

Perceived Information Quality of an AI-Powered Chatbot: The Case of Sabrina at Bank BRI

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ABSTRACT

The use of Artificial Intelligence (AI)-based chatbot technology has transformed customer service by enabling efficient and interactive digital communication. Chatbot Sabrina, a virtual assistant developed by PT Bank Rakyat Indonesia (Persero) Tbk, is designed to provide banking information and support customer needs. This study explores customer perceptions in Madiun City regarding the information quality delivered by Chatbot Sabrina. Utilizing a quantitative descriptive method, the study applied purposive sampling involving 40 respondents who are active BRI customers and users of Sabrina. Data were analyzed using descriptive statistics, referencing the Information Quality framework by DeLone and McLean, which includes four key dimensions: accuracy, relevance, completeness, and ease of understanding. Results show that most respondents perceive the chatbot's information quality positively. Specifically, 58% agreed that the information is accurate and unambiguous, 70% found it relevant to their needs, 58% believed it offers complete and structured information, and 65% confirmed that the information is easy to understand. These findings suggest that Chatbot Sabrina effectively meets customer information needs and enhances service experience through reliable and user-friendly digital interactions.

Keywords: *Chatbot, Artificial Intelligence, Customer Perception, Information Quality*



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INTRODUCTION

The accelerating pace of technological development has profoundly transformed human endeavors, notably marked by the emergence of Artificial Intelligence (AI) and its applications in various sectors (Bernal et al., 2024). The integration of AI has rendered computing and electronic devices more intelligent, streamlining daily tasks and significantly enhancing the efficiency of critical functions such as customer service (Z. Liu, 2024). Within the contemporary business landscape, AI is increasingly recognized for its pivotal role in fostering customer loyalty and driving corporate growth (Singh & Singh, 2024). This technological evolution underscores a fundamental shift in how industries operate and interact with their clientele, demanding continuous adaptation and innovation (Masruchan, 2024).

In the highly competitive banking sector, customer satisfaction stands as a cornerstone of success (Famiyeh et al., 2018). To cultivate and maintain customer loyalty, financial institutions are compelled to innovate and refine their service offerings continuously (Rashid et al., 2020). Enhancements in service delivery invariably yield positive impacts on a bank's overall performance and market standing (Olubiyi, 2025). The strategic adoption of AI in banking is particularly pertinent, aligning seamlessly with the industry's core functions and operational demands (Handayani Simbolon et al., 2025). Modern banking is increasingly characterized by a mandate to embrace digital service systems, thereby enabling the provision of diverse and innovative technology-driven solutions that cater to evolving customer needs (Horváth et al., 2022). This digital imperative is not merely a trend but a strategic necessity for sustained relevance and growth in a rapidly evolving financial ecosystem (Anagnostopoulos et al., 2025).

The digital transformation in banking is expected to revolutionize traditional banking processes, making them significantly faster, more accessible, and user-friendly (Kandpal et al., 2025). A prime example of this transformation is the emergence of chatbots (Graham et al., 2025). These service-based chat robots, powered by sophisticated rule sets and artificial intelligence, facilitate seamless interactions with users through intuitive chat interfaces (Warale et al., 2025). Chatbots have rapidly gained prominence as an effective alternative to conventional customer service models, enabling banks to assist customers digitally, around the clock, from any location (Graham et al., 2025). This omnipresent accessibility represents a significant leap forward in customer engagement and support, offering unparalleled convenience and efficiency (Chen & Prentice, 2025).

PT Bank Rakyat Indonesia (Persero) Tbk, a leading financial institution, has embraced this digital paradigm with the introduction of Sabrina, its intelligent virtual assistant. Sabrina is accessible to customers across all BRI branches in Indonesia, primarily through the bank's official website (<https://bri.co.id/sabrina>) and the widely used BRI Mobile application. Chatbot Sabrina represents a sophisticated digital service development, meticulously designed to provide comprehensive information on a wide array of BRI's banking products, facilitate various transactions, disseminate promotional offers, handle customer complaints, and address other banking-related inquiries. The deployment of Chatbot Sabrina empowers customers to conduct their banking activities

with unprecedented ease and flexibility, anytime and anywhere. This digital convenience is anticipated to deliver substantial benefits and advantages to customers, allowing them to access vital information and services without the traditional requirement of a physical visit to a bank branch.

The strategic implementation of Chatbot Sabrina at PT Bank Rakyat Indonesia (Persero) Tbk in Madiun City is a direct response to the imperative of enhancing customer satisfaction through advanced digital services. Sabrina effectively augments the capabilities of human customer service representatives by delivering information with remarkable speed, responsiveness, and accuracy. As a virtual assistant dedicated to simplifying the process of obtaining banking information, the inherent quality of the information provided by the chatbot is a critical determinant of overall customer satisfaction with the service. Consequently, meticulous attention to the information quality of Chatbot Sabrina is indispensable. Ensuring that the chatbot's output is precise, relevant, complete, and easily comprehensible is paramount for maximizing its utility, fostering positive user experiences, and ultimately delivering a superior digital service experience to customers.

In light of the foregoing discussion, this final project undertakes a comprehensive investigation into customer perceptions regarding the information quality of Chatbot Sabrina at PT Bank Rakyat Indonesia (Persero) Tbk in Madiun City. This research aims to provide valuable insights into how customers evaluate the effectiveness and reliability of this AI-driven banking assistant, specifically focusing on aspects such as accuracy, relevance, completeness, and ease of understanding of the information provided. The findings of this study are expected to contribute to the ongoing improvement of digital banking services and enhance customer satisfaction in the evolving landscape of financial technology.

LITERATURE REVIEW

Perception

Perception is a fundamental cognitive process through which individuals interpret and make sense of their environment (Güvercin & Kati, 2025) as the "experience about objects, events, or relationships obtained by inferring information and interpreting messages" (Telaumbanua et al., 2025). This active construction of meaning is further elaborated by (Y. Liu et al., 2025), who describe perception as the "result of observation of environmental elements linked to a process of meaning-making," where individuals imbue stimuli with personal significance based on their accumulated experiences. Crucially, perception is not solely dependent on direct physical stimuli but is also significantly shaped by broader environmental cues and the individual's specific internal state, including their thoughts, emotions, and surrounding context (Shynu et al., 2025). This inherent subjectivity means that "perception can substantially differ from reality," highlighting the complex interplay between external information and internal interpretation, ultimately leading to a dynamic and subjective experience of reality (Javed & Zafar, 2025).

Information Quality

Information quality refers to the inherent characteristics that make information valuable and helpful to its recipients, defined by Delone and McLean (Wang et al., 2025) as the "output generated by the information system being used" that should be "easy to understand, accurate, complete, and timely" (DeLone & McLean, 2003). Amarin & Wijaksana (2021) further emphasize that it includes how information is presented completely and clearly, and its ability to educate users, making it a cornerstone of the Delone and McLean Information System Success Model, widely recognized for assessing system effectiveness (Amarin & Wijaksana, 2021). The perceived quality of information directly influences user benefits and is measured by four key indicators: Accuracy, ensuring information is free from errors and bias for sound decision-making; Relevance, providing direct answers to user needs (what, where, when, who, and why); Completeness, offering comprehensive information to prevent flawed decisions; and Easy of Understanding, ensuring clarity and comprehensibility in format, structure, and language to enhance user satisfaction and effective utilization (DeLone & McLean, 2003).

BRI Mobile Application

Bank Rakyat Indonesia (BRI) is a prominent Indonesian state-owned bank, established in 1895, known for its extensive network, diverse financial products, and pioneering digital innovations like its own satellite and AI-powered chatbot. An application is a ready-to-use program, residing on hardware like computers or smartphones, designed to process input into output (Köfter et al., 2025). Ultimately, it assists human activities and provides solutions to user needs. BRImo, Bank BRI's latest internet-based digital financial application, offers an updated User Interface and User Experience, facilitating transactions for both BRI and non-BRI customers. Developed to prepare for new business models and shift customer habits from physical branches, ATMs, and SMS Banking towards internet banking, BRImo includes diverse features such as face recognition and fingerprint login, GoPay top-up, QR payments, digital saving account opening, Personal Financial Management (PFM), cash withdrawals, transfers, pulse and e-money top-ups, and a chat banking feature. Notably, Chatbot Sabrina is an integral part of BRImo's digital services, accessible via the chat banking feature, allowing for automatic conversations and quick, accurate responses to customer inquiries (Muliana & Barru, 2025), with direct access to Sabrina's WhatsApp number available through the app's account menu, help center, or contact section.

Chatbot Sabrina

Sabrina, or Smart BRI New Assistant, is Bank Rakyat Indonesia's (BRI) virtual assistant, serving banking needs across Indonesia with over 231,000 users (Bank Rakyat Indonesia, 2025). Accessible via WhatsApp (0812-1214-017) through the BRImo application or directly from the BRI website (<https://bri.co.id/sabrina>), Sabrina functions as an AI-powered chatbot designed for human-like interaction, providing information through voice or text (Muliana & Barru, 2025). Leveraging Natural Language Processing (NLP) to understand user intent and respond appropriately, Chatbot Sabrina offers a range of features to assist customers: providing information on BRI products

(savings, loans, credit cards, investments, etc.), facilitating transactions like balance checks (requiring prior BRImo registration), sharing promotional links, locating BRI branches, ATMs, merchants, and BRILink agents, handling complaints by generating ticket numbers or checking status, and connecting users to a Live Chat Agent for further assistance (Bank Rakyat Indonesia, 2025).

METHOD

This study employs a quantitative descriptive research method to describe the perception of customers of PT Bank Rakyat Indonesia (Persero) Tbk in Madiun City regarding the information quality of Chatbot Sabrina. The research focuses on four indicators of information quality based on DeLone & McLean (2003) Accuracy, Relevance, Completeness, and Ease of Understanding. The population for this study consists of an unquantifiable number of PT Bank Rakyat Indonesia (Persero) Tbk customers in Madiun City who use Chatbot Sabrina. A sample size of 40 respondents was determined using the Hair et al. formula, which recommends 5 to 10 times the number of variable indicators ($10 \times 4 = 40$), as cited in (Rahman, 2023). The sampling technique used was purposive sampling, selecting respondents who are PT Bank Rakyat Indonesia (Persero) Tbk customers in Madiun City and actively use Chatbot Sabrina, with consideration for diverse occupations as observed in pre-research.

Primary data were collected directly from respondents through questionnaires, which served as the primary data collection instrument. These questionnaires utilized a four-point Likert scale (Strongly Agree, Agree, Disagree, Strongly Disagree) to avoid neutral responses and ensure explicit attitudes from respondents (Kankaraš & Capeocchi, 2025). Secondary data, such as supporting documentation and references, was also utilized. The research instruments (questionnaires) underwent validity testing using the *r*-count vs. *r*-table comparison method (Alfiyah et al., 2025), and reliability testing using Cronbach's Alpha, with a criterion of > 0.60 (Takwim et al., 2022). Data processing involved descriptive statistics (Sugiyono, 2022), including tabulation, calculation of mean and standard deviation (Ruhana et al., 2023), and categorization of quality scales (High quality, Good quality, Poor Good) based on these calculations. The findings were then described based on the proportion of results, with potential confirmation through interviews, observations, or documentation if necessary.

RESULTS AND DISCUSSION

Validity Test

The validity test was conducted to ascertain the effectiveness of the questionnaire as a data collection instrument. The questionnaire, comprising 12 statements across four indicators, was administered to 20 respondents from the population. Validity was determined by comparing the calculated *r*-value (*r* count) for each item against the *r*-table value (0.444, based on 20 respondents at a 5% significance level). All 12 statements yielded an *r*-count value greater than the *r*-table value, confirming the questionnaire's validity.

Reliability Test

A reliability test was conducted in this research to measure the consistency of the instrument used to assess the perception of PT Bank Rakyat Indonesia (Persero) Tbk customers in Madiun City regarding the information quality of Chatbot Sabrina. The questionnaire was tested on 20 samples from the population using SPSS software. The decision criterion for reliability was a Cronbach's Alpha value greater than 0.60 (AlShurman et al., 2025). Based on the results, the Cronbach's Alpha value was 0.831, which is greater than 0.60, thus proving that all statements in the questionnaire are reliable.

Respondent Description

The demographic profile of the respondents was gathered from the self-reported data within the questionnaire's identity section. A total of 40 customers of PT Bank Rakyat Indonesia (Persero) Tbk in Madiun City participated in this study. Their occupational identities, as detailed in Table 1, reveal a diverse professional background among the participants. The largest single occupational group was students, comprising 15 respondents or 38% of the total. Other significant groups included private sector employees (6 respondents, 15%), traders (3 respondents, 8%), housewives (3 respondents, 8%), and freelancers (2 respondents, 5%). Smaller percentages were represented by cashiers, expedition workers, salespersons, social media specialists, general employees, entrepreneurs, shop administrators, security personnel, and civil servants, each making up 3% or 5% of the sample. This distribution provides insight into the varied backgrounds of the customers whose perceptions were analyzed.

Table 1. Distribution of Respondents by Profession

Job	Number of Respondents	Percentage (%)
Cashier	2	5
Trader	3	8
Expedition	1	3
Sales	1	3
Social Media Specialist	1	3
Freelancer	2	5
Employee	2	5
Housewife	3	8
Entrepreneur	1	3
Store Admin	1	3
Security	1	3
Private Sector	6	15
Civil Servant	1	3
Student	15	38
Total	40	100

Source: Author (2024)

Description of Respondent Responses

This research aimed to understand the perceptions of PT Bank Rakyat Indonesia (Persero) Tbk customers in Madiun City regarding the information quality of Chatbot Sabrina. To achieve this, four key indicators of information quality, as defined by Delone and McLean (DeLone & McLean, 2003) were utilized: Accuracy, Relevance, Completeness, and Ease of Understanding. The following sections present a detailed

breakdown of respondent feedback for each of these indicators, based on their responses to the questionnaire statements.

Table 2. Summary of Respondent Perceptions

Indicator	Statement Focus	Strongly Agree (%)	Agree (%)	Disagree / Strongly Disagree (%)
Accuracy	Clear, unambiguous information	58%	43%	0%
	Matches customer needs	55%	45%	0%
Relevance	Answers include 5W+1H elements	43%	48%	10%
	Covers BRI products, promos, location, etc.	70%	28%	3%
	Supports decision-making	40%	53%	8%
	Facilitates transactions	68%	33%	0%
Completeness	Gives step-by-step guidance	48%	50%	3%
	Explains features and access steps	58%	43%	0%
Ease of Understanding	Easy to understand	65%	35%	0%
	Provides clear and concise info	48%	50%	3%
	Gives actionable instructions	63%	35%	3%
	Information is simple and not complex	65%	35%	0%

Source: Author (2024)

- 1. Information Accuracy (Accuracy).** The accuracy indicator assesses whether Chatbot Sabrina provides information free from ambiguous language and delivers information that aligns with customer needs. For the first statement, "Chatbot Sabrina provides information free from ambiguous sentences," The significant majority of respondents agreed or strongly agreed, with 58% strongly agreeing and 43% agreeing. No respondents expressed disagreement. This indicates a strong perception among customers that Sabrina's information is unambiguous. Similarly, for the second statement, "Chatbot Sabrina provides information according to customer needs," and it reveals that 55% strongly agreed and 45% agreed, with no dissenting opinions. This further reinforces the finding that customers perceive Chatbot Sabrina as providing information that is precise and directly addresses their requirements.
- 2. Relevance.** The relevance indicator examines whether Chatbot Sabrina provides comprehensive answers (covering 5W+1H: what, when, where, who, why, and how) to customer inquiries, offers necessary information on BRI products, transactions, promotions, locations, complaints, and services, aids in transaction decision-making, and simplifies transactions. For the statement, "Chatbot Sabrina can provide answers covering 5W+1H (what, when, where, who, why, and how) for customer inquiries", 43% strongly agreed and 48% agreed, while 10% disagreed. This suggests that a large portion of respondents found Sabrina's answers to be comprehensive. Regarding the provision of information on various BRI services, "Chatbot Sabrina provides information on BRI products, transactions, promotions, locations, complaints, and services", an overwhelming 70% strongly agreed and 28% agreed, with only 3% disagreeing. This highlights the perceived breadth of information offered by Sabrina.

Furthermore, for the statement, "Chatbot Sabrina can be a consideration in making decisions for transactions", 40% strongly agreed and 53% agreed, with 8% disagreeing, indicating that most customers find Sabrina's information valuable for their transactional decisions. Lastly, concerning ease of use, "Chatbot Sabrina provides clear instructions for transactions", 68% strongly agreed and 33% agreed, with no disagreement, demonstrating that customers find Sabrina's transactional guidance straightforward.

- 3. Information Completeness (Completeness).** The completeness indicator assesses whether Chatbot Sabrina provides sequential instructions for transactions and clear guidance on its features and how to access them. For the statement, "Chatbot Sabrina provides sequential instructions for transactions", 48% strongly agreed and 50% agreed, with only 3% disagreeing. This indicates that the majority of respondents perceive Sabrina's transactional instructions as well-ordered and easy to follow. Similarly, for the statement, "Chatbot Sabrina presents clear guidance on features and how to access them", 58% strongly agreed and 43% agreed, with no disagreement. This suggests that customers find the information provided by Sabrina regarding its features and their accessibility to be comprehensive and transparent, which is crucial for effective utilization of the chatbot's functionalities.
- 4. Ease of Understanding.** The ease of understanding indicator evaluates whether Chatbot Sabrina provides easily digestible information, offers clear and concise information, gives easy-to-follow instructions, and presents information simply without complexity. For the statement, "Chatbot Sabrina provides easily digestible information", 65% strongly agreed and 35% agreed, with no disagreement, indicating that customers find the information readily comprehensible. Regarding clarity and conciseness, "Chatbot Sabrina provides clear and concise information", 48% strongly agreed and 50% agreed, with 3% disagreeing, showing that most respondents perceive the information as straightforward and to the point. For the ease of following instructions, "Chatbot Sabrina provides easy-to-follow instructions", 63% strongly agreed and 35% agreed, with 3% disagreeing, suggesting that customers find Sabrina's guidance actionable. Finally, for the statement, "Chatbot Sabrina presents information simply and without complexity", 65% strongly agreed and 35% agreed, with no disagreement. This collectively demonstrates that customers find Chatbot Sabrina's communication style and information presentation to be simple, straightforward, and easy to grasp, enhancing their overall user experience.

Overall Response Results

In this discussion, we analyze the responses from respondents regarding the quality of information provided by the chatbot, Sabrina, at PT Bank Rakyat Indonesia (Persero) Tbk in Madiun. The results are summarized in Table 3.

Table 3. Overall Response Results

Quality Scale	Frequency	Percentage (%)
High Quality	11	28
Good Quality	23	58
Poor Quality	6	15
Total	40	100

Source: Author (2024)

The table indicates that 11 respondents (28%) rated the information as of high quality, while 23 respondents (58%) rated it as of good quality, and 6 respondents (15%) rated it as of poor quality. This suggests that the majority of respondents perceive the information provided by the chatbot as high quality. Several factors contribute to this positive perception:

1. The accuracy of Information delivered by chatbot Sabrina is accurate, free from ambiguous statements, and meets customer needs effectively.
2. The relevance of the information of the chatbot provides comprehensive answers covering the 5W + 1H (what, when, where, who, why, and how) related to customer inquiries. It also supplies essential information about BRI products, transactions, promotions, locations, complaints, and services, facilitating informed decision-making during transactions.
3. Completeness of Information of chatbot Sabrina offers clear guidance for transaction activities and presents detailed instructions related to its features and how to access them.
4. Clarity of Information provided is easy for customers to understand, featuring clear and concise instructions that are straightforward to follow, resulting in simple and non-complex information.

Overall, the findings indicate that the majority of respondents view the information provided by the chatbot as high quality, highlighting its effectiveness in meeting customer needs.

CONCLUSIONS

Based on the discussion in the previous chapter, it can be concluded that the information provided by the chatbot, Sabrina, is of high quality for customers of PT Bank Rakyat Indonesia (Persero) in Madiun. It is considered high quality because the information presented is very accurate, relevant, comprehensive, and easy to understand. The assessment results for each indicator are as follows: 43% for the accuracy indicator, 60% for the relevance indicator, 40% for the completeness indicator, and 43% for the ease of understanding indicator. From this conclusion, recommendations for PT Bank Rakyat Indonesia (Persero) Tbk regarding the information provided by the chatbot Sabrina include enhancing the guidance offered during transaction activities to ensure a more structured approach. This improvement would help facilitate customers in conducting transactions and optimize the use of the chatbot. For future researchers, it is suggested to consider the criteria of respondents using the chatbot Sabrina to broaden the understanding of user experiences related to its features and usage.

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