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ANTECEDENTS OF USER TRUST IN MITA CHATBOT: A STUDY OF BANK MANDIRI DIGITAL SERVICES

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Abstract

Digital transformation has driven financial institutions to adopt chatbot technology to enhance service efficiency and customer satisfaction. This study aims to analyze the influence of service quality, interface design, perceived risk, and structural assurance on user trust in chatbots, focusing on the MITA WhatsApp Business chatbot of Bank Mandiri. A quantitative approach was employed, involving 262 respondents selected through purposive sampling. The participants were Bank Mandiri customers who had used the MITA chatbot service. Data were collected through questionnaires using a five-point Likert scale and analyzed using SPSS and Partial Least Squares Structural Equation Modeling (PLS-SEM) with the SmartPLS software. The hypothesis testing results indicate that service quality and interface design significantly impact user trust in the chatbot. In contrast, perceived risk and structural assurance do not significantly influence user trust. Furthermore, chatbot trust positively affected behavioral intention and user satisfaction. This study is expected to provide insights for marketing managers in developing strategies to foster user trust in chatbot services within the banking sector and understand its implications for user behavior and future digital service development.

Keywords: Service Quality, Customer Satisfaction, MITA Chatbot

INTRODUCTION

Digital transformation has significantly influenced the banking sector by accelerating the adoption of digital technologies, resulting in shifts in business models to enhance customer experience and optimize the management of information and services (Nguyen, 2022). Banks increasingly integrate digital innovations such as artificial intelligence (AI)-powered chatbots to ensure business sustainability. These chatbots are strategic tools to elevate client interaction, deliver high-quality services, and strengthen the customer-bank relationship (Chen, 2021). Chatbots simulate human conversation through voice or text communication, with their features varying according to their specific functions and intended use (Wibawa, 2023). As a subset of natural language processing (NLP), chatbot technology falls within the broader field of artificial intelligence, focusing on facilitating human-computer interaction using natural language (Wardhani et al., 2022). In Indonesia, digital transformation has reshaped the financial sector, fostering a digital banking economy (Andrea, 2024), as seen in institutions like Bank Mandiri that have adopted chatbot technology (Alnemer, 2022).

Bank Mandiri is one of the leading Indonesian banks utilizing chatbot technology to enhance customer service. According to Katadata.co.id (2018), as of December 31, 2017, the bank served 21.9 million savings account holders and 1.8 million credit customers, with an average daily website traffic of 155,000 visits. In response to increasing customer demands, PT Bank Mandiri Tbk collaborated with a financial technology company to develop the Mandiri Intelligent Assistant (MITA), a chatbot designed to provide 24/7 customer support. MITA integrates artificial intelligence, machine learning, and natural language processing to facilitate more efficient and responsive customer interactions. It is available through multiple platforms, including Facebook Messenger (@bankmandiri), Line (@bankmandiri), Telegram (@bankmandiri_officialbot), and the bank's official website.

To further improve user experience, Bank Mandiri launched a redesigned website to enhance access to information on products, services, and support resources. From the more than 700,000 complaints handled by the digital contact center, 10% were received via email and social media, reflecting a 40% increase from the previous year and indicating growing reliance on digital platforms. The 2020 BSEM review recognized MITA as the best-performing chatbot, scoring 81.58%, ahead of BCA's VIRA and Bank Syariah Mandiri's AISYAH (Novialita, 2023), reflecting increasing user trust in MITA.

Previous studies have demonstrated that user trust fully mediates the relationship between key drivers, customer satisfaction, and behavioral intention to use chatbots (Alagarsamy, 2023; Jyothsna, 2024). Jyothsna (2024) highlights that perceived ease of use, performance expectancy, and social influence significantly influence trust, affecting user loyalty and engagement. Alagarsamy (2023) found that trust in banking chatbots, excluding fear of interface and technology, accounts for 38.6% of their variance. Additionally, chatbot trust explains 9.9% of customer attitude, 11.4% of behavioral intention, and 13.6% of user satisfaction, offering strategic insights for enhancing customer-brand interactions. Studies show that chatbot attributes significantly influence user experience, satisfaction, and continued usage intention (Le, 2023). Based on the Information System Success Model, content, system, and service quality, encompassing interaction, personalization, and

automation, are key drivers of customer experience. These factors directly impact behavioral outcomes in banking chatbot use (Le & Nguyen, 2024).

The Technology Acceptance Model (TAM), developed by Davis (1989), proposes that two key factors, perceived usefulness and ease of use, influence users' intentions to adopt new technologies. Prior research by Talwar (2020), based on the TAM model, consistently demonstrated that these two constructs drive the adoption of new technologies. Furthermore, Behera (2024) found that perceived ease of use (PEOU), perceived usefulness (PU), and perceived trust (PTRU) significantly predict users' intentions to use chatbots. According to Alagarsamy (2023), service quality, interface design, perceived risk, structural assurance, and compatibility influence user trust in chatbots.

Service quality is critical in fostering user trust in chatbots, encompassing attributes such as reliability, responsiveness, assurance, and personalization. High levels of perceived service quality, characterized by consistent, dependable, and responsive support, significantly enhance user trust in chatbot systems (Li, 2021). When chatbots deliver timely, fast, and personalized interactions, users are more likely to perceive them positively, reinforcing trust and encouraging continued use (Chen, 2021). Furthermore, users tend to trust chatbots that demonstrate competence and domain knowledge, strengthening their intention to engage with such systems (Nguyen, 2021).

In addition to service quality, perceived risk is pivotal in shaping user trust in chatbots. While trust and risk are inversely related, perceived risk remains a strong determinant of user behavior in digital environments. Online platforms, particularly financial services, are often associated with higher uncertainty, elevating users' risk perceptions. These concerns may include doubts about system performance and personal data privacy (Thusi, 2020). In banking, where users may share sensitive financial information, the fear of data misuse can undermine trust. Users may hesitate to rely on chatbots if they believe the system may fail during critical interactions (Cheng, 2020).

User trust in chatbots is significantly influenced by interface design, which enhances interactivity and overall user experience (Alagarsamy, 2023). Interface design encompasses layout, page flow, and navigation quality. A user-friendly design reduces complexity and improves usability, encouraging confidence and engagement (Sarkar, 2020). Digital platforms that offer interactive, human-like features help simulate in-person service, fostering trust through ease of use (Lee, 2019).

In addition to interface design, structural assurance is key to building trust in chatbot systems. Structural assurance includes regulations, guarantees, and contractual terms that reinforce the service provider's credibility (Sarkar, 2020). It is closely tied to situational normality, calculative-based beliefs, and familiarity, making it one of the strongest predictors of trust in digital environments (Leonard, 2021). Structural assurance reduces perceived risk by assuring users of the technology's safety and reliability, enhancing trust in the chatbot and the service provider (Alagarsamy, 2023).

User trust in banking chatbots is critical in enhancing customer satisfaction and usage intention. Although chatbots may already possess structural assurances, not all users are easily persuaded to trust or adopt them. Therefore, it is essential to strengthen the factors that influence users' intentions to use chatbots. Companies must develop strategies that encourage consumers to utilize chatbot services and feel satisfied with the support provided.

Consequently, usage intention and customer satisfaction emerge as crucial elements when implementing chatbot systems.

Chatbots can autonomously manage high volumes of customer inquiries (Nur, Wijanarko, Solahuddin, Wibowo, & Maulana, 2024), significantly reducing operational costs (Nugraha & Nasution, 2024). Their deployment in responsive customer service is essential to improving customer satisfaction (Nguyen et al., 2021). Clients expect quick and effective issue resolution, and chatbots have the potential to enhance support quality in the banking sector. By delivering timely and accurate responses, they improve satisfaction and foster positive customer-bank interactions (Sanny et al., 2020). Jang et al. (2021) emphasize the importance of swift, precise replies in a natural conversational tone. With advancements in artificial intelligence and natural language processing (NLP), chatbots are increasingly capable of handling novel inquiries and enabling seamless interactions, enhancing customer engagement, and creating a more immersive experience (Shweta, 2022).

The benefits of chatbot use have been widely examined. Petersson et al. (2023) found that chatbots provide immediate support without human intervention, offering timely responses and enhancing accessibility. Most users perceived chatbots as user-friendly and well-integrated within digital platforms. However, Asmara et al. (2024) noted that banking chatbots in Indonesia still underperform, highlighting the need for functional improvements. Anki et al. (2021) further recommended enhancing chatbot systems to boost usability and customer engagement.

Banks must prioritize digital innovation by integrating financial technologies into their services (Buwono et al., 2022). However, the digitalization of banking remains incomplete, with many traditional services still in use. Chatbots offer a viable solution to enhance service quality (Fitriani et al., 2022). Paramecwari (2022) suggests that chatbot technology can reduce teller workload by automating tasks such as currency conversion, enabling customers to complete most transactions online through systems built using Laravel and platforms like Telegram.

Given the increasing reliance on digital solutions, chatbots have become essential for enhancing customer service and security within financial institutions. While previous studies have identified trust as a mediating factor influencing usage intention and satisfaction, customer satisfaction often remains ambiguous, frequently failing to distinguish between satisfaction with the organization and the chatbot itself. Additionally, empirical findings on trust in chatbots vary significantly across different banking contexts. This study addresses these gaps by examining how service quality, interface design, perceived risk, and structural assurance influence trust, usage intention, and user satisfaction with chatbot services.

This research is particularly relevant as it investigates using the MITA chatbot through WhatsApp Business at Bank Mandiri, setting it apart from broader studies on chatbot adoption in banking. For instance, Nisa and Hartono (2025) analyzed factors affecting trust in AI-based services but did not evaluate MITA's direct impact on user satisfaction. Likewise, Pujianto and Sutikno (2023) employed the UTAUT framework to study customer interaction with MITA. However, they did not assess key variables such as service quality, interface design, perceived risk, and structural assurance. By focusing on these factors within the context of MITA, this study contributes novel insights into building user trust and improving chatbot service outcomes.

RESEARCH METHOD

This study employs a quantitative research design to explore the impact of chatbot usage on behavioral intention and consumer satisfaction in digital banking. A structured questionnaire was developed and distributed online through Google Forms, utilizing a five-point Likert scale ranging from "strongly disagree" to "strongly agree." This quantitative approach allows statistical methods to objectively and systematically evaluate relationships among variables (Tussyadiah et al., 2020).

The study sample consists of Bank Mandiri customers and Indonesian citizens who have used the MITA chatbot service via WhatsApp Business. These participants were selected for their direct experience with the chatbot, ensuring relevant and accurate feedback regarding service quality, trust, satisfaction, and intention to continue using it. The purposive sampling technique, a non-probability method, was employed, and participants were chosen based on specific criteria aligned with the research objectives (Etikan, Musa, & Alkassim, 2016). The sample size was determined following the guidelines of Hair et al. (2013), who suggest multiplying the total number of measurement items by 5 for the minimum sample size and 10 for the maximum. Consequently, this study's minimum required sample size is 170, with a maximum of 340 respondents.

Data were collected through an online questionnaire measuring service quality, interface design, perceived risk, structural assurance, chatbot trust, behavioral intention, and consumer satisfaction. The questionnaire was pre-tested with 37 respondents to ensure the items' clarity, relevance, and reliability. Descriptive and inferential statistical methods were used for data analysis. Descriptive analysis summarized respondents' demographic profiles and usage patterns of the MITA chatbot service provided by Bank Mandiri via WhatsApp Business. This analysis helped depict the sample's characteristics and evaluate user experiences and recognition of chatbot features (Babin & Zikmund, 2016).

This study employed Partial Least Squares-Structural Equation Modeling (PLS-SEM) using SmartPLS software to test research hypotheses and examine relationships between constructs. PLS-SEM is a robust, variance-based technique ideal for predictive and exploratory research involving complex models and latent constructs (Manley et al., 2021). The method enables simultaneous evaluation of both measurement and structural models. The measurement model was assessed for convergent validity, discriminant validity, and internal consistency reliability to ensure accurate and consistent construct measurement (Byrne, 2010). Following validation, the structural model was analyzed to assess the strength and significance of relationships among latent variables, using path coefficients, coefficient of determination (R^2), and predictive relevance (Q^2) to interpret the relationships (Hair et al., 2019). This approach facilitates a comprehensive understanding of how service quality, interface design, perceived risk, and structural assurance influence chatbot trust, affecting consumer satisfaction and behavioral intention to use the service.

RESULTS AND DISCUSSION

The sampling unit in this study consisted of Indonesian citizens who are customers of Bank Mandiri and have previously used the MITA chatbot service via WhatsApp Business. A total of 266 responses were collected. However, only 262 responses were

deemed valid for further analysis after filtering for sample criteria suitability. First, the demographic profile of respondents is presented in Table 1 below.

Table 1.
Respondent Characteristics.

	Category	Frequency	%
Gender	Male	153	58.0
	Female	109	42.0
Age	≤ 20 years	18	7.0
	21–25 years	133	51.0
	26–30 years	74	28.0
	31–35 years	24	9.0
	36–40 years	7	3.0
	≥ 40 years	6	2.0
Domicile	Aceh	6	2.0
	Bali	8	3.0
	Bangka Belitung	8	3.0
	Banten	10	4.0
	Bengkulu	6	2.0
	DI Yogyakarta	14	5.0
	Gorontalo	10	4.0
	Jakarta (DKI Jakarta)	25	10.0
	Jambi	11	4.0
	Jawa Barat	30	11.0
	Jawa Tengah	35	13.0
	Jawa Timur	19	7.0
	Kalimantan Barat	8	3.0
	Kalimantan Selatan	3	1.0
	Kalimantan Tengah	4	2.0
	Kalimantan Timur	3	1.0
	Kalimantan Utara	2	1.0
	Kepulauan Riau	4	2.0
	Lampung	7	3.0
	Maluku	4	2.0
	Maluku Utara	2	1.0
	Nusa Tenggara Barat	3	1.0
	Nusa Tenggara Timur	1	0.0
	Riau	23	9.0
	Sulawesi Selatan	1	0.0
	Sulawesi Tengah	1	0.0
	Sulawesi Utara	2	1.0
	Sumatera Barat	5	2.0
	Sumatera Selatan	3	1.0
	Sumatera Utara	4	2.0
Occupation	Students	106	40.0
	Entrepreneurs	45	17.0
	Private-sector employees	71	27.0
	State-owned enterprise staff	19	7.0
	Civil servants	20	8.0

	Housewives	1	0.0
Average Monthly Income	< Rp2.000.000	67	26.0
	Rp2.000.001 - Rp4.000.000	60	23.0
	Rp4.000.001 - Rp6.000.000	86	33.0
	Rp6.000.001 - Rp8.000.000	32	12.0
	Rp8.000.001 - Rp10.000.00	13	5.0
	> Rp10.000.001	4	2.0

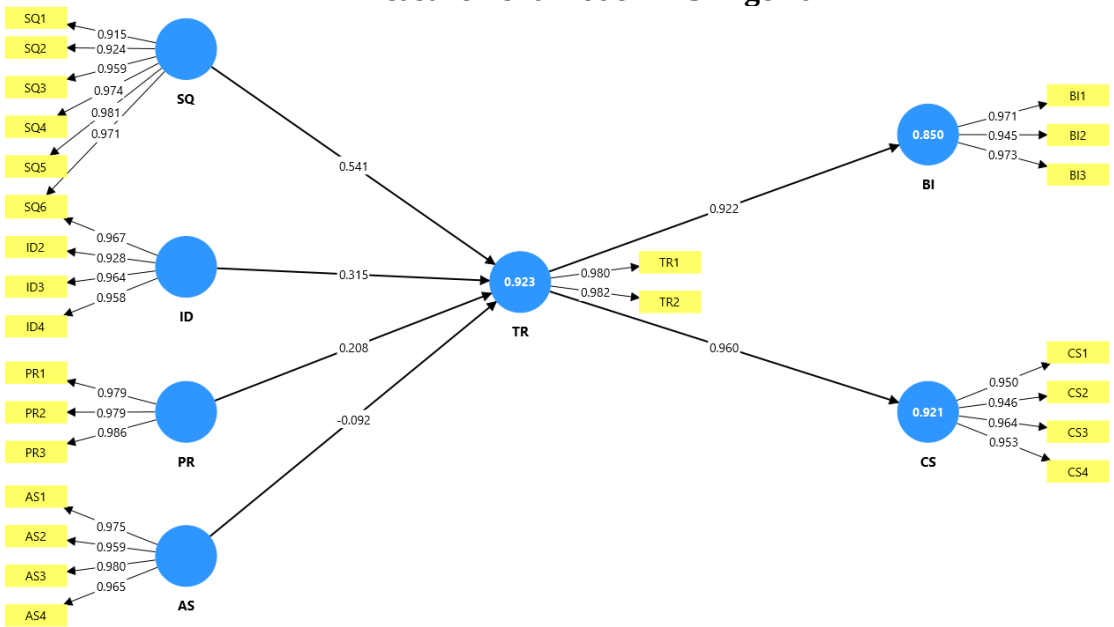
Source: Data processed (2025).

Table 1 shows that the majority of respondents were female (62.8%), with 184 participants. The age group between 21 and 25 years old comprised 51% (133 respondents), highlighting that the MITA chatbot's user base is primarily young adults. Geographically, most respondents were from Central Java Province (13%, 35 respondents). The largest occupational group was students, representing 40% (106 respondents), indicating that the MITA chatbot is popular among the student demographic. In terms of income, the highest proportion of respondents (33%, 86 individuals) earned between IDR 4,000,001 and IDR 6,000,001 monthly. These demographic insights are crucial for understanding the user base and tailoring digital banking services to meet the needs of a young, tech-savvy population.

Measurement Model Evaluation

The measurement model evaluation tests both validity and reliability. Convergent validity checks if the indicators of a construct share a high proportion of variance, while discriminant validity ensures that constructs are distinct from one another. Figure 2 below displays the PLS-Algorithm path model, illustrating the relationships among constructs and their corresponding measurement items.

Figure 2.
Measurement Model PLS Algorithm



Source: Data processed (2025).

Table 2.
Convergent Validity and Data Reliability

Variables	Indicators	Loadings	CA	CR	AVE
Service Quality	SQ1	0.915	0.980	0.984	0.911
	SQ2	0.924			
	SQ3	0.959			
	SQ4	0.974			
	SQ5	0.981			
	SQ6	0.971			
Interface Design	ID1	0.967	0.967	0.976	0.911
	ID2	0.928			
	ID3	0.964			
	ID4	0.958			
Perceived Risk	PR1	0.979	0.981	0.987	0.963
	PR2	0.979			
	PR3	0.986			
Structural Assurance	AS1	0.975	0.979	0.984	0.940
	AS2	0.959			
	AS3	0.980			
	AS4	0.965			
Trust	TR1	0.980	0.961	0.981	0.963
	TR2	0.982			
Behavioral Intention	BI1	0.971	0.961	0.975	0.928
	BI2	0.945			
	BI3	0.973			
Customer Satisfaction	CS1	0.950	0.967	0.976	0.909
	CS2	0.946			
	CS3	0.964			
	CS4	0.953			

Source: Data processed (2025).
Note: Structural Assurance (AS), Behavioral Intention (BI), Customer Satisfaction (CS), Interface Design (ID), Perceived Risk (PR), Service Quality (SQ), Trust (TR).

Table 2 presents the results of the convergent validity and reliability assessments. For convergent validity, outer loading values above 0.708 (Hair et al., 2019) and average variance extracted (AVE) values greater than 0.50 (Hulland, 1999; Hair et al., 2019) were used as thresholds. All indicator outer loadings exceeded 0.900, indicating excellent convergent validity. Additionally, all constructs showed AVE values above 0.50, confirming convergent validity. For reliability, Cronbach's alpha and composite reliability values were examined, with values above 0.60 indicating acceptable reliability (Janssens et al., 2008). The results demonstrate that all constructs met or exceeded this threshold, ensuring data reliability.

Table 3.
The Fornell & Larcker's

Variables	AS	BI	CS	ID	PR	SQ	TR
AS	0.965						
BI	0.936	0.995					
CS	0.874	0.931	0.989				
ID	0.756	0.768	0.824	0.996			
PR	0.877	0.835	0.858	0.914	0.981		
SQ	0.916	0.957	0.962	0.821	0.868	0.968	

TR	0.822	0.829	0.855	0.953	0.920	0.879	0.979

Source: Data processed (2025).

Note: Structural Assurance (AS), Behavioral Intention (BI), Customer Satisfaction (CS), Interface Design (ID), Perceived Risk (PR), Service Quality (SQ), Trust (TR).

Table 3 presents the results of the discriminant validity test based on the revised Fornell-Larcker criterion. Initially, several items showed issues with discriminant validity. After eliminating items BI2, CS3, SQ4, ID2, SQ3, and CS1, the Fornell-Larcker test was re-conducted. The results showed acceptable discriminant validity, as the diagonal values exceeded those below them, confirming valid discriminant measures.

Table 4.
Cross Loading

	AS	BI	CS	ID	PR	SQ	TR
AS1	**0,970**	0,893	0,818	0,726	0,861	0,873	0,796
AS2	**0,949**	0,877	0,798	0,678	0,803	0,872	0,758
AS3	**0,976**	0,940	0,882	0,750	0,838	0,912	0,818
AS4	**0,965**	0,902	0,871	0,762	0,882	0,878	0,800
BI1	0,930	**0,995**	0,916	0,756	0,826	0,952	0,816
BI3	0,933	**0,995**	0,936	0,773	0,835	0,953	0,833
CS2	0,835	0,900	**0,989**	0,821	0,850	0,936	0,832
CS4	0,893	0,941	**0,990**	0,809	0,846	0,967	0,859
ID1	0,767	0,774	0,822	**0,996**	0,909	0,826	0,956
ID3	0,740	0,758	0,820	**0,996**	0,912	0,809	0,942
PR1	0,885	0,860	0,888	0,888	**0,979**	0,897	0,899
PR2	0,828	0,767	0,791	0,902	**0,978**	0,800	0,898
PR3	0,867	0,829	0,844	0,898	**0,985**	0,858	0,911
SQ2	0,910	0,953	0,898	0,737	0,811	**0,964**	0,800
SQ5	0,866	0,903	0,961	0,846	0,867	**0,971**	0,896
TR1	0,783	0,778	0,797	0,949	0,904	0,823	**0,978**
TR2	0,826	0,843	0,875	0,918	0,899	0,896	**0,980**

Source: Data processed (2025).

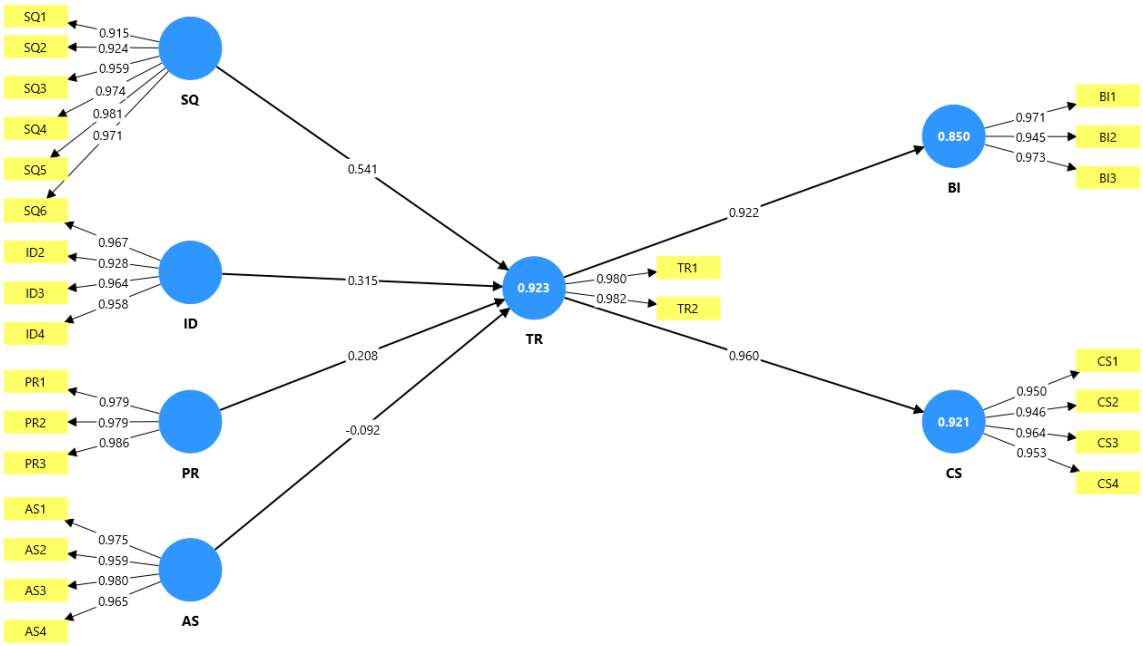
Note: Structural Assurance (AS), Behavioral Intention (BI), Customer Satisfaction (CS), Interface Design (ID), Perceived Risk (PR), Service Quality (SQ), Trust (TR).

Table 4 shows the results of the discriminant validity test based on the cross-loading criterion after revisions. The initial cross-loading analysis indicated that the data did not meet the validity requirements. Subsequently, a correlation analysis among indicators was conducted, eliminating items ID4, SQ1, and SQ6. The cross-loading test was then re-conducted, and the results confirmed adequate discriminant validity.

Structural Model Evaluation

The structural model was evaluated using the coefficient of determination (R^2), Q-square, and path coefficient. The bootstrapping results for the structural model assessment are presented in Figure 3.

Figure 3.
Structural Model Bootstrapping



Source: Data processed (2025).

Table 5
R-Square and Q-Square

Variables	R-square	Adjusted R-Square	Q-Square
Trust (TR)	0.938	0.937	0.934
Behavioral Intention (BI)	0.687	0.685	0.734
Customer Satisfaction (CS)	0.731	0.730	0.801

Source: Data processed (2025).

Table 5 presents the results of the coefficient of determination (R-squared) and predictive relevance (Q-squared) tests. The R-squared values for all dependent variables exceed 0.670, indicating strong explanatory power. Similarly, the Q-squared values for trust (TR), behavioral intention (BI), and customer satisfaction (CS) all exceed 0.35, demonstrating strong predictive relevance. These results confirm that the independent variables effectively explain the dependent constructs in the model.

Table 6.
Path Coefficient & Hypotheses Testing

Hypotheses	β	T Statistics	*P Value*	Conclusion
SQ → TR	0.222	3.597	0.000	H1 Supported
ID → TR	0.653	9.464	0.000	H2 Supported
PR → TR	0.092	1.186	0.236	H3 Rejected
AS → TR	0.045	0.622	0.534	H4 Rejected
TR → BI	0.829	31.313	0.000	H5 Supported
TR → CS	0.855	34.686	0.000	H6 Supported

Source: Data processed (2025).

Note: Structural Assurance (AS), Behavioral Intention (BI), Customer Satisfaction (CS), Interface Design (ID), Perceived Risk (PR), Service Quality (SQ), Trust (TR).

Table 6 presents the results of the path coefficient analysis, showing the direction and outcomes of hypothesis testing. Hypotheses were tested using t-values and p-values, with

acceptance criteria set at t-value > 1.96 and p-value < 0.05 (Hair et al., 2019). The results indicate that all hypotheses showed a positive direction, with two rejected and the remaining accepted.

The Positive Influence of Service Quality on Users' Trust in the Chatbot

The direct relationship between Service Quality (SQ) and Trust (TR) (H1) was found to be accepted and statistically significant, with a t-value of 3.597 (t-value > 1.96) and a p-value of 0.000 (p-value < 0.05). It indicates that service quality positively affects trust. Specifically, higher service quality in the MITA WhatsApp Business Chatbot directly enhances user trust. These results align with Nisa and Hartono (2025), who found that chatbot trust is influenced by service responsiveness and information accuracy.

Service quality in chatbots primarily relates to response speed and the accuracy of the delivered information. Chatbots are adopted to efficiently address common customer inquiries promptly and informally. They provide more efficient solutions to customer issues (Suryo, Rangga, & Meylano, 2025), improving user experience. Moreover, answers provided by official chatbots are often considered more accurate, contributing to customer trust in the MITA WhatsApp Chatbot. These findings are particularly relevant when considered alongside the respondent profile in this study, which predominantly consists of active users of digital banking services aged 21–40, with educational backgrounds at least at the diploma or undergraduate level. This demographic represents a tech-savvy segment of society with high expectations for efficiency and accuracy in digital services, including chatbots (Putrayasa, Suwindia, & Winangun, 2024). Therefore, user trust increases significantly when a chatbot can respond quickly and provide precise information.

Respondents with higher education backgrounds tend to be more critical in evaluating digital services, making service quality a critical factor in shaping trust. Most respondents used the MITA chatbot for basic, repetitive banking information needs, thus highly valued features that instantly delivered accurate responses. The alignment between respondent expectations and chatbot performance reinforces the conclusion that service quality is a key determinant of user trust in AI-based technologies such as the MITA WhatsApp Business Chatbot.

The Positive Influence of Interface Design on Users' Trust in the Chatbot

The hypothesis regarding the relationship between Interface Design (ID) and Trust (TR) (H2) was supported and statistically significant (t-value = 9.464 > 1.96, p-value = 0.000 < 0.05). This result indicates that Interface Design positively and significantly affects users' trust. The findings demonstrate that interface design positively influences users' trust in the WhatsApp Business chatbot MITA. In other words, an attractive and functional interface can directly affect user trust. It aligns with the study conducted by Sugiharto, Umiyati, and Sholihah (2021), which highlighted that a well-designed interface fosters a sense of comfort and enhances trust, as users find it easier to access and comprehend the information provided by the chatbot service at Bank Mandiri.

However, this result is not entirely consistent with the findings of Dewi and Kurniawan (2023), who asserted that interface design is not the primary factor influencing users' trust in chatbots. Their study revealed that users prioritize data security and confidentiality over interface appearance, particularly in the context of sensitive digital banking services. Several respondents in their research even stated that as long as the chatbot delivers accurate and timely responses, visual elements such as design are deemed less

significant. It suggests that users' perceptions of the importance of interface design vary depending on individual preferences and their previous experiences with digital services.

Relating this to the characteristics of respondents in the present study, most were young professionals who actively use digital services in their daily routines and possess high digital literacy. This demographic tends to place considerable importance on aesthetics and navigational ease when interacting with digital applications, including chatbots (Ashton et al., 2023). Therefore, an appealing, minimalist, intuitive interface design enhances their trust in the MITA chatbot service. Respondents with such profiles expect speed and informativeness from the user experience and visual enjoyment. These findings further reinforce that a functional and aesthetically pleasing interface can significantly increase user trust, especially among digital-savvy individuals who are critical of the design features in digital services.

No Significant Influence of Perceived Risk on Users' Trust in the Chatbot

The hypothesis regarding the relationship between Perceived Risk (PR) and Trust (TR) (H3) was rejected (t-value = 1.186 < 1.96, p-value = 0.236 > 0.05), indicating that Perceived Risk does not significantly influence users' trust. The results suggest that users' concerns about the potential risks of using the WhatsApp Business chatbot MITA do not significantly affect their trust in the chatbot. This result implies that customers may overlook their apprehensions about new technology. The belief that the chatbot might involve certain risks does not deter users from engaging with the service. These findings contradict the study by Alagarsamy and Mehrolia (2023), which concluded that perceived risk, such as concerns regarding data security and technological errors, significantly reduces users' trust in banking chatbots. In their study, the higher the perceived risk, the lower the trust users placed in chatbot services.

Conversely, this study supports the arguments made by Luo et al. (2010), who found that users often continue to adopt new technologies from institutions they already trust, despite potential perceived risks. In such cases, institutional trust and reputation buffer against concerns. It suggests that when users already have high trust in a financial institution, such as Bank Mandiri, they are likely to disregard potential risks such as data breaches, technological failures, or inaccurate responses from the chatbot. Institutional trust, therefore, serves as a key determinant of user confidence, mitigating the negative influence of perceived risks.

This conclusion is reinforced by the characteristics of the study's respondents, who are active Bank Mandiri customers and regularly utilize various digital banking services. These respondents, predominantly millennials and Gen Z users, generally possess high digital literacy and are more open to adopting digital innovations. Not only do they trust the technology itself, but they have also developed both emotional and functional connections with the banking institution (Ilham & Sitohang, 2024). Consequently, these users prioritize service convenience and efficiency over potential technological risks. Their awareness of digital security systems and their previous positive experiences with Bank Mandiri contribute to a sense of security and confidence, rendering perceived risks relatively irrelevant in shaping their trust in the MITA chatbot.

No Significant Influence of Structural Assurance on Users' Trust in the Chatbot

The hypothesis testing the relationship between Structural Assurance (SA) and Trust (TR) (H4) was also rejected (t-value = 0.622 < 1.96, p-value = 0.534 > 0.05), indicating that

Structural Assurance does not have a significant influence on users' trust. This result suggests that structural assurance elements, such as privacy policies, transparency in data usage, or clear identification of message sources, do not sufficiently establish or enhance user trust in the MITA WhatsApp Business chatbot. This finding aligns with the study by Maulana et al. (2024), which found that in banking chatbots, users tend to focus more on their direct experiences with service quality and ease of use, rather than on technical or administrative security mechanisms. In other words, user trust is not necessarily built through structural assurances but through perceived efficiency and effectiveness of the service they directly engage with.

However, this result contrasts with earlier research by Bansal and Gefen (2010) and more recent findings by Lee and Choi (2021), highlighting that structural assurance plays a significant role in building user trust, particularly in AI-based and chatbot services. These studies emphasize that visible structural elements, such as institutional logos, security information, and data protection systems, can create a sense of safety, especially for new users who lack prior experience with the technology. In Lee and Choi's research, structural assurance was a dominant factor during early user interactions, helping to reduce uncertainty and perceived risk.

When considering the characteristics of the respondents in this study, the majority are active Bank Mandiri customers who are already accustomed to digital banking services and exhibit high trust in the institution. Most respondents belong to the productive age group and have considerable experience using mobile banking applications. As such, they are less likely to pay attention to or rely on structural assurance elements when assessing the trustworthiness of the chatbot service (Amalia, Pratiwi, & Gultom, 2024). Their trust is primarily shaped by direct interactions with the MITA chatbot's reliability, such as response speed, ease of accessing information, and consistency of answers. Therefore, although structural assurances are present, these features become less relevant for users with established trust in the institution and its technologies.

The Positive Influence of Chatbot Trust on the Intention to Use

The results of the hypothesis testing for the relationship between Trust (TR) and Behavioral Intention (BI) (H5) show that the t-value and p-value meet the required thresholds (t-value = 31.313 > 1.96, p-value = 0.000 < 0.05), indicating that this hypothesis is accepted. Therefore, a high level of trust significantly influences a higher behavioral intention. These findings demonstrate that chatbot trust positively influences the intention to use the MITA WhatsApp Business chatbot of Bank Mandiri. It underscores the importance of trust in building customer confidence toward chatbot technologies within the banking service context. This result aligns with the findings of Alghiffari and Matusin (2023), who assert that chatbot trust can significantly influence users' intention to use the service across various sectors, including banking. Similarly, Maulana et al. (2024) emphasize that trust is relevant in banking contexts and applies in other sectors employing chatbot technology. In today's increasingly digital landscape, where human-machine interaction is becoming more prevalent, establishing trust presents a key challenge for service providers.

Trust in chatbots is a critical factor determining users' intention to continue using the service. Sugiharto et al. (2021) show that users' trust in an information system positively correlates with their willingness to adopt it. In the banking context, such as with the MITA chatbot, users who perceive the chatbot as reliable and capable of delivering accurate

information and services are likelier to use it for transactions and to access other banking services (Săplăcan, 2021). The characteristics of respondents in this study reveal that the majority are Bank Mandiri customers accustomed to digital services. Most are young professionals who value convenience and efficiency in financial transactions. Their trust in the MITA chatbot strongly influences their intention to use the service. Customers already familiar with a major bank's digital offerings feel more comfortable and open to utilizing such technologies, mainly due to Bank Mandiri's well-established reputation. As a result, the MITA chatbot is perceived as a solution that facilitates transactions, which encourages greater trust and willingness to use it.

The Positive Influence of Chatbot Trust on Customer Satisfaction

Finally, the results of the hypothesis testing for the relationship between Trust (TR) and Customer Satisfaction (CS) (H6) show that the t-value and p-value meet the required criteria (t-value = 34.686 > 1.96, p-value = 0.000 < 0.05). This result indicates that higher trust positively and significantly influences customer satisfaction. The findings suggest that chatbot trust positively affects customer satisfaction with the MITA WhatsApp Business chatbot service. The greater the user's trust in the chatbot, the higher their satisfaction with the services. This finding is consistent with the study by Alghiffari and Matusin (2023), which demonstrated that trust in chatbots enhances customer satisfaction, particularly in the banking sector. Trust in the technology encourages users to feel more comfortable and confident that the services offered will meet their needs effectively and efficiently (Sugiharto et al., 2021).

However, other studies suggest that while chatbot trust does influence customer satisfaction, additional factors, such as user interface design and responsiveness, also play vital roles in shaping user satisfaction. For example, research by Alagarsamy and Mehrolia (2023) revealed that although trust in the chatbot is important, it must be supported by ease of access, engaging design, and prompt responsiveness. It suggests that customer satisfaction is not solely dependent on trust but also the chatbot's service delivery quality.

In the context of the respondents' characteristics in this study, most participants are accustomed to using digital services in various aspects of their daily lives. It implies that they already have high expectations regarding the quality of digital services, including chatbots. Although they exhibit high levels of trust in the technology, their satisfaction is also significantly influenced by ease of use and the responsiveness of the MITA chatbot. Respondents who are more technologically literate tend to evaluate their experience based on the chatbot's effectiveness in meeting their service expectations.

CONCLUSION

This study investigates the impact of chatbot user trust and customer satisfaction within the MITA WhatsApp Business chatbot of Bank Mandiri, focusing on antecedents such as service quality, chatbot interface design, perceived risk, and structural assurance. The results provide valuable insights for improving customer complaint management through artificial intelligence. A proposed conceptual model assessed the relationships between these factors, revealing that most hypotheses were supported except those involving perceived risk and structural assurance. Notably, the strongest relationship was between chatbot trust and customer satisfaction, with a high t-statistic value (34.686 > 1.96). These findings align with

Sugiharto et al. (2021), emphasizing that trust in technology enhances user confidence in service fulfillment.

The findings of this study have significant theoretical and practical implications for various stakeholders. Theoretically, the research contributes to the literature on user trust in chatbot technologies, particularly within the digital banking context in Indonesia. It enhances our understanding of how factors like service quality, interface design, perceived risk, and structural assurance influence user trust, usage intention, and satisfaction, offering novel insights into the MITA chatbot by Bank Mandiri. Practically, the study provides valuable guidance for marketing managers and digital service developers at Bank Mandiri. It underscores the importance of service quality and structural assurance as key drivers of chatbot trust. Therefore, Bank Mandiri must optimize chatbot response accuracy, ensure data security, and strengthen legal and technological protections to promote users' sense of transactional security.

The results of this study reveal that a professional interface design and ease of navigation significantly contribute to user trust in the MITA chatbot. Development teams and designers must prioritize visual appeal and usability to improve the user experience. While perceived risk can hinder trust, banks can address this challenge through digital education and transparent privacy policies. This research also confirms that user trust significantly influences usage intention and customer satisfaction, highlighting that enhancing trust in the MITA chatbot can increase user engagement and loyalty to Bank Mandiri's digital services. Marketing managers can leverage these findings to communicate clear information on the chatbot's benefits and security, improving public acceptance. Overall, the study emphasizes that trust is essential for successfully digitalizing banking services through chatbot technology and serves as the foundation for digital marketing strategies centered on convenience, security, and customer satisfaction.

This study has several limitations that future research should address to deepen the understanding of banking services. First, the study focuses solely on users of the MITA WhatsApp Business chatbot at Bank Mandiri, limiting generalizability to other digital services. Second, the respondent sample was predominantly young, highly educated, and urban, restricting applicability to more diverse populations such as the elderly, rural users, or those with limited digital literacy. Third, validity issues were found with several measurement items, including BI2, CS3, SQ4, ID2, SQ3, and CS1 in the Fornell-Larcker test, and with ID4, SQ1, and SQ6 in cross-loading analysis. These limitations arose despite these items not posing problems in previous studies. Future research could address these concerns for broader applicability and more robust findings.

As the MITA chatbot service by Bank Mandiri continues to evolve, future research should delve deeper into user attitudes, trust, satisfaction, and behavioral intentions. Expanding the scope to include comparisons across various banking institutions or digital service platforms could uncover diverse user interaction patterns. Given that this study's sample was predominantly young, highly educated, and urban-based, future research should involve more diverse demographics, including older adults, rural users, individuals with low digital literacy, and those from varied socioeconomic backgrounds, to improve generalizability. A longitudinal approach is recommended to capture shifts in user behavior over time. Additionally, integrating WhatsApp autoresponder applications with WhatsApp Messenger could address time-based service limitations and ensure round-the-clock access

to banking information. Lastly, exploring the influence of key chatbot features, such as response personalization, data security, privacy, and integration with core banking systems, on user trust and loyalty would enhance the digital banking experience (Meltwater, 2023).

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