

ARTIFICIAL INTELLIGENCE ATTRIBUTES INFLUENCING THE BEHAVIOURAL INTENTION TO USE CHATBOTS IN SRI LANKAN SYSTEMATICALLY IMPORTANT BANKS

R.M.S.S Rathnayake¹, S. Rajakarunanayake², K.G.G. R Kande Gedara³

Abstract

The study investigates the influence of artificial intelligence attributes (perceived anthropomorphism, perceived intelligence, perceived animacy) and investigates the mediating role of technology trust on the behavioural intention to use chatbots in systematically important banks in Sri Lanka. Adopting a positivist paradigm and a deductive approach was used to collect cross-sectional data through a structured survey questionnaire and analysed using SPSS and SmartPLS. The findings revealed that Artificial Intelligence (AI) attributes were significant positive predictors of chatbot adoption. The research demonstrates that technology trust acts as a mediator between AI attributes and the behavioural intention to use Chatbots. Grounded in the Computers Are Social Actors (CASA) paradigm, Technology Acceptance Model (TAM), and Unified Theory of Acceptance and Use of Technology (UTAUT), the study enhances understanding of Chatbot adoption in the banking sector. The findings have implications for developers and banks to develop more anthropomorphic, intelligent, and trustworthy chatbots that drive customer uptake and enable digitalisation in banking.

Keywords: Behavioural intention to use chatbots, perceived animacy, perceived anthropomorphism, perceived intelligence, technological trust

¹Department of Industrial Management, University of Moratuwa
Email: rathnayakarmss.21@uom.lk*

²Department of Industrial Management, University of Moratuwa
Email: shenalr@uom.lk

³Department of Industrial Management, University of Moratuwa
Email: gedarakggrk.21@uom.lk



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DOI:

Introduction

The banking sector has fundamentally shifted in recent years due to the adoption of Artificial Intelligence (AI) technologies, which drive customer service automation, increase operational efficiency, and reduce fraud. AI chatbots have become a core mechanism for enhancing customer interaction. A total of 63.1% of banks around the world use chatbots, but less than 40% are leveraging their full capacity (Argyriou, 2024). In Sri Lanka, there are some systemically important banks that are needed for the stability of the national banking system, encouraging AI-based chatbots. People's Wiz (People's Bank), Miss CommBank (Commercial Bank), and BOC Smart Assist (Bank of Ceylon) (CBSL, 2025). However, most of the chatbots are relatively low-key, performing only some limited tasks and having no advanced-level capabilities to undertake complex financial operations. This limitation can have a negative effect on customers' satisfaction and customers' behaviour (CBSL, 2025). For example, People's Bank has launched a multilingual chatbot supporting natural language understanding (NLU) for English, Sinhala, and Tamil, while Commercial Bank offers banking services via WhatsApp, enabling basic account transactions (People's Bank, 2023). From a theoretical perspective, understanding behavioural intention to use chatbots can be framed through the Computers Are Social Actors (CASA) theory, combined with the Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). Such frameworks explain how attitudes, perceptions, and beliefs govern the acceptance of AI-based services among end-users. Few studies have examined how technological trust mediates the relationship between AI attributes and behavioural intention to use chatbots, especially among Sri Lankan Internet Banking Users (SIB users). Although several worldwide research studies have examined AI and chatbot adoption across various service sectors, there has been limited empirical research on the effects of AI-specific properties, such as perceived anthropomorphism, animacy, and intelligence, on user adoption in banking environments. All the above studies have primarily adopted TAM or UTAUT models and emphasised perceived ease of use and perceived usefulness, but never used these constructs, particularly pertaining to AI or explored their interaction effect through the mediating variable of technological trust. This study fills this crucial gap by focusing on Sri Lanka's systemically important banks, a context underrepresented in the world AI adoption research literature, thereby contributing new insights to the effect of AI-enabled human-like features on behavioural intention in a trust-based service environment. The primary aim of this paper is to investigate the determinants of behavioural intention to use AI chatbots by Sri Lanka's systemically important banks. Specifically, the study examines how AI-related characteristics interact with technological trust in shaping chatbot adoption. By addressing this gap, the research contributes to both theory and practice by providing insights into digital banking adoption, enhancing financial inclusion, and supporting the effective deployment of AI in banking (Moussawi & Koufaris, 2019).

Research questions

RQ1: Is there a significant relationship between artificial intelligence attributes (PAT, PI, PA) and behavioural intention to use Chatbots?

RQ2: Does technological trust mediate the relationship between AI attributes (PAT, PI, PA) and behavioural intention to use Chatbots?

Research objectives

RO1: To investigate the relationship between artificial intelligence attributes (PAT, PI, PA) and behavioural intention to use chatbots.

RO2: To investigate the mediating role played by technological trust in the relationship between artificial intelligence attributes & behavioural intention to use chatbots.

Literature Review

The literature review aims to establish a reasonable chain from the general concept of chatbot adoption to the specific AI-related features studied in this study. Building on CASA theory, the Technology Acceptance Model, and Unified Theory of Acceptance and Use of Technology, this chapter critically analyses the impact of perceived anthropomorphism, animacy, and intelligence on user trust and behavioural intention. These constructs were selected because of their theory and evidence relevance to human-AI interaction, particularly in digital banking environments where trust and perceived social presence play key roles in adoption.

Behavioural intention to use chatbots (BIUC)

These days, chatbots are essential tools that financial institutions utilise all around the world, particularly in poor countries. The authors point out that chatbots, via text or voice, fulfil a range of important needs of bank customers, and that many banks are now using conversational banking as a tool for this (Priya & Sharma, 2023). These technologies are used by banks to reduce waiting times and operating expenses by automating customer support tasks (such as loan assistance, financial advising, transaction alerts, personalised banking, and balance queries). Additionally, chatbots facilitate 24/7 conversational banking by managing routine inquiries using AI-driven interfaces, freeing up human agents to focus on more complex issues (Alrawad et al., 2025a). The study indicates that customers prefer successful, outcome-oriented chatbot interactions in banking and that the main factor influencing adoption intention is functional utility (usefulness) (Ramos et al., 2025). show how AI-based chatbots are commonly used to support customer service procedures, interact with clients, and provide tailored assistance (Jiang et al., 2025a).

Perceived anthropomorphism (PAT)

Perceived anthropomorphism is the practice of attributing human characteristics to non-human actors, such as chatbots. To improve user interaction and perception, particularly for bank services, organisations choose to add such attributes by naming them, creating avatars, and employing speech patterns, emoticons, and conversations that sound human. Users react to human-like computers according to social norms, despite knowing they are artificial, according to the CASA model (Priya & Sharma, 2023). The current study shows that users also anthropomorphise text-based chatbots based on interaction style and conversational tone, even though early anthropomorphism research focused on robots (Laban, 2021). The integration of these characteristics promotes trust in AI-driven customer service, emotional attachment, and resistance deflection (Jiang et al., 2025a). It has been discovered that human-like design cues (visual appearance, tone, and gender) improve user pleasure and perceived social presence (Dinh & Park, 2023). These anthropomorphically targeted cues, particularly those with vocabulary aimed at fostering social interaction, remind people of empathy and personalisation (Nawaz et al., 2024).

H1: There is a significant relationship between Perceived Anthropomorphism and Behavioural intention to use Chatbots.

Perceived animacy (PA)

Perceived animacy shows how users feel their chatbots are like people or emotional. A chatbot can emulate such characteristics as a human, and this can only be inferred based on voice as opposed to a real image. This is unlike the robots who, through facial expression and movement, express animacy (Laban, 2021). Because users feel that their chatbot acts deliberately and responds to them, they are strengthened by the chatbot design, which causes them to experience positive emotional states. Applying the theory of Piaget, the animacy can be defined as the movement, which in chatbots is implemented in the form of simulated interactivity and language-mediated communication (Jin & Youn, 2023). Finally, the sense of animacy is the most important user experience design concept because, especially in fields such as banking, where emotional comfort and the quality of relationships are also important, it evokes more humane behaviour of interaction (Laban, 2021).

H2: There is a significant relationship between Perceived Animacy and Behavioural intention to use Chatbots.

Perceived intelligence (PI)

Perceived intelligence is the quantification of competence, knowledge, and common sense of the chatbot in the perception of competent, knowledgeable, and sensible users. It also entails the ability of the system to interpret natural language, give valid and pertinent answers and do things well. The view of chatbots as smart will play a large role in the utilitarian beliefs of the users and will increase their reason for using the technology, especially amongst users who would want the technology to interact with them like humans (Ma et al., 2025). The chatbot will be considered competent enough to produce correct and trustworthy data to enter the financial service world; developers are supposed to make it more cognitively responsive and able to understand natural language (Ma et al., 2025). Piaget's cognitive theory states that the ability of the brain to learn and reason is perceived as intelligence in AI (Jin & Youn, 2023). Besides, chatbot design features like the signals of emotional messages and anthropomorphic directions have a positive impact on the degree of expectation of intelligent users regarding the system (Jin & Youn, 2023).

H3: There is a significant relationship between Perceived Intelligence and Behavioural intention to use Chatbots.

Technological trust as a mediator (TT)

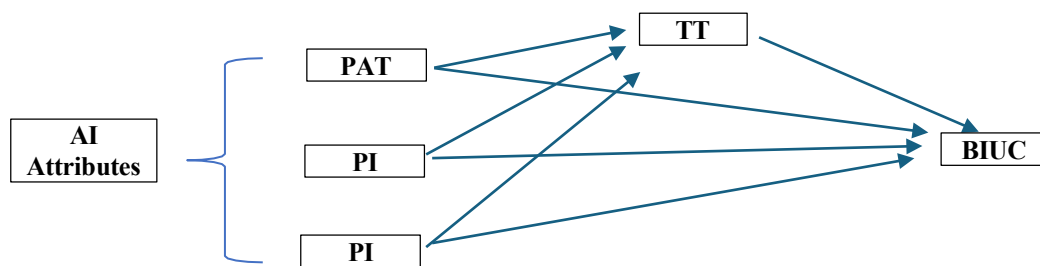
The study reveals that technological trust plays a crucial role in influencing user sentiment towards chatbots, despite social presence not directly affecting attitude. Trust contributes to the translation of perceived human-like traits into favourable user evaluations, highlighting the importance of technological trust in overall acceptance models (Alrawad et al., 2025b). It showed that the way chatbot attributes influence the usage of chatbots is mediated by trust (Choudhury & Shamszare, 2023). Adoption was only impacted by humanity and interactivity once users gained confidence in technology. This shows how trust serves as the link between behavioural results and design elements (Ding & Najaf, 2024). The article reveals that trust in AI technology significantly influences Behavioural intention to use Chatbots, as it is mediated by human-like characteristics and emotional awareness. Recognising user emotions and responding emotionally improves customer satisfaction, leading to the use of AI chatbots in the financial sector. (Jiang et al., 2025).

H4: Technological trust mediates the relationship between perceived anthropomorphism & the behavioural intention to use Chatbots.

H5: Technological trust mediates the relationship between perceived animacy & the behavioural intention to use Chatbots.

H6: Technological trust mediates the relationship between perceived intelligence & the behavioural intention to use Chatbots.

Figure 1
Conceptual framework



(Source: Developed by authors based on literature (2025))

Methodology

Population, sample, measures

The study focused on individual customers of Sri Lanka's five systemically important banks, Bank of Ceylon, Commercial Bank of Ceylon, People's Bank, Hatton National Bank, and Sampath Bank PLC, which comprise the primary population since they are leaders in adopting chatbot technologies (CBSL, 2025). The survey reached the right people with relevant experience utilising the snowball sampling method and acquired 403 usable responses, exceeding the minimum number statistically suggested at 385 (Krejcie & Morgan, 1970). An online questionnaire was administered via email and social media to collect the data. The independent variables were Perceived Anthropomorphism, Perceived Animacy, and Perceived Intelligence, and usage of chatbots was the dependent variable. All the constructs were measured with standardised five-point Likert scales, 1 (Strongly Disagree) to 5 (Strongly Agree), and internal reliability was set with Cronbach's Alpha levels of greater than 0.70, which indicates sufficient reliability (Priya & Sharma, 2023). Snowball sampling was used in this study to guarantee that all the participants were volunteer participants. Participants gave informed consent as soon as they were informed of the study purpose, procedures, and right to withdraw at any point in time without charge. Personal information was anonymised to provide confidentiality, and it was kept personal. All the data were kept safe and used only for study. Before data collection, ethical approval was received from the concerned institutional review board, and the study adhered to the principles of transparency, integrity, and minimisation of harm.

Table 1
Assessment of reliability & validity and HTMT ratio of correlations

Variable	Mean	SD	Cronbach α	AVE	PA	PAT	PI	TT	BIUC
PA	3.785	0.621	0.762	0.511					
PAT	3.662	0.625	0.774	0.527	0.914				
PI	3.861	0.607	0.801	0.557	0.973	0.950			
TT	3.693	0.628	0.786	0.537	0.826	0.929	0.916		
BIUC	3.686	0.763	0.775	0.689	0.845	0.859	0.921	0.925	

(Source: Authors, based on survey results)

Data Analysis and Results

The study's reliability and validity measurements showed moderate to high agreement among respondents on the measured items, with significant variability in responses. All constructs produced cronbach's alpha values greater than 0.7, confirming reliability. Average variance extracted (AVE) scores mostly exceeded the minimum threshold of 0.5, with the highest AVE (0.689) for behavioral intention to use Chatbots usage, indicating high common variance between items. The model uses the Heterotrait-Monotrait Correlation Ratio (HTMT) to measure discriminator validity between constructs. Values below 0.90 indicate construct differences, ensuring discriminant validity (Henseler et al., 2015).

Table 2
Assessment of the structural model

Hypothesis	Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T Statistics ((O/STDEV))	P values	Decision
H1	PAT > BIUC	0.163	0.164	0.074	2.209	0.027	Supported
H2	PA -> BIUC	0.208	0.209	0.068	3.062	0.002	Supported
H3	PI -> BIUC	0.356	0.355	0.085	4.174	0.000	Supported
H4	PAT -> TT	0.374	0.374	0.056	6.742	0.000	Supported
H5	PA -> TT	0.120	0.122	0.058	2.065	0.039	Supported
H6	PI -> TT	0.328	0.330	0.062	5.291	0.000	Supported

(Source: Authors, based on survey results)

The study confirms the reliability of the proposed model, with all main hypotheses showing a significant effect on technological trust. The relationships are positive, with acceptable path coefficients and p-values less than 0.05. Perceived anthropomorphism, perceived liveliness, and Perceived Intelligence have a positive and significant effect on technological trust. Chatbot features significantly influence behavioural intention to use chatbots, with path values greater than 0.15 and p-values less than 0.05.

Table 3
Regression results

	R-square	R-square adjusted
TT	0.542	0.538
BIUC	0.607	0.603

(Source: Authors, based on survey results)

The study reveals that the R-squared values for technical load TT and behavioural intention to use chatbots are 0.542 and 0.607, respectively, indicating that the independent variables account for 54.2% and 60.7% of the variance in TT and BIUC, respectively. These high values suggest excellent explanatory power and strong support for hypothesised relationships.

Discussion, Implication, Limitation, and Conclusion

The results of the present research paint a vivid image of the determinants underlying Sri Lankan bank customers' use or avoidance of chatbots. The results show that AI attributes affect Behavioural Intention. Building trust, emphasising differentiation benefits, and marketing sophisticated AI and chatbot features need to be on the managers' agenda. Banks can facilitate behavioural intention to use technology, build technology trust, and achieve higher user adoption and usage in a competitive digital economy by delivering reliability, security, and user-friendly experiences. This study is limited due to its cross-sectional nature, limited generalizability to other banks, and limited sociopsychological variables examined. Future studies should include customers from different banks, use longitudinal designs, and use qualitative designs to obtain more detailed insights. Variables such as age, income, and digital literacy can be used to obtain more detailed information. This study shows AI attributes are critical in determining the behavioural intention to use chatbot technologies among the customers of the systemically important banks in Sri Lanka. All three of the hypotheses were maintained as customers are more positively predisposed toward chatbots that are personal, empathetic, and competent, mirroring as they do what they would seek in human bank staff. These results are consistent with dominant theories such as the CASA model, which explains that users impose social characteristics on technology, and TAM and UTAUT, which consider perceived usefulness and social cues as paramount in technology adoption. In the Sri Lankan banking context, where relationship and trust are the most important, human-like simulated chatbots not only reduce users' lack of trust but also build rapport and familiarity. Therefore, successful adoption of chatbots depends not just on technological capability, but on designing systems consciously to be intelligent, emotionally perceptive, and human. Banks looking to promote customer satisfaction and interaction should make these features top priorities in their chatbot design initiatives.

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