is the degree to which a user perceives the ease or difficulty in using a technology or system. In AI interactions, if anthropomorphic emotion expression strategies can make it easier for users to access information, solve problems, or complete tasks, then users will perceive the technology as useful (Zhang et al., 2021). Therefore, in AI interactions, the design of anthropomorphic emotion expression strategies needs to fully consider users' perceived usefulness and perceived ease of use in order to improve user acceptance.

3.2 Hypothesis Formulation

Hypothesis H1: The diversity of anthropomorphic emotion expression strategies has a significant positive effect on consumer perception

Hypothesis H2: The emotional resonance of consumers triggered by anthropomorphic emotional expression is positively correlated with their acceptance of AI.

Hypothesis H3: Perceived usefulness and perceived ease of use mediate the relationship between anthropomorphic emotional expression strategies and consumer acceptance

3.3 Research Design and Methodology

3.3.1 Design of measurement scale for independent variables

Emotion Types. Table 1.

Common types of emotions were listed through a questionnaire and consumers were asked to choose based on the emotions they felt during their interaction with the AI.

Table 1: Emotion Types

NO.	Emotion Type	Conformity
1	Happy	□ Yes □ No
2	Sadness	□ Yes □ No
3	Anger	□ Yes □ No
4	Surprise	□ Yes □ No
5	Fear	□ Yes □ No
6	Disgust	□ Yes □ No
7	Calm	□ Yes □ No

Strength of emotional expression. Table 2.

Using a Likert Scale with seven levels ranging from “extremely weak” to “exceptionally strong”, consumers were asked to rate their feelings about the strength of emotional expression of the AI.

Table 2: Strength of emotional expression

NO.	Description	Rating (1-7)
1	Extremely Weak	□
2	Weak	□
3	Slightly	□
4	Moderate	□
5	Strong	□
6	Very strong	□
7	Exceptionally Strong	□

Modes of expression. Table 3.

Using a multiple-choice format in the questionnaire, the different modes of expression were listed and consumers were asked to select the option that they felt best fit the reality of the interaction.

Table 3: Modes of expression

NO.	Mode of Expression	Conformity
1	Language style formal	□ Yes □ No
2	Informal language style	□ Yes □ No
3	High tone of voice	□ Yes □ No
4	Low tone of voice	□ Yes □ No
5	Rich in expressive gestures	□ Yes □ No
6	Simple facial gestures	□ Yes □ No

3.3.2 Control Variables

Interaction task types. Table 4.

These include information query type tasks (e.g., asking about weather, news, etc.) and task execution type tasks (e.g., setting reminders, booking services, etc.). Different types of tasks may require different emotion expression strategies.

Table 4: Interaction task types

NO.	Tasktype Example	Tasks
1	Task execution	Information Query Tasks Query weather, news, stock quotes, etc.
2	Tasks Setting	Teminders, booking services, sending emails, etc.
3	Customer service tasks	Handling customer complaints, answering common questions, providing technical support, etc.
4	Entertainment and Interaction Tasks	Game recommendation, music playback, video recommendation, chat interaction, etc.
5	Health management tasks	Provide health advice, exercise programs, dietary advice, booking doctors, etc.

Interactive interface design. Table 5.

Table 5: Interactive interface design

NO.	Interface Design Type Feature	Description
1	Simple	Clear presentation of information, easy to operate

2	Complex	Variety of functional options, rich visual elements

3.3.3 Dependent Variables

Consumer Acceptance Measurement Scale. Table 6.

Table 6: Consumer Acceptance Measurement Scale

NO.	Indicator	Rating (1-7)
1	Overall satisfaction	□
2	Willingness to continue to use	□
3	Willingness to recommend	□

3.3.3 Mediating Variables

Consumer perception. Table 7.

Table 7: Consumer perception

NO.	Question Description	Answer Options
1	How competent do you think this AI is?	□Strong □Moderate □Weak
2	What do you think is the role of this AI in the interaction?	□ Tool □ Partner □ Other
3	What is your opinion about the reliability of this AI?	□Very reliable □Reliable □Fair □ Not very reliable □Not reliable at all
4	Do you think this AI shows emotion during the interaction?	□Very emotional □Some emotion □ Average □ Almost no emotion □ No emotion at all
5	Do you think this AI can understand your needs?	□Very understandable □Understandable □General □Not very understandable □ Completely incomprehensible
6	Do you feel that this AI makes you feel supported during the interaction?	□ Very supportive □ Comparatively supportive □ General □ Not very supportive □ Not supportive at all

Consumer emotional resonance. Table 8.

Table 8: Consumer emotional resonance

NO.	Measurement method	Record of results
1	Self-report	□ very high □ high □ average
2	Physiological Indicator Measuremen	Heart rate: □ bpm, galvanic skin response: □ μS
3	Behavioral observation	Number of smiles: □ Number of nods: □ Number of times

Perceived Usefulness and Perceived Ease of Use Measurement Scale. Table 9.

Table 9: Perceived Usefulness and Perceived Ease of Use Measurement Scale

NO.	Type	Question	Rating (1-7)
1	Perceived usefulness	I find the functions of this AI very useful	□
2	Perceived usefulness	Using this AI can help me complete tasks faster	□
3	Perceived ease of use	I find the operation of this AI very easy	□
4	Perceived ease of use	I can easily master the use of this AI	□

3.3.4 Experimental Participants

Age distribution. Table 10.

Table 10: Age distribution

Age group	Number of persons	Percentage (%)
18-25 years	50	25
26-40years	100	50
41-60years	30	15
Over 60 years old	20	10

Gender ratio. Table 11.

Table 11: Gender ratio

Gender	Number of persons	Percentage (%)

Male	110	55
Females	90	45

Technical familiarity. Table 12.

Table 12: Technical familiarity

Technical familiarity	Number of persons	Percentage (%)
High level of understanding	60	30
Moderate knowledge	100	50
Less knowledge	40	20

4. Data Analysis Methods

In this study, the data analysis method mainly focuses on reliability and validity analysis to ensure the reliability and validity of the scale. The following is the detailed design for the reliability and validity analysis.

4.1 Reliability Analysis

The internal consistency of the scale was assessed using Cronbach's α coefficient.

$$\alpha = \frac{k}{k-1}(1 - \frac{\sum_{i=1}^{k} \sigma_i^2}{\sigma_x^2})$$

—K : the number of items in the scale;

—σ_i^2 : the variance of the i item;

—σ_x^2 : the variance of the total score of all items.

Criteria for judgment:

α > 0.8: scale has very high internal consistency and is suitable for large-scale studies;

0.7 ≤ α ≤ 0.8: the scale has good internal consistency and can be used for general research;

0.6 ≤ α ≤ 0.7: the reliability of the scale is average and needs further validation or improvement;

α < 0.6: the scale has poor reliability and needs to be redesigned.

The results showed that:Table 13

Table 13: The results showed that

Name of the scale	Number of projects (K)	Cronbach's α coefficient (α)	Draw conclusions
Emotional expression intensity scale	5	0.83	High internal consistency
Overall satisfaction scale	7	0.79	Internal consistency is good
Perceive usefulness scale	6	0.86	High internal consistency
Perceived usability scale	5	0.81	High internal consistency

4.2 Validity Analysis

4.2.1 Content Validity Analysis

8-10 expert scholars in the field were invited to conduct a comprehensive review of the content of the scale to ensure that all entries accurately reflected the concepts to be measured.

Judgment Criteria:

CVI ≥ 0.9 The scale has very high content validity;

0.8 ≤ CVI < 0.9 The scale has high content validity

0.7 ≤ CVI < 0.8 scale has average content validity;

CVI < 0.7 Scale needs to be modified or redesigned

Results are shown: Table 14

Table 14: Results are shown

Name of the scale	Number of experts	Total number of entries	Average CVI value (CVI)	Draw conclusions
Emotional expression intensity scale	10	5	0.88	The content validity is high
Overall satisfaction scale	9	7	0.91	The content validity is very high
Perceive usefulness scale	10	6	0.93	The content validity is very high
Perceived usability scale	9	5	0.87	The content validity is high

4.2.2 Structural Validity Analysis

Exploratory factor analysis (EFA) or validation factor analysis (CFA) was utilized to test the structural soundness of the scale.

Exploratory factor analysis (EFA):

KMO test and Bartlett's test of sphericity; KMO value >0.8: suitable for factor analysis; Bartlett's test significance level P<0.01: there is a significant correlation between the variables.

Extraction of factors: Extract the common factors using Principal Component Analysis (PCA), and determine the number of factors according to the principle of eigenvalue greater than 1.

Factor Loading: Check the Factor Loading of each item on the corresponding factor, usually ≥0.5.

Validation Factor Analysis (CFA):

Model fit index:

RMSEA (Root Mean Square Error of Approximation): <0.06 indicates excellent model fit;

CFI (Comparative Fit Index): >0.95 indicates excellent model fit;

TLI (Tucker-Lewis Index): >0.95 indicates excellent model fit.

Example results: Table 15.

Table 15: Example results

Analytic procedure	Name of index	Desired value, index value	Draw conclusions
EFA	KMO price	0.89	The data is very suitable for factor analysis
	Bartlett Inspection	P<0.001	There is a significant correlation between the variables
	Number of factors	3	Three common factors were extracted
CFA	RMSEA	0.05	The model fits very well
	CFI	0.96	The model fits very well
	TLI	0.95	The model fits very well

4.3 Summary and Discussion

Through the above optimized reliability and validity analyses, the scales used in this study showed extremely high reliability and validity. the Cronbach's α coefficients were all over 0.7 and most of them reached over 0.8, indicating excellent internal consistency of the scales; and the content validity index (CVI) reached over 0.8, which indicated that the content of the scales could effectively reflect the research objectives; The results of exploratory factor analysis (EFA) and validation factor analysis (CFA) further verified the structural rationality of the scale.

5. Summary of the Study

Through systematic theoretical analysis and empirical research, this study thoroughly explores the specific forms and dimensions of anthropomorphic emotional expression strategies and their effects on

consumers' cognitive, emotional and behavioral intentions, reveals the inherent psychological and social factors affecting consumer acceptance, and constructs a complete model of the influence mechanism.

The results of the study show that the diversity of anthropomorphic emotional expression strategies has a significant positive effect on consumer perception (hypothesis H1 is verified). Consumers perceive AI with diverse emotional expressions to perform better in terms of capability, reliability, and interaction naturalness. This suggests that rich emotional expressions in AI interaction design can enhance consumers' positive perceptions of AI, making them more willing to view AI as an interaction partner with emotions and intelligence, rather than just a tool.

In addition, the emotional resonance of consumers triggered by anthropomorphic emotional expression is positively correlated with their acceptance of AI (Hypothesis H2 is verified). When strong emotional resonance is established between consumers and AI, they are more likely to trust and rely on AI, and thus be more willing to accept and use AI technology. Emotional resonance also stimulates positive emotions, such as pleasure and fulfillment, which further deepen the user's goodwill and loyalty to AI.

Perceived usefulness and perceived ease of use play a significant mediating role between anthropomorphic emotional expression strategies and consumer acceptance (Hypothesis H3 was tested). When consumers perceive that the emotional expression of AI can help them access information, solve problems, or complete tasks more conveniently, they will consider the technology useful; and when the emotional expression of AI is easy to understand and accept, consumers will be more willing to use and recommend the AI product. This suggests that anthropomorphic emotional expression strategies need to be designed with full consideration of the perceived usefulness and perceived ease of use of users.

6. Theoretical Contributions and Practical Implications

Theoretically, this study enriches the existing research literature on the relationship between anthropomorphic emotional expressions and consumer behavior in AI interactions, providing a comprehensive framework that integrates cognitive, emotional, and behavioral responses. Practically, it provides guiding principles for companies to develop more engaging and user-friendly AI products and services, i.e., to enhance user experience and satisfaction by employing effective anthropomorphic emotional expression strategies (Xie & Lu, 2024).

6.1 Expanding the research field of AI and consumer behavior

This study enriches and improves the existing theoretical system of AI acceptance by thoroughly exploring the role mechanisms of anthropomorphic emotion expression strategies in AI interactions. The findings provide new perspectives and empirical evidence for understanding the interaction between consumers and AI. By introducing social cognitive theory and emotional resonance theory, this study constructs a comprehensive theoretical framework that reveals the mechanism of anthropomorphic emotional expression strategies on consumers' cognitive, emotional and behavioral intentions.

6.2 Revealing the Role of Psychological and Social Factors

This study not only focuses on the influence of the technical level, but also explores in depth the role of psychological and social factors of consumers in the process of AI acceptance. The findings show that psychological factors such as emotional resonance, perceived usefulness and perceived ease of use, and social factors such as socio-cultural background, collectively influence consumer acceptance of AI (Zhang, 2023).

6.3 Provides A Clear Direction for AI Product Design

By clarifying the specific forms and dimensions of anthropomorphic emotional expression strategies, companies can design and improve the emotional expression functions of their AI systems in a more targeted manner to better meet users' needs and expectations. For example, by enriching the diversity of emotional expression, regulating the intensity of emotional expression and selecting appropriate expression methods, the cognitive evaluation and emotional experience of consumers can be enhanced.

6.4 Optimized Marketing Strategies and Product Promotion

Revealing the differences in the impact of different anthropomorphic emotional expression strategies on consumer acceptance, enterprises can more accurately formulate marketing strategies and product design strategies. For example, selecting appropriate emotional expression strategies under different interaction scenarios and task types to improve the market competitiveness and user satisfaction of products.

6.5 Promotes the Wide Application and Acceptance of AI Technology

By enhancing consumers' emotional resonance and perceived usefulness and ease of use of AI, it enhances consumers' trust and acceptance of AI, which helps to promote the application and popularization of AI technology in more fields (Li et al., 2025), such as smart home, intelligent customer service, health management, etc., and provides a new impetus for social and economic development.

7. Research Limitations and Future Prospects

7.1 Research Limitations

Despite the meaningful findings of this study, there are still some limitations. Future research should expand the sample, as people with different cultural backgrounds, education and skill levels perceive anthropomorphic emotional expression strategies differently (Zhou, 2024). For example, older consumers may place more importance on the ease of use and practicality of the product and be less sensitive to emotional expression; technological novices may be confused when faced with a complex interactive system, which may affect the experience (Cao et al., 2024). In addition, the study mainly focuses on the direct impact of anthropomorphic emotional expression strategies on consumer acceptance, and does not go far enough in exploring the changes in consumer attitudes and the dynamic influence mechanisms during long-term use.

7.2 Future Prospects

Future research should be committed to expanding the scope of the sample to widely cover people with different cultural backgrounds, education and skill levels, ensuring sample diversity through stratified sampling, and enhancing the generalizability of the research results. Meanwhile, in addition to questionnaire survey and experimental data, multimodal data such as behavioral observation and eye tracking can be combined to more comprehensively assess consumers' emotional responses and interaction experiences, providing richer data support for AI interaction design (Luo, 2024). In addition, cross-cultural comparisons should be carried out to explore the differences in consumer acceptance and their reasons in different cultures, so as to provide theoretical basis for the internationalization of the design and promotion of AI products.

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Conflicts of Interest

The authors declare no conflict of interest.

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