Optimizing Artificial Intelligence (AI) Chatbot Customer Service in Small and Medium Enterprises (SMEs) in E-Marketplace

Erwin Halim
Information Systems Department
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
erwinhalim@binus.ac.id

Anderes Gui
Information Systems Department
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
anderesgui@binus.edu

Ida Ayu Indah Savitri Dewi Manuaba
Information Systems Department
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
ida.manuaba003@binus.ac.id

Andreas Raharto Condrobimo
Information Systems Department
School of Information Systems
Bina Nusantara University
Jakarta, Indonesia 11480
condrobimo@binus.ac.id

Abstract— **The rise of advanced technologies, such as AI-driven chatbots, enables SMEs in e-marketplaces to provide responsive and efficient customer support, improve engagement, and streamline services. However, customers increasingly express concerns about AI-supported chatbot services, which affects their willingness to engage with these technologies. Consequently, this study aims to examine the factors that influence customers' behavioral intentions to use AI and their intentions for the continued use of AI-supported chatbots. Using a purposive sampling technique, the study collected data from 152 respondents through an online questionnaire. To analyze and predict the findings from the collected data, the study employed PLS-SEM as its statistical approach. The results indicate that information quality, system quality, and service quality significantly influence trust. Furthermore, service quality, perceived ease of use, confirmation of expectations, and perceived usefulness affect user satisfaction. Additionally, confirmation of expectations impacts perceived usefulness, and user satisfaction influences the behavioral intention to use AI chatbots. The findings also reveal that trust, user satisfaction, and perceived usefulness effectively enhance the intention to continue using AI-driven chatbots. However, information quality and system quality do not correlate with user satisfaction, and confirmation of expectations does not relate to user satisfaction. These findings contribute valuable insights to the existing literature on AI-driven chatbot services. Furthermore, stakeholders involved with AI-driven chatbot services for SMEs will gain an understanding of how to enhance user-friendly chatbot services.**

Keywords— chatbot, customer service, small and medium businesses, user satisfaction, confirmation of expectations.

I. INTRODUCTION

The technology field is booming, leading to exciting innovations that have transformed human life. As a result, robots and systems have begun to replace some tasks traditionally performed by humans. Artificial intelligence (AI) can now handle activities such as language translation, image and speech recognition, decision-making, and problem-solving. There are various types of AI: narrow or weak AI, which is designed for specific tasks, and general or strong AI, which aims to perform any intellectual task that a human can [1]. In addition to these disruptive technologies,

artificial intelligence chatbots (AICs) have emerged in the era of Industry 4.0. AICs can assist small and medium-sized enterprises (SMEs) and large enterprises (LEs) in providing effective and productive interactions with their online customers [2].

Chatbots such as Apple Siri and Amazon Alexa represent significant technological advancements in the era of rapidly evolving conversational services. They enable businesses to facilitate communication between users and messaging systems powered by artificial intelligence and machine learning. As chatbots become increasingly prevalent on messaging platforms, they have emerged as the preferred channel for customer service [3]. Furthermore, internet-sourced information is valuable due to its round-the-clock accessibility and its ability to offer diverse perspectives [4].

The problem statement of this research is as follows: whether this technology is going well, whether it can answer the question of customers properly, and whether it is in line with expectations.

This research aims to know if the technology is going well, if it can help customers find appropriate answers, and if the technology is what the customer hopes it to be. This research is based on the DeLone & McLean Model.

II. LITERATURE REVIEW

A. Artificial Intelligence (AI)

Artificial intelligence simulates human intelligence in mechanical systems designed to think and act like humans. According to CNBC Indonesia, human intelligence can be defined as the ability of a machine to easily imitate and perform tasks ranging from the simplest to the most complex [1].

Artificial intelligence is important because it can analyse larger and more complex datasets. Additionally, it achieves remarkable accuracy through deep neural networks, which

was not possible before. This technology adapts using progressive learning algorithms, enabling data to drive programming [5].

B. Chatbot

A chatbot is an artificial intelligence-based program designed to simulate conversations with users through messaging applications. Often referred to as a digital assistant, this technology can quickly understand and process user queries, providing appropriate answers. Chatbots can be categorized into several types [5].

The most basic type is the question-answer bot, which relies on predefined rules to deliver set solutions to specific, structured questions. This makes it particularly useful for customer service applications. While it does not utilize advanced artificial intelligence, it accesses a knowledge base and employs pattern recognition [6]. Despite its simple capabilities, this type of chatbot is widely used in business settings.

The next level of chatbot is the virtual assistant or digital assistant, which features more sophisticated and interactive technology. This type of chatbot offers better personalization compared to task-oriented bots. It leverages predictive intelligence and analytics to tailor interactions based on user profiles and behaviours. Over time, this chatbot can learn user preferences, make recommendations, and anticipate needs [6].

C. Customer Service

Customer service is a service provided by the company to assist customers both before and after their purchase of a product or service [7]. Its primary purpose is to enhance the customer experience, ensuring that transactions are smooth and that customer needs and satisfaction are met. Customer service is responsible for engaging with customers, managing communication, providing information, addressing issues, and maintaining overall satisfaction [8]. Through effective customer service, the company gains insights into customer needs and expectations, helping to align its offerings with what customers desire. Consequently, quality services using AI-driven chatbots enhance customer satisfaction with the services, resulting in increased trust in AI-driven chatbot services.

D. Chatbots in Small and Medium Businesses

Chatbots have gained popularity and widespread adoption among small and medium-sized businesses, with around a quarter of these businesses utilizing third-party customer service bots [9]. In the business sector, the most common type of chatbot is the data-driven chatbot, which is primarily used to automatically respond to customer inquiries.

In the business sector, chatbots have a significant impact. Implementing a chatbot on a website can enhance customer interactions and boost marketing efforts. According to Tidio, chatbots can increase sales conversions by up to 70% in certain industries. However, establishing universal benchmarks for chatbots can be challenging. While some marketing statistics offer bold estimates, it is feasible to track specific e-commerce transactions and attribute their success to chatbot interactions [9].

The more specific and relevant the message, the more customer interactions will occur. As chatbots become increasingly common, businesses must prioritize delivering a positive customer experience. To achieve this, chatbots must engage in more complex conversations and provide accurate information to achieve this.
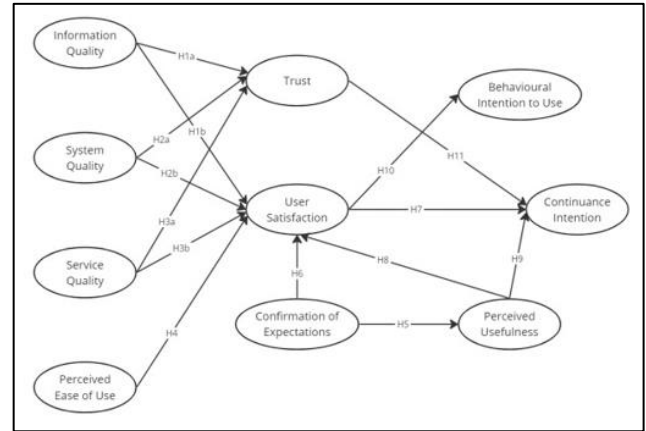
III. METHOD

A. Model

Fig. 1. Research Model

There are four exogenous variables in this study: Information Quality (INQ), System Quality (SYQ), Service Quality (SEQ), and Trust (TRU). In addition, four intervening variables are Satisfaction (SAT), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Behavioural Intention to Use (BI) and two endogenous variables: Confirmation of Expectations (CON), Continuance Intention (CI).

B. Hypothesis

Hypotheses:

- H1a: Information quality impact on the trust of chatbot users.

- H1b: Information quality impact on the satisfaction of chatbot users.

- H2a: System quality impact on the trust of chatbot users.

- H2b: System quality impact on the satisfaction of chatbot users.

- H3a: Service quality impact on the trust of chatbot users.

- H3b: Service quality impact on the satisfaction of chatbot users.

- H4: Perceived ease of use impact on user satisfaction.

- H5: Confirmation of expectations impact on the perceived usefulness of chatbot users.

- H6: Confirmation of expectations impact on the satisfaction of chatbot users.

- H7: Satisfaction impact on the user's intention to continue using chatbots

- H8: Perceived usefulness impact on the satisfaction of chatbot users.

- H9: Perceived usefulness impact on the

continuance intention of chatbot users.

- H10: User satisfaction impact on behavioural intention to use.

- H11: Trust impact on the continuance intention of chatbot users.

TABLE I. MEASUREMENTS AND INDICATOR

Code	Questionnaires	Ref
Information Quality		
INQ1	The information provided by this store's chatbot is reliable.	[10], [11], [12]
INQ2	The information provided by the shopkeeper account chatbot is quite accurate.	
INQ3	The information provided by the store chatbot is easy to understand.	
INQ4	The information provided by the store chatbot is the latest information (updated).	
INQ5	The information provided by the store chatbot is in an engaging format.	
INQ6	I received sufficient information from the store chatbot.	
INQ7	The store chatbot gave me the necessary information on time when I needed it.	
System Quality		
SYQ1	The store chatbot system is easy to use.	[10], [11]
SYQ2	The store chatbot system is user-friendly.	
SYQ3	Using a store chatbot system does not require much effort.	
SYQ4	I can use the store's chatbot system whenever and wherever I need.	
SYQ5	I feel comfortable using the store's chatbot system.	
Service Quality		
SEQ1	The store's chatbot gave me the right solution that suited my needs.	[10], [12]
SEQ2	The store chatbot gave me an instant response.	
SEQ3	The store chatbot gave me personalized attention.	
SEQ4	I feel the interface (web or app view) of the store chatbot looks modern.	
SEQ5	The store chatbot has a great interface (web or app view) to communicate my needs.	
SEQ6	The store chatbot has visually appealing content/materials.	
Trust		
TRU1	I believe that store chatbots can be trusted.	[10], [15]
TRU2	I do not doubt the honesty of the information provided by the store chatbot.	
TRU3	I feel confident that the store chatbot service has the ability to protect user data.	
TRU4	Overall, I believe in store chatbots.	
TRU5	By using a store chatbot, the store will have the ability to become a good store.	
User Satisfaction		
SAT1	The store chatbot has met my expectations.	[10], [11], [12]
SAT2	I think the store chatbot works well.	
SAT3	The store chatbot efficiently fulfils my needs, such as searching for information and making transactions.	
SAT4	I am happy with the support from the store chatbot.	
SAT5	I was satisfied with the store chatbot.	

Code	Questionnaires	Ref
Perceived Ease of Use		
PEOU1	The store chatbot is easy to use.	[10], [16], [17]
PEOU2	Using a chatbot makes finding the products I want to buy easier.	
PEOU3	Interactions with the store chatbot are clear and easy to understand.	
PEOU4	I feel that store chatbot interactions are flexible.	
PEOU5	The store chatbot made it easier for me to become skilled in using different types of interactions.	
Perceived Usefulness		
PU1	Store chatbots are useful in my daily life.	[10], [12], [17]
PU2	The store chatbot helps me get my work done faster.	
PU3	The store chatbot increased my productivity.	
PU4	The store chatbot helps me do things more easily.	
PU5	The store chatbot was useful in supporting my request.	
Behavioural Intention to Use		
BI1	I want to use a store chatbot to find the products I want to buy.	[13], [16], [18]
BI2	I would recommend a store chatbot for finding products to buy to my friends and family.	
BI3	I would recommend a store chatbot for finding products to buy to other customers on online social media.	
BI4	I'm hoping to use a store chatbot to build a network.	
BI5	I will continue to use the store's Chatbot to find products that I will buy.	
Confirmation of Expectations		
CON1	My experience with the store chatbot was greater than my expectations.	[10], [13]
CON2	The level of service provided by the store's chatbot service is better than I expected.	
CON3	My problem was solved by using the store's chatbot.	
CON4	Using the store chatbot increased my satisfaction with the store.	
CON5	In general, most of my expectations from using a store chatbot were met.	
Continuance Intention		
CI1	I am willing to continue using this store's chatbot to ask about items in the store.	[10], [14]
CI2	I will always try to use the store chatbot when I need it.	
CI3	I would recommend the store chatbot to others.	
CI4	I would rather keep using the store chatbot than not using the store chatbot.	
CI5	I will continue to increase my shopping frequency and use the store chatbot.	

IV. RESULT AND DISCUSSION

A. Result of Characteristic Respondent

TABLE II. USE OF CHATBOT IN E-MARKETPLACE

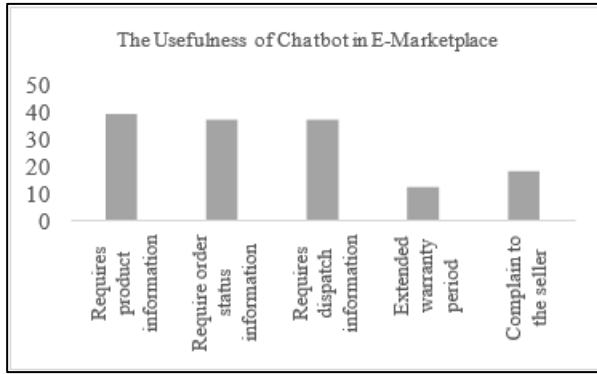| Characteristic	Description	Sample	Percentage (%)
Have you ever used a chatbot with a seller's store account	Yes	132	86.8%

Fig. 2. The Usefulness of Chatbot in E-Marketplace

According to Table II, among the 152 respondents who utilize shopping apps, 132 (86.8%) have engaged with the chatbot feature in the seller's store account while making inquiries on the E-Marketplace. This indicates that chatbot usage is prevalent across different regions, particularly in Jabodetabek and Bandung. As illustrated in Figure 2, the majority of respondents (38) have used the store's chatbot to seek information about the products they intended to purchase. The most popular marketplaces for asking chatbot questions are Shopee and Tokopedia. In contrast, fewer than 10% of respondents reported making purchases on BukaLapak, Blibli, and other e-marketplaces. On average, users engage with chatbots in services 1-3 times per month. The duration of these interactions varies, with 44.7% of users spending less than 3 minutes, 36.4% spending between 3-5 minutes, 11.4% spending 6-10 minutes, and 7.6% spending more than 10 minutes.

B. Measurement Model: Validity and Reliability

Table III reveals that the cross-loadings for the research indicators range from 0.737 to 0.904, confirming the validity of all indicators. However, five out of 53 indicators were excluded due to insignificant loading values. The Average Variance Extracted (AVE) values also exceed 0.5, with results between 0.636 and 0.751, further supporting their validity. The Composite Reliability (CR) values for each component fall between 0.875 and 0.934, indicating high reliability for all indicators. Additionally, none of the Cronbach's Alpha (CA) values were below 0.70. Therefore, based on these criteria, all indicators are deemed valid and reliable, except for the five that were excluded.

TABLE III. VARIABLE & INDICATOR'S VALIDITY AND REALIBILITY

No.	Variabels/Indicator	Cross Loading	CA	CR	AVE
	INQ		**0.906**	**0.926**	**0.642**
1.	INQ1	0.858			
2.	INQ2	0.844			
3.	INQ3	0.767			
4.	INQ4	0.750			
5.	INQ5	0.812			
6.	INQ6	0.832			
7.	INQ7	0.737			
	SYQ		**0.873**	**0.908**	**0.664**
8.	SYQ1	0.887			
9.	SYQ2	0.807			
10.	SYQ3	0.764			
11.	SYQ4	0.792			
12.	SYQ5	0.821			
	SEQ		**0.810**	**0.875**	**0.636**
13.	SEQ1	0.799			
14.	SEQ3	0.815			
15.	SEQ4	0.771			
16.	SEQ6	0.805			
	TRU		**0.861**	**0.906**	**0.707**
17.	TRU1	0.804			
18.	TRU3	0.831			
19.	TRU4	0.898			
20.	TRU5	0.827			
	SAT		**0.889**	**0.923**	**0.751**
21.	SAT1	0.889			
22.	SAT2	0.835			
23.	SAT3	0.859			
24.	SAT5	0.882			
	PEOU		**0.898**	**0.925**	**0.711**
25.	PEOU1	0.870			
26.	PEOU2	0.808			
27.	PEOU3	0.891			
28.	PEOU4	0.874			
29.	PEOU5	0.766			
	PU		**0.905**	**0.929**	**0.725**
30.	PU1	0.836			
31.	PU2	0.877			
32.	PU3	0.831			
33.	PU4	0.879			
34.	PU5	0.833			
	BI		**0.911**	**0.934**	**0.738**
35.	BI1	0.841			
36.	BI2	0.904			
37.	BI3	0.888			
38.	BI4	0.817			
39.	BI5	0.843			
	CON		**0.912**	**0.934**	**0.741**
40.	CON1	0.818			
41.	CON2	0.826			
42.	CON3	0.879			
43.	CON4	0.889			
44.	CON5	0.889			
	CI		**0.887**	**0.922**	**0.747**
45.	CI1	0.891			
46.	CI2	0.836			
47.	CI3	0.904			
48.	CI5	0.825			

TABLE IV. PATH COEFFICIENT

	Standard Deviation	t-values	p-values	Decision
INQ→TRU	0.112	4.109	0.000	Accepted
INQ→SAT	0.090	0.869	0.385	Rejected
SYQ→TRU	0.088	2.597	0.009	Accepted
SYQ→SAT	0.077	0.565	0.572	Rejected
SEQ→TRU	0.104	2.101	0.036	Accepted
SEQ→SAT	0.094	2.496	0.013	Accepted
PEOU→SAT	0.080	3.497	0.000	Accepted
CON→PU	0.036	23.021	0.000	Accepted
CON→SAT	0.096	1.040	0.299	Rejected
SAT→CI	0.097	2.410	0.018	Accepted
PU→SAT	0.096	2.693	0.007	Accepted
PU→CI	0.083	5.931	0.000	Accepted

SAT→BI	0.041	18.862	0.000	Accepted
TRU→CI	0.088	2.165	0.030	Accepted

Table IV shows the t-value and p-value results, with an acceptable t-value greater than 1.96 and a p-value smaller than 0.05. Based on these results, three hypotheses were rejected out of 14 hypotheses.

C. Information Quality to Trust

The Information Quality (INQ) variable significantly influences the Trust (TRU) variable. This finding aligns with recent studies [10] [11] [12] [15], which demonstrate that the INQ variable has a positive impact on the TRU variable. The indicator loading results reveal that the INQ1 indicator has the highest value, indicating that the information provided by the chatbot is reliable. In contrast, INQ7 has a low value, suggesting that the information needed does not significantly affect the TRU variable.

D. Information Quality to User Satisfaction

The relationship between the information quality (INQ) variable and user satisfaction variable (SAT) is found to be insignificant. One possible explanation is that the quality of information impacts user satisfaction, as information has a strong effect on users. When users perceive the information as inadequate or unsuitable, they are likely to bypass the chatbot service and directly ask the seller for assistance. Therefore, providing updated and easily understandable information is crucial for enhancing customer satisfaction with the chatbot service.

E. System Quality to Trust

The System Quality (SYQ) variable significantly influences the Trust (TRU) variable. This finding aligns with recent studies [10] [12] [15], which indicate that SYQ positively impacts TRU. The loading conditions indicator reveals that the SYQ1 indicator has a high value, suggesting that the chatbot service is easy to use. Users can initiate a conversation with the chatbot simply by typing a message or using their voice.

F. System Quality to User Satisfaction

The System Quality (SYQ) variable and the User Satisfaction (SAT) variable are insignificant. One possible explanation for this is that using a chatbot service requires less effort from the user. Initiating a conversation with a chatbot is as simple as typing a message, which may lead users to prioritize service satisfaction over system quality. This tendency reflects users' concerns about information disclosure and data theft. To enhance user trust in chatbot services, it is essential to ensure high system quality, particularly in terms of convenience and security.

G. Service Quality to Trust

The Service Quality (SEQ) variable significantly influences the Trust (TRU) variable. This result aligns with recent studies [10] [12] [15], which demonstrate that the SEQ variable has a positive impact on the TRU variable. The loading indicator for goods shows that the SEQ1 indicator has a high value, indicating that the chatbot service is attentive to users. The chatbot service indirectly ensures that user problems are resolved through the information provided by the chatbot. This also reinforces the customer's trust in the chatbot service.

H. Service Quality to User Satisfaction

The Service Quality (SEQ) variable significantly influences the User Satisfaction (SAT) variable. This finding aligns with recent studies [10] [11] [12], which demonstrate that SEQ has a positive impact on SAT. This suggests that the service provided by the chatbot can affect user behavior, as the attention given to users makes them feel satisfied that their requests are being met.

I. Perceived Ease of Use to User Satisfaction

The Perceived Ease of Use (PEOU) variable significantly influences the User Satisfaction (SAT) variable. This result aligns with recent studies [10] [11] [12] [16] [17], which show that the PEOU variable positively impacts the SAT variable. The indicator of loading goods reveals that PEOU3 had the highest value, indicating that the chatbot service was easy for both youth and adults to use. Chatbot services are designed to be user-friendly and understandable, as they are computer programs created to interact with humans through straightforward online conversations.

J. Confirmation of Expectations to User Satisfaction

The Confirmation of Expectations (CON) variable significantly influences the User Satisfaction (SAT) variable. This result aligns with recent studies [10], [11], [12], and [13], which show that the CON variable has a positive impact on the SAT variable. This suggests that users have high expectations regarding service (CON2), problem resolution with chatbot services (CON3), and overall customer satisfaction (CON4).

K. Confirmation of Expectations to User Satisfaction

The confirmation of expectations (CON) variable and User Satisfaction (SAT) is insignificant. One possible explanation for this is that customers have high expectations for chatbot services. When they engage with these services, they anticipate that the chatbot will effectively resolve their issues. However, this indicates that user problems are often not adequately addressed after using the chatbot service. Therefore, providing positive experiences is crucial for enhancing user expectations and satisfaction with the chatbot service.

L. User Satisfaction to Continuance Intention

The User Satisfaction (SAT) variable significantly influences the Continuance Intention (CI) variable. This result aligns with recent studies [10], [11], [12], and [14], which demonstrate that the SAT variable has a positive impact on the CI variable. The loading conditions indicator reveals that the SAT1 indicator has the highest value, suggesting that chatbot store services align well with customer expectations. When the chatbot service meets these expectations, users are more likely to utilize the chatbot for inquiries about goods in the store (CI1). Additionally, customers may increase their shopping frequency and use store chatbots more often (CI5).

M. Perceived Usefulness to Continuace Intention

The Perceived Usefulness (PU) variable significantly influences the Continuance Intention (CI) variable. This finding aligns with recent studies [10] [12] [14] [17], which demonstrate that the PU variable positively impacts the CI variable. The PU4 indicator has the highest value, indicating that a chatbot's service can easily assist customers. Furthermore, the chatbot service is accessible whenever the customer wishes to use it. When related to the satisfaction indicator, chatbot services perform very well at the convenience of customers, regardless of their location and

time. By simply turning on their mobile network, customers can access the chatbot service through various e-platforms

N. User Satisfaction to Behavioural Intention to Use

User Satisfaction (SAT) has a significant influence on the Behavioral Intention to Use (BI). This finding aligns with recent studies [10] [11] [12] [13] [16] [18], which demonstrate that the SAT variable positively impacts the BI variable. The loading conditions indicator reveals that the SAT1 indicator has the highest value, suggesting that chatbot store services meet customer expectations. When a chatbot service fulfils these expectations, users are more likely to utilize it regularly and recommend the service to their family, friends, and neighbors

O. Trust to Continuance Intention

The Trust (TRU) variable significantly influences the Continuance Intention (CI) variable. This finding aligns with recent studies [10] [14] [15], which demonstrate that the TRU variable positively impacts the CI variable. The loading conditions indicator reveals that the TRU4 indicator has a strong reliability value, reflecting trust in the chatbot shop services. When users feel confident in the chatbot, they are more likely to use the shop's chatbot services frequently as opposed to opting for a shop without a chatbot (CI4). This increased usage stems from the customer's sense of comfort and safety with the chatbot service.

P. Discussion

Based on the results in Table IV, effective outcomes are obtained as follows:

= ((realization/ target) x 100%)

= (11/14) x 100%= 76.6%

Based on Arikunto's interpretation table [19], optimizing chatbot services on E-Marketplace is highly effective. Most respondents would agree that enhancing chatbot services is a priority

V. CONLUSION

Chatbots could be a valuable solution for Indonesian SMEs looking to expand their business in e-commerce. By using chatbots, sellers can enhance customer service at a lower cost while providing an excellent user experience. However, this must be supported by other factors, such as adequate information and reliable data security, to ensure customer satisfaction with the chatbot service. When the quality of the chatbot service provided by the shop improves, it is likely that the shop will receive positive reviews. Therefore, e-vendors must deliver quality services to their clients by offering the latest information through the chatbot service, allowing the shop to increase sales.

ACKNOWLEDGMENT

OPEN DATA AND OPEN CONTRIBUTOR

The dataset is available at https://zenodo.org/records/14172293 or https://doi.org/10.5281/zenodo.14172292 . Open contributor of the authors follows the International Committee of Medical Journal Editors (ICMJE).

REFERENCES

[1] A. Trivedi, E. K. Kaur, C. Choudhary, Kunal, and P. Barnwal, "Should AI Technologies Replace the Human Jobs?," 2023 2nd Int. Conf.Innov. Technol. INOCON 2023, pp. 1–6, 2023, doi:10.1109/INOCON57975.2023.10101202.

[2] R. R. Panigrahi et al., "AI Chatbot Adoption in SMEs for Sustainable Manufacturing Supply Chain Performance: A Mediational Research in an Emerging Country," Sustain., vol. 15, no. 18, 2023, doi: 10.3390/su151813743.

[3] A. Gabriella, A. Gui, & R. C. Chanda, "The Use of Chatbot and its Impact on Academic Achievement," In 2024 IEEE Symposium on Industrial Electronics & Applications (ISIEA) (pp. 1-6). IEEE.

[4] [M. Rivki, A. M. Bachtiar, T. Informatika, F. Teknik, and U. K. Indonesia, "No 主観的健康感を中心とした在宅高齢者における健康関連指標に関する共分散構造分析 Title," no. 112, pp. 1–6.

[5] A. Gui, W. B. Lay, J. J. Chia, & R. C. Chanda, "The Emergence of Smart Chatbots in Online Health Services: Unveiling Adoption Intentions and Influencing Factors," In 2024 International Conference on Data Science and Its Applications (ICoDSA) (pp. 207-213). IEEE.

[6] T. Ismi, "Chatbot: Definisi, Cara Kerja, Manfaat, dan Contohnya," Glints, 21 June 2023. [Online]. Available: https://glints.com/id/lowongan/chatbot-adalah/.

[7] F. Vellamy, D. A. Wijaya, A. Gui, M. S. Shaharudin, A. A. Pitchay & R. C. Chanda, "The Role of Social Media on Purchase Decisions in Indonesia: Perspective of Z Generation," In 2023 IEEE Symposium on Industrial Electronics & Applications (ISIEA) (pp. 1-6). IEEE.

[8] R. . Pilo, "Customer Service: Pengertian, Tugas, dan Strategi," MitraComm Ekasarana, 15 May 2023. [Online]. Available: https://mitracomm.com/customer-service.

[9] M. Fokina, "The Future of Chatbots: 80+ Chatbot Statistics for 2023," TIDIO, 4 April 2023. [Online]. Available: https://www.tidio.com/blog/chatbot-statistics/.

[10] L. Dung Minh Nguyen, "Determinants of Continuance Intention towards Banks' Chatbot Services in Vietnam: A Necessity for Sustainable Development," MDPI, 8 July 2021. [Online]. Available: https://www.mdpi.com/2071-1050/13/14/7625.

[11] M. Xusen Cheng, "Exploring consumers' response to text-based chatbots in e-commerce: the moderating role of task complexity and chatbot disclosure," Emerald Insight, 12 July 2021. [Online]. Available: https://www.emerald.com/insight/content/doi/10.1108/INTR-08-2020-0460/full/html.

[12] A. Tércio Pereira, "The moderating effect of the need for interaction with a service employee on purchase intention in chatbots," Science Direct, 1 February 2022.

[13] N. A. I. Nur Azlina mohamed Mokmin, "The evaluation of chatbot as a tool for health literacy education among undergraduate students," Research Gate, September 2021.

[14] R. R. F. Sarassina, "Understanding Mobile Payment Continuance in Indonesia: A Brand Equit Perspective Continuance Model," CommIT Jurnal, 2022..

[15] H. Jinjie Li, "Determinants Affecting Consumer Trust in Communication With AI Chatbots: The Moderating Effect of Privacy Concerns," Research Gate, January 2023.

[16] C. Duen-Huang Huang, "Chatbot usage intention analysis: Veterinary consultation," Science Direct, 3 November 2020.

[17] B. L. Loana Lancu, "Interacting with chatbots later in life: A technology acceptance perspective in COVID-19 pandemic situation," Frontiers, 16 January 2023. [Online]. Available: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.1111003/full.

[18] D. Mahendar Goli, "Users' Acceptance of Artificial Intelligence-Based Chatbots: An Empirical Study," Research Gate, January 2023. [Online]. Available: https://www.researchgate.net/publication/368802936_Users%27_Acceptance_of_Artificial_Intelligence Based_Chatbots_An_Empirical_Study.

[19] S. Arikunto, in Prosedur Penelitian: Suatu Pendekatan, Jakarta, Bina Aksara, 1989