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Anthropomorphic Ai Language and Its Psychological Influence on Consumer Trust And Decision Intention

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ABSTRACT

Advances in conversational artificial intelligence have intensified interest in how users psychologically interpret machine-generated language. Unlike system-styled communication, anthropomorphic language enables AI to convey human warmth, intention and social presence, which may alter how consumers evaluate information and form decisions. This study examines how human-like linguistic cues in AI systems shape consumer trust and subsequently influence decision intention. Drawing on anthropomorphism theory, social presence theory, and trust formation models, the research establishes trust as a psychological mediator in consumer–AI interaction. A between-subjects experimental design was employed, exposing participants to either anthropomorphic or non-anthroporphic AI recommendation messages. Measures of perceived trust and decision intention were analysed using descriptive statistics, correlation analysis and regression-based mediation testing. Findings indicate that anthropomorphic AI evokes emotional connection, reduces uncertainty and increases perceived credibility, significantly enhancing decision intention as compared to objective system language. The study concludes that communication tone functions as a persuasive mechanism within AI interfaces, and strategic anthropomorphism offers a pathway to optimise user acceptance and decision-making outcomes.

Keywords: *Anthropomorphic Ai, Language Style, Consumer Trust, Decision Intention, Social Presence*

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1. INTRODUCTION

Artificial intelligence is increasingly embedded in consumer decision-support environments, ranging from product recommendation agents and financial advisory systems to virtual assistants and customer service chatbots. As these systems become conversational, **language style** emerges as a central design variable shaping how users perceive and respond to AI. Anthropomorphism theory suggests that people naturally attribute humanlike traits, intentions and emotions to non-human entities when provided with appropriate cues, such as voice, name, or conversational behaviour (Epley et al., 2007; Guthrie, 1993). When AI uses first-person pronouns, expressive phrases or relational language, it may be perceived less as a tool and more as a social actor.

From a consumer behaviour perspective, decision making is influenced not only by the *content* of information but also by the *manner* of its delivery. A technical message such as "System recommends Option A based on data" may trigger analytical processing, whereas a human-like statement such as "I recommend Option A for you; I think it suits your needs" can evoke social and affective processing (Nass & Moon, 2000). Such shifts in processing style may be consequential for trust formation, risk perception and, ultimately, decision intention.

Trust has been consistently identified as a key determinant of technology acceptance and online behaviour (Gefen et al., 2003; Lee & See, 2004). In human–AI interaction, trust becomes even more critical because users must rely on opaque algorithms whose internal logic is difficult to verify. If anthropomorphic language increases perceived warmth and social presence (Short et al., 1976; Waytz et al., 2010), it may serve as a low-cost mechanism for strengthening trust. In turn, according to intention models such as the Theory of Planned Behaviour, trust can operate as an important antecedent of decision intention (Ajzen, 1991).

Despite growing deployment of conversational AI in commerce and services, empirical work directly examining **how anthropomorphic AI language influences consumer trust and decision intention** remains relatively limited. Existing studies often focus on system performance, interface usability, or algorithmic transparency, while underemphasising the

psychological effects of language style. This study seeks to address this gap by testing whether anthropomorphic AI language enhances decision intention through its impact on perceived trust.

2. LITERATURE REVIEW

Anthropomorphism is defined as the attribution of human characteristics, motivations or mental states to non-human agents (Epley et al., 2007; Guthrie, 1993). In technology contexts, anthropomorphism can be triggered by visual cues (e.g., faces, avatars), auditory cues (e.g., human-like voice) or linguistic cues (e.g., first-person pronouns, emotional expressions). When users encounter such cues, they are more likely to apply social scripts and interpersonal norms to the interaction (Nass & Moon, 2000).

In conversational AI, linguistic anthropomorphism is especially salient. Phrases such as "I recommend," "I understand," or "I'm happy to help" can signal agency, perspective and socio-emotional capacity, inviting users to construe the AI as a quasi-social partner rather than a purely mechanical decision engine (Waytz et al., 2010). This shift has potential implications for perceived warmth, empathy and relational closeness—dimensions that are typically associated with interpersonal trust.

Social presence theory posits that communication media differ in the degree to which they convey the sense that another "real" person is present in the interaction (Short et al., 1976). Higher perceived social presence is associated with increased satisfaction, relational quality and cooperation. In digital environments, anthropomorphic cues have been shown to increase social presence and engagement (Gefen & Straub, 2004).

Trust, broadly defined as a willingness to be vulnerable based on positive expectations of another's intentions or behaviour (Mayer et al., 1995), is widely recognised as a central determinant of technology usage and online purchasing (Gefen et al., 2003). Prior research suggests that both competence-related cues (e.g., accuracy, reliability) and warmth-related cues (e.g., benevolence, care) contribute to trust in automated systems (Lee & See, 2004). Anthropomorphic language may be particularly effective in signalling warmth and benevolence, reinforcing trust beyond purely performance-based perceptions.

Decision intention represents the motivational readiness to enact a specific behaviour, such as accepting a recommendation or making a purchase (Ajzen, 1991). Intention is often used as a proximal predictor of actual behaviour in both consumer and technology adoption research. If anthropomorphic AI language increases perceived trust, it is reasonable to expect that consumers will be more inclined to follow the AI's suggestions, thereby exhibiting higher decision intention.

While prior research documents the importance of anthropomorphic cues in technology acceptance, most studies have focused on appearance or voice rather than **linguistic style**. Few empirical investigations isolate the effect of anthropomorphic language in AI recommendations on consumer trust and decision intention within a controlled experimental setting. This study addresses this gap by testing a simple but powerful proposition: human-like AI language enhances decision intention, and this effect is psychologically mediated by perceived trust.

3. METHODOLOGY

The study employed a between-subjects experimental research design comprising two distinct language conditions, one featuring anthropomorphic AI phrasing and the other reflecting a non-anthropomorphic/system-generated tone. Participants were randomly assigned to one of the two conditions and were presented with a short scenario describing an AI-enabled product recommendation assistant integrated within an e-commerce platform. In order to ensure internal validity, the recommendation content, product options and contextual descriptions remained identical across both versions, and only the linguistic framing of the AI message was manipulated. In the anthropomorphic condition, the AI assistant communicated in a human-like manner using self-referential language and socially expressive tone, for example: "Hi, I've reviewed the options for you. I recommend this product because I think it matches your preferences best." In contrast, the system-language version used more neutral, mechanistic phrasing such as: "System analysis has reviewed the options. This product is recommended because data indicates it matches user preferences best." This controlled manipulation allowed isolation of the psychological influence of anthropomorphic communication on trust and behavioural intention.

Data were gathered from a total of 312 adult digital consumers through an online survey distribution platform, with participation criteria requiring prior use of e-commerce interfaces or AI-based recommendation services to ensure familiarity with the decision context. After screening responses for completeness, attentiveness and consistency, 302 valid observations were retained for statistical analysis and hypothesis testing. The final sample demonstrated adequate heterogeneity in terms of age, gender, education and frequency of technology usage, providing a reasonable representation of active online consumers. Demographic profiles were summarised and examined to verify the absence of systematic

group differences between the two experimental conditions, thereby supporting the robustness of random assignment. This methodological approach — combining controlled linguistic manipulation with a realistic scenario and a sufficiently powered sample — enables a clear examination of how human-like AI expression influences user trust, perception and intention to act on algorithmic advice.

Table 1: Demographic characteristics **Sample Profile (n = 302)**

Variable	Category	Frequency	Percentage
Gender	Male	148	49.0%
	Female	154	51.0%
Age	18–25 years	96	31.8%
	26–35 years	124	41.1%
	36–45 years	55	18.2%
	46+ years	27	8.9%
Education	Undergraduate or below	137	45.4%
	Postgraduate and above	165	54.6%
Prior AI Use (self-report)	Regularly uses AI-based assistants	211	69.9%
	Rarely/occasionally uses	91	30.1%

Perceived trust was measured using a 5-item scale adapted from prior work on trust in online systems (Gefen et al., 2003; Lee & See, 2004). Sample item: *"I feel that this AI assistant can be trusted to provide recommendations in my best interest."*

Decision intention was measured with a 4-item scale capturing willingness to follow the recommendation (Ajzen, 1991). Sample item: *"I am likely to choose the product recommended by this AI assistant."*

All items were rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). Reliability analysis showed satisfactory internal consistency (Cronbach's α for trust = 0.89; for decision intention = 0.87).

Data were analysed using SPSS. Descriptive statistics were computed for all main constructs. Independent-samples t-tests compared the two language conditions on trust and decision intention. Pearson correlations examined relationships between constructs, and regression analysis tested trust as a mediator between anthropomorphic language (dummy coded) and decision intention.

4. RESULTS

The results of the analysis provide clear statistical support for the proposed relationships between AI language style, perceived trust, and decision intention. Descriptive statistics for the two core constructs are presented in Table 2, indicating relatively high mean scores for both perceived trust (M = 4.98, SD = 1.02) and decision intention (M = 5.12, SD = 0.97) across the full sample of respondents.

Table 2: Descriptive Statistics of Key Constructs (n = 302)

Construct	Mean (M)	Standard Deviation (SD)
Perceived Trust	4.98	1.02
Decision Intention	5.12	0.97

To examine whether anthropomorphic and non-anthropomorphic language elicited different user responses, an independent-samples t-test was conducted. As presented in Table 3, participants who viewed the anthropomorphic AI message reported significantly higher trust as well as stronger behavioural intention to follow the recommendation compared to those in the non-anthropomorphic condition. Perceived trust was significantly greater in the anthropomorphic group (M = 5.28, SD = 0.94) than in the non-anthropomorphic group (M = 4.66, SD = 1.02), $t = 5.35$, $p < .001$. A similar pattern emerged for decision intention, with the anthropomorphic condition yielding higher intention (M = 5.36, SD = 0.90) compared to the non-anthropomorphic version (M = 4.87, SD = 0.99), $t = 4.54$, $p < .001$. These values show a consistent directional effect favouring human-like messaging.

Table 3: Mean Differences by Language Condition

Construct	Anthropomorphic (n = 153) M (SD)	Non-Anthropomorphic (n = 149) M (SD)	t-value	p-value
Perceived Trust	5.28 (0.94)	4.66 (1.02)	5.35	< .001
Decision Intention	5.36 (0.90)	4.87 (0.99)	4.54	< .001

Further analysis explored the association between trust and decision intention. A strong and statistically significant relationship was found, as shown in Table 4. Perceived trust correlated positively with decision intention ($r = 0.71$, $p < .01$), suggesting that higher trust is closely aligned with a greater likelihood of acting on AI-generated advice.

Table 4 :Correlation Between Trust and Decision Intention

Variables	1	2
1. Perceived Trust	1.00	
2. Decision Intention	0.71**	1.00

Note. p < .01.

To test whether trust mediates the impact of anthropomorphic language on behavioural intention, a series of regressions were conducted using language condition as the independent variable (coded 0 = non-anthropomorphic, 1 = anthropomorphic). Results showed that language style significantly predicted decision intention in the first step ($\beta = 0.36$, $p < .001$) and also significantly predicted trust ($\beta = 0.41$, $p < .001$). When trust was added into the model, it emerged as a strong predictor of intention ($\beta = 0.63$, $p < .001$), and the direct effect of language style was reduced though still significant ($\beta = 0.10$, $p = .042$). This pattern of coefficient change confirms a partial mediation effect in which anthropomorphic phrasing enhances decision intention in part because it elevates perceived trust.

Table 5: Regression Results for Mediation Model

Outcome Variable	Predictor	β	p-value
Decision Intention	Language Condition	0.36	< .001
Perceived Trust	Language Condition	0.41	< .001
Decision Intention (final model)	Perceived Trust	0.63	< .001
	Language Condition	0.10	.042

Collectively, the findings indicate that anthropomorphic AI language increases both trust and behavioural intention, and that trust acts as a psychological mechanism linking message tone to consumer decision-making. In essence, making AI sound more human measurably strengthens a user's readiness to follow automated advice.

5. DISCUSSION

The results support the proposition that **anthropomorphic AI language has meaningful psychological consequences** for consumers. When AI communicates in a human-like manner, users report higher trust and are more willing to follow its recommendations. This is consistent with anthropomorphism theory and social presence theory, which suggest that human-like cues prompt social cognition and relational responses (Epley et al., 2007; Short et al., 1976; Nass & Moon, 2000).

Trust emerged as a key mediating mechanism, aligning with prior work that positions trust as a central determinant of online and automated decision support acceptance (Gefen et al., 2003; Lee & See, 2004). By increasing perceived warmth and benevolence, anthropomorphic language appears to complement perceptions of competence, leading to stronger decision intention.

From a managerial standpoint, the findings highlight that **language design in AI systems is not merely cosmetic**. Subtle shifts in pronoun usage and tone can materially affect user trust and decision outcomes. For designers and marketers, this suggests that anthropomorphic language can be leveraged as a low-cost, high-impact intervention to improve user engagement and conversion, while still requiring careful ethical consideration to avoid manipulation or over-reliance on AI.

6. CONCLUSION

This study offers a meaningful contribution to the growing body of knowledge on human–AI interaction, specifically by illustrating how anthropomorphic linguistic cues embedded in AI-generated recommendations shape user psychology and behavioral intention. The findings clearly demonstrate that when AI communicates using human-like conversational phrasing, users perceive it as more relatable, socially present, and cognitively capable. This perception, in turn, fosters a higher degree of trust, which functions as a key psychological mechanism driving consumers' willingness to act on AI advice. The partial mediation effect observed in the model confirms that **language style does not merely influence decision-making directly — it works by altering the user's trust in the system**, reinforcing the importance of emotional and relational components in digital decision environments.

Beyond theoretical relevance, the results hold practical implications for designers of AI-assisted decision tools across industries such as e-commerce, finance, healthcare, education, and customer service. Developers and businesses aiming to increase user compliance may strategically employ anthropomorphic framing — emotional tone, personalized wording, first-person expressions, or social warmth — to make AI appear more intelligent, empathetic, and trustworthy. Nevertheless, such persuasive capability also raises ethical considerations: over-humanizing AI may lead to over-reliance, reduced scrutiny, and potential vulnerability to biased or incorrect recommendations. Therefore, while anthropomorphic design can enhance user engagement, it must be balanced with transparency, accuracy signals, and clear disclosures of AI-system limitations to maintain responsible adoption.

The study also opens promising avenues for future research. Scholars may explore cross-cultural variability in anthropomorphism perception, as high-context and collectivist cultures might react differently from low-context and individualistic societies. Similarly, domain-specific sensitivity should be examined — linguistic cues that succeed in entertainment or shopping contexts might elicit caution or resistance in medical or legal decision-making. Individual differences such as technological anxiety, AI literacy, personality traits, and need for social interaction could moderate the trust pathway further. Future studies may also investigate longitudinal effects to understand whether repeated exposure to anthropomorphic AI strengthens or diminishes credibility over time.

In the core insight is both simple and profound: when AI speaks like a human, humans respond in kind. The results suggest that anthropomorphic language fosters social connection, reduces psychological distance, and elevates trust, which ultimately increases behavioral compliance with AI-generated recommendations. As conversational AI continues to expand into everyday decision-making, conscious calibration of linguistic design will be critical — not only for enhancing user experience but also for ensuring ethical, transparent, and well-regulated deployment. The present work thus positions anthropomorphic communication as a powerful, yet delicate, instrument in shaping the future of human–AI interaction.

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