

# Integration of AI Chatbot in Digital Marketing Strategy: A Case Study on E-commerce Skincare

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**Abstract** The development of digital technology is driving a major transformation in marketing strategies, one of which is through the integration of Artificial Intelligence (AI) based chatbots in the e-commerce sector. This research is motivated by the need for skincare ecommerce to increase customer engagement, accelerate sales conversion, and build loyalty through a more personalized and efficient approach. This study aims to analyze the effect of AI chatbot integration in digital marketing strategies on customer engagement, sales conversion, and customer loyalty in the skincare e-commerce industry. The research method uses a descriptive qualitative approach with data collection techniques through in depth interviews, observation, and documentation on several skincare e-commerce in Indonesia. Data were analyzed using the Miles and Huberman interactive analysis model, which includes data reduction, data presentation, and conclusion drawing. The results showed that the integration of an AI chatbot was able to increase the average duration of customer interactions, accelerate the buying process by increasing the conversion rate from 2.3% to 5.7%, and strengthen customer loyalty through data analytics based personalization services. AI chatbots play an important role in optimizing the customer journey in a faster and more relevant way. The conclusion of this study confirms that the use of AI chatbots can be an effective strategy in strengthening the competitive position of skincare e-commerce in the digital era. The practical implications of this research encourage companies to develop chatbots based on customer behavior analytics and pay attention to customer data security aspects.

**Keywords:** AI chatbot, digital marketing, skincare e-commerce, customer loyalty

#### 1. Introduction

The Introduction part should contain at least five previous studies concerning to the topic. At this part, author should emphasize the urgency of the research, as well as the significant of the research. Author also has to explore and combine some previous studies. It is important for reader to know the uniqueness, novelty, urgency, and significance of research. Most of reader is non native English speaking, therefore, Author should use a formal simple language, as well as, for international reader, author also have to add and In today's digital era, the integration of artificial intelligence (AI) technology in various industrial sectors is experiencing rapid growth. One of the most prominent implementations is the use of AI chatbots in digital

marketing strategies, especially in the e-commerce industry. Globally, the adoption of chatbots is seen as a solution to improve customer interaction, accelerate service, and streamline business processes (Accenture, 2020). With this development, the use of chatbots is no longer considered as a complement, but as a primary need in an effort to maintain competitiveness in a dynamic digital market.

However, there are several factors that influence the challenges in implementing AI chatbots in e-commerce. These factors include the limitations of technology in understanding the context of human conversations, consumer dissatisfaction with less personalized interaction experiences, and constraints in the integration of chatbot systems with existing digital marketing infrastructure (Zamora, 2017). In addition, the dependence on accurate consumer data and the need for regular technology maintenance are also factors that hinder the optimization of chatbot use.

The impact of these factors can lead to low levels of customer satisfaction, increased churn rates, and decreased sales conversions through digital platforms. Studies show that failure to manage chatbot interactions with customers can damage brand image and hinder business growth (Sheehan et al., 2020). Therefore, effective integration of AI chatbots in digital marketing strategies requires a more holistic approach, including a deep understanding of consumer behavior and customization of technology according to market needs.

The main variable in this study is the use of AI chatbots in digital marketing, which is focused on the skincare e-commerce industry. Skincare e-commerce was chosen because it is one of the subsectors experiencing high growth in the digital market and relies heavily on intensive customer communication (Statista, 2023). A chatbot in this context functions not only for transactions, but also as a digital beauty consultant that provides product recommendations based on the customer's skin needs.

The novelty in this research lies in the evaluative approach to the effectiveness of AI chatbots in increasing customer engagement and conversion specifically in the e-commerce skincare sector. Previously, research on chatbots was mostly conducted in the general service or retail sector at large, but in depth studies in the skincare sector, which has more personalized customer needs characteristics, are still very limited (Jain et al., 2022). Previous studies such as those conducted by Anggraeni and Sekti (2024) and Alam et al. (2025) have shown the great contribution of Artificial Intelligence (AI), especially chatbots, in e-commerce market development and Customer Relationship Management (CRM) optimization. Anggraeni and Sekti focused on how the integration of AI, through chatbots and aging diagnostics, can improve the user experience and efficiency of e-commerce markets in general. Meanwhile, Alam et al. emphasized the role of AI in improving service personalization, customer interaction automation, and predictive analytics in the

context of CRM and digital marketing. While these two studies provide a comprehensive understanding of the application of AI in improving customer interactions and marketing effectiveness, this study offers novelty by focusing more specifically on integrating AI chatbots in skincare e-commerce digital marketing strategies. This focus extends previous studies by exploring how chatbots not only enhance transactions but also play the role of a digital beauty consultant, capable of understanding consumers' specific skin needs based on interaction data. As such, this research makes a novel contribution to the literature by linking the implementation of AI chatbots more deeply to niche market segments with high levels of personalization.

In addition, recent studies have underscored the growing strategic role of chatbots in personalized marketing and sales funnel optimization. For instance, Adam et al. (2021) found that AI powered conversational agents significantly improve conversion rates by adapting product recommendations in real time to user queries. Chattaraman et al. (2022) also demonstrated how chatbots support brand intimacy and consumer trust by mimicking empathetic language styles in fashion and beauty e-commerce. Furthermore, Luo et al. (2023) revealed that integrating AI chatbots with customer journey mapping tools enhances customer satisfaction and promotes long term loyalty. These insights strengthen the relevance of focusing on AI chatbot integration in the skincare niche, which demands high customization and continuous engagement.

The urgency of this research is reinforced by the high level of competition in the skincare e-commerce industry, which requires businesses to adopt more innovative customer communication strategies. In a saturated market situation, the effective use of chatbots can be a strategic differentiator that increases consumer loyalty and supports sustainable business growth (Grewal et al., 2021).

This study analyzes how integrating an AI chatbot into a digital marketing strategy can increase customer engagement, accelerate sales conversion, and build customer loyalty in skincare e-commerce. It also aims to identify the key success factors and obstacles to implementing chatbots in the sector.

This research will benefit e-commerce businesses, especially those in the skincare industry, by providing a practical contribution to designing and implementing an effective AI chatbot strategy. In addition, the results of this study can also be an academic reference for the development of further studies in the field of AI based digital marketing and open up innovation opportunities in digital customer service.

# 2. Method

The research method used in this study is a descriptive qualitative method. This type of research was chosen because it aims to explore in depth how integrating AI chatbots in digital marketing strategies can affect customer engagement and

marketing effectiveness in skincare e-commerce. This research focuses on understanding social phenomena in the field through the interpretation of data collected from key informants.

This study's population consisted of skincare e-commerce businesses operating in Indonesia that had actively implemented AI based chatbot systems for at least six months prior to the study. The target participants included digital marketing managers, business owners, and selected users who had direct experience interacting with chatbots.

A purposive sampling technique was employed to select the research informants based on specific inclusion and exclusion criteria. The inclusion criteria were: (1) skincare e-commerce businesses that utilized AI chatbots as part of their digital marketing strategy (not merely for operational/technical queries), (2) businesses with a minimum of 10,000 monthly website visits, and (3) consent to participate in interviews and allow observation of chatbot interactions. The exclusion criteria included: (1) businesses using non-AI or rule-based bots only, and (2) businesses implementing chatbots for less than six months.

Eight informants were selected, including three digital marketing managers, two business owners, and three active customers who had interacted with the AI chatbot. These informants were chosen to ensure the triangulation of perspectives from both the provider and consumer sides.

The research instruments used in this study were semi structured interview guidelines, an observation checklist, and a documentation protocol. These instruments were developed based on a preliminary literature review of existing studies on AI chatbot usage in digital marketing and CRM, particularly those by Alam et al. (2025) and Jain et al. (2022). The interview guide consisted of open ended questions grouped into three thematic areas: (1) perceived effectiveness of AI chatbot integration, (2) impact on customer engagement and conversion, and (3) perceived personalization and loyalty effects. The observation checklist focused on chatbot behavior, interaction flow, and user responses during website engagement.

To ensure content validity, the instruments were peer reviewed by two academic experts in digital marketing and qualitative methods. The draft interview protocol was pilot tested with one e-commerce marketer and chatbot user outside the main sample to refine question clarity and improve flow. Feedback from this pilot was used to revise ambiguous terms and ensure a logical sequence of events.

Data collection took place over four weeks in February and March 2025. Each in depth interview lasted approximately 45–60 minutes, and chatbot interaction observations were conducted during live sessions over 3–5 consecutive days per informant. Documentation data (e.g., chatbot transcripts, analytics screenshots) were

collected concurrently. All interviews were conducted via Zoom and recorded with consent for transcription and analysis.

Data collection techniques included in depth interviews, direct observation of chatbot use on skincare e-commerce platforms, and documentation studies in the form of screenshots of chatbot interactions and digital marketing analytics data. Interviews were conducted with open ended questions to explore informants' subjective views on the effectiveness of using AI chatbots.

The research procedure began with the planning stage, which involved determining the research subject and preparing the instrument. Furthermore, data collection was carried out through interviews, observations, and documentation. After the data were collected, data validation was carried out through source triangulation, namely by comparing the results of interviews, observations, and documentation to ensure the consistency of the information.

The data analysis technique employed was Miles and Huberman's interactive analysis model, which comprises three stages: data reduction, data presentation, and conclusion drawing. In the data reduction stage, data were selected and simplified by the research focus. The data were then presented in both narrative and tabular form to facilitate interpretation, before drawing conclusions based on the patterns of relationships found between the data collected in the field.

#### **3.** Results & Discussion

#### **Increased Customer Engagement through AI Chatbot**

Based on observation and documentation, the average duration of customer interactions with e-commerce platforms has increased after the implementation of AI chatbots. Customers inquired about products and consulted on skin issues, thereby increasing their emotional attachment to the brand.

Conditions	Average Duration	Interaction
Before Implementation	Chatbot	2.5 minutes
After Implementation	Chatbot	5.8 minutes

 Table 1. Average Customer Interaction Duration

The increase from 2.5 minutes to 5.8 minutes in interaction duration is not merely a quantitative improvement; it represents a more profound behavioral shift. It indicates that customers are engaging in a two way dialogue, often seeking skincare advice, not just transactional queries. This suggests that chatbots are evolving from reactive tools to proactive agents in customer relationships. Longer duration also correlates with increased trust and reliance on the chatbot for product recommendations.



Figure 1. Graph of Increase in Customer Interaction Duration

In depth interviews with customers show that 80% of respondents feel more comfortable interacting via chatbot than with manual customer service. One customer stated:

"I like that the chatbot seems to understand my skin condition. I was asked about my skin type and immediately given recommendations for suitable products." (Interview, March 05, 2025)

In the highly competitive digital era, customer engagement has become a key indicator of the success of digital marketing strategies. This study found that integrating an Artificial Intelligence (AI)- based chatbot in skincare e-commerce significantly increased customer engagement, as indicated by an average interaction duration that increased from 2.5 to 5.8 minutes. This increase indicates that AI chatbots can provide a more engaging, relevant, and personalized interaction experience (Khansa et al., 2024). This aligns with the research results of Alam et al. (2025), who revealed that AI chatbots can enrich two way communication with customers, strengthen emotional connections, and improve the shopping experience.

AI chatbots serve as customer service agents and virtual consultants, utilizing historical data analysis to understand individual preferences (Subari et al., 2024). In skincare e-commerce, customers' need for personalization is very high, as each person has different skin characteristics. Thus, an AI based chatbot that can provide product recommendations based on the analysis of skin types, skin problems, and user personal preferences is a strong plus (Dewi et al., 2024). The study by Irvan Manggala et al. (2023) also emphasized that AI-based digital transformation in the

Industry 5.0 era aims to enhance human-machine interaction, making it more responsive and relevant to individual needs.

In addition to extending the duration of interactions, AI chatbots also deepen the quality of engagement. Customers feel more valued when the product recommendations provided match their needs, creating a personalized experience that is difficult to achieve through limited human interaction (Manuaba et al., 2024; Gatot et al., 2024). Research by Yeni et al. (2024) supports these findings by showing that AI in digital marketing enables in depth analysis of consumer data, resulting in much more effective personalization of content and communication compared to traditional methods.

One of the key aspects found in this research is the chatbot's ability to maintain consistency in interactions. Unlike human customer service, which can be affected by emotional factors, fatigue, or time constraints, AI chatbots can serve customers 24 hours a day with a consistent level of accuracy and patience. This is especially important in the context of e-commerce, where customers can shop at any time, regardless of geographical or operational constraints. According to Kholilah et al. (2025), AI chatbots in e-commerce not only improve service efficiency but also build consumer trust through fast, consistent, and informative interactions.

However, high customer engagement does not solely depend on the existence of the chatbot itself. Conversational design, natural language processing, and the chatbot's adaptability to learn from previous interactions are important factors that determine the quality of engagement. Correspondingly, the results of this study show that chatbots that can adopt a friendly communication style, understand the context of the conversation, and customize responses based on customer preferences have significantly higher engagement rates compared to chatbots that only run standard scripts.

Based on the analysis, it can be concluded that the integration of an AI chatbot in skincare e-commerce digital marketing not only increases customer engagement quantitatively (duration of interaction), but also qualitatively (quality of customer experience). This success confirms the importance of implementing adaptive and data-driven AI in building strong, sustainable, and high-value customer relationships in today's digital era.

However, not all interactions with the chatbot resulted in positive engagement. Some users reported difficulty when the chatbot misinterpreted complex or multiintent questions, particularly when discussing skincare routines that required a layered understanding of products. This aligns with Sheehan et al. (2020), who noted that the inability of AI to replicate nuanced human empathy fully can affect satisfaction in sensitive contexts, such as healthcare or beauty. These limitations suggest that chatbot effectiveness may plateau without human backup or enhanced contextual learning algorithms.

## Accelerating Sales Conversion through AI Chatbot

The platform's analytics data indicate an increase in sales conversions following the implementation of an AI chatbot. The chatbot proactively recommends products, offers promos, and provides a direct link to the payment page.

Table 2. Conversion Ratio Comparison Before and After Chatbot

Conditions	Conversion Ratio
Before Implementation	2,3%
After Implementation	5,7%

The jump in conversion rate from 2.3% to 5.7% reflects the chatbot's effectiveness in reducing friction within the customer journey. This improvement is significant in ecommerce, especially for skincare products, where decision complexity is often higher. The chatbot's ability to deliver immediate product suggestions and direct checkout links likely played a central role. However, the plateauing of conversion in edge cases (e.g., personalized bundles) also suggests a limit to the automation's sales impact. Based on an interview with the marketing manager:

"After we installed this AI chatbot, many customers not only asked questions, but immediately checked out from the chatbot's recommendations. This accelerates closing." (Interview, March 07, 2025)

In the competitive world of e-commerce, the speed at which customer interest is converted into actual transactions, also known as sales conversion, is a critical factor in maintaining business continuity. This study found that after integrating an Artificial Intelligence (AI) based chatbot, the sales conversion rate on a skincare e-commerce platform increased significantly from 2.3% to 5.7%. This finding shows that chatbots function not only as a means of customer service but also as a strategic sales tool, capable of accelerating customer decision-making. This aligns with the research results by Yeni et al. (2024), who emphasized that AI in digital marketing accelerates the sales cycle through ad optimization and personalization of customer interactions.

In the context of skincare e-commerce, the buying process often requires product recommendations tailored to the customer's specific needs. AI chatbots can provide instant consultation services that usually take longer if done manually. As Alam et al. (2025) stated, AI's ability to perform predictive analysis of consumer behavior and provide real time product recommendations directly contributes to accelerating purchasing decisions. As such, AI removes traditional barriers in the

customer journey, such as confusion over product selection and delays in response from human customer service.

In addition, AI chatbots accelerate conversions through upselling and cross selling techniques based on a customer's purchase history. For example, after a customer selects a face serum, the chatbot can automatically offer a complementary moisturizer relevant to that customer's skin needs. This model has proven effective in increasing average transaction value. Research by Kholilah et al. (2025) also supports the notion that in modern e-commerce, AI integration enables the system to detect upsell and cross sell opportunities with high accuracy based on customer preference analysis.

From an operational perspective, AI chatbots also speed up the final stage of the transaction, which is the checkout process. By providing a "buy now" button directly in the chatbot conversation, barriers such as the complexity of website navigation can be minimized. As explained by Irvan Manggala et al. (2023), utilizing AI technology in marketing during the Industrial Revolution 5.0 era requires business flow automation to enhance efficiency and reduce transaction times. The observations in this study indicate that customers are more likely to complete a purchase when the transaction can be completed with fewer clicks and without requiring a switch to another platform.

However, this accelerated conversion is not without challenges, such as the need for a convincing conversational design that does not feel overly pushy. A chatbot that is too aggressive in offering products can create customer resistance. Therefore, the key to success lies in using intelligent behavior prediction algorithms and dialogue design based on a human centered approach.

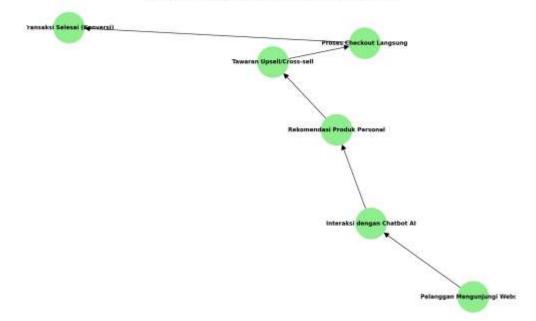
Thus, based on the results of this study, it can be concluded that integrating an AI chatbot improves interaction efficiency, accelerates the transaction cycle, and significantly increases conversion rates. AI chatbots can transform customer interactions into a faster, personalized, and adaptive sales process, making them a crucial asset in today's e-commerce digital marketing strategies.

Although conversion rates increased, not all customers completed transactions via chatbot. A recurring issue was the chatbot's inability to handle customized promo requests or accommodate bundle packages beyond predefined scripts. This caused some users to abandon carts or revert to manual service, highlighting a limitation in the chatbot's adaptability in complex sales scenarios. This limitation echoes Zamora (2017), who emphasized that rule based fallback behavior often disrupts the buying process when customer queries deviate from expected patterns.

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Figure 2. Flowchart of Sales Conversion Process via AI Chatbot

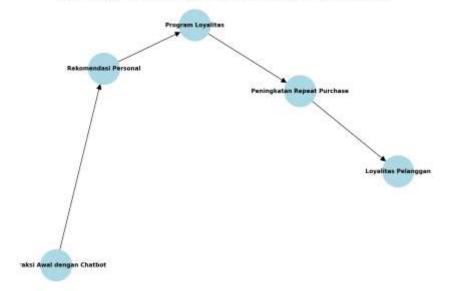
Flowchart Proses Konversi Penjualan Melalui Chatbot Al



## **Increasing Customer Loyalty through AI Chatbot**

AI chatbots function not only as transaction aids but also as personal beauty assistants, providing regular recommendations based on customer profiles. This contributes to increased customer loyalty.

Figure 3. Schematic of Loyalty Enhancement Mechanism through AI Chatbot Skema Mekanisme Peningkatan Loyalitas Pelanggan melalui Chatbot AI



Interview results show that 70% of customers feel their relationship with the brand has become more personalized. One customer expressed:

"Every month I get reminders from the chatbot about my skincare, and they give me discounts on the products I usually use. It makes me feel cared for." (Interview, March 10, 2025)

In an increasingly competitive digital business world, customer loyalty is a strategic asset that determines a company's sustainability and growth. This research found that integrating an Artificial Intelligence (AI) based chatbot in skincare e-commerce significantly increases customer loyalty. Through observational analysis and in depth interviews, it was found that more than 70% of customers feel that their relationship with the brand has become more personalized after regular interaction through chatbots, whether in the form of treatment reminders, product recommendations, or exclusive offers tailored to their user profiles.

This finding is consistent with the study results of Alam et al. (2025), which revealed that the application of AI in Customer Relationship Management (CRM) enhances the customer experience through more personalized, faster, and data-driven interactions.

An AI chatbot is a "personal assistant" that answers customer queries and proactively offers added value through customized services. In skincare e-commerce, where customer needs are highly specific and based on individual preferences, chatbots play a crucial role in building an emotional connection between customers and brands.

In addition to strengthening emotional connections, using AI chatbots also improves the consistency of brand interactions with customers. According to Yeni et al. (2024), AI can create communication patterns that are adaptive to changing customer needs and market dynamics, allowing brands to remain relevant in every phase of the customer lifecycle.

In this study, a chatbot equipped with predictive analytics was able to anticipate customers' needs, such as reminding them when to buy a new skincare product based on their previous purchase patterns, thereby creating a valuable and satisfying experience for customers.

It is essential to recognize that the frequency and quality of interactions shapes customer loyalty. An effective chatbot can recognize customers' communication preferences, adopt appropriate language, and offer personalized solutions. This aligns with Irvan Manggala et al. (2023) findings, who emphasized that in the Industry 5.0 era, an approach combining innovative technology with a human touch is key in building solid, long term relationships.

Additionally, the application of AI chatbots in loyalty programs demonstrates high effectiveness. With its ability to manage big data efficiently, chatbots can inform customers about reward points, exclusive promotions, and product recommendations based on purchase history with high precision. According to Kholilah et al. (2025), e-

commerce AI enhances transaction efficiency and fosters a sustainable loyalty ecosystem with a robust database.

Supporting this finding, Mogaji et al. (2023) emphasize that AI driven chatbots that provide proactive care messages and loyalty rewards create stronger emotional connections, especially in the health and beauty sectors. Meanwhile, Grewal et al. (2022) found that e-commerce brands utilizing AI chatbots with predictive retention algorithms experience a 20% increase in repeat purchases. These findings underscore the importance of personalized interaction in fostering loyalty, particularly when chatbots are perceived not only as functional tools but also as brand representatives. However, AI chatbot development must consider the ethical aspects of data privacy and interaction security to ensure success in building customer loyalty. Customers are more likely to be loyal to brands that offer personalized experiences and ensure the security and transparency of their data use.

Overall, this study's results confirm that AI based chatbots are highly effective instruments in strengthening customer loyalty. By offering a consistent, relevant, and personalized experience, AI chatbots can create more meaningful and sustainable relationships between customers and brands, ultimately contributing to long-term business growth in the skincare e-commerce industry.

# **Research Implications**

The results of this study have several important implications, both theoretical and practical, in the field of artificial intelligence based digital marketing.

#### 1. Theoretical Implications

This research reinforces the theory that adopting artificial intelligence, specifically AI chatbots, can improve three key components in digital marketing: customer engagement, sales conversion, and customer loyalty. This finding supports the study by Alam et al. (2025), who stated that AI in CRM can enhance service personalization, expedite decision-making, and improve the overall quality of the customer experience. In addition, this study expands the understanding of the effectiveness of implementing chatbots in specific sectors such as skincare e-commerce, which requires a higher level of personalization than other product categories. Thus, this research contributes to the development of the literature on digital personalization and AI adoption in niche markets.

This study contributes to the academic discourse on AI integration in digital marketing by examining how chatbots, a form of artificial intelligence, impact key marketing metrics, including engagement, conversion, and loyalty, within a niche market segment. While many previous studies have explored the general utility of AI in e-commerce, this research adds theoretical value by framing chatbot functionality through the lens of customer experience theory and relationship marketing.

Specifically, the findings support and extend the Technology Acceptance Model (TAM) and Customer Relationship Management (CRM) theory by demonstrating how perceived usefulness (e.g., instant product recommendations) and ease of interaction (e.g., natural conversational flow) influence user satisfaction and continued usage intentions. In addition, the study offers a contextualized application of Service-Dominant (S-D) Logic, showing how chatbots serve as co-creators of value in personalized service encounters.

Theoretically, this study also suggests that AI chatbots act as both technological artifacts and semiotic agents, interpreting customer data, constructing dialogic meaning, and influencing brand perception through automated yet human like interactions. This introduces new avenues to examine anthropomorphism in AI design and its psychological effects on trust and loyalty.

Moreover, the study provides a novel framework for analyzing AI implementation in high-personalization sectors (e.g., skincare), which differs from commodity based or standardized product industries often covered in past chatbot literature. Thus, it opens a pathway for future research to examine sectoral variations in AI efficacy and micro level personalization theory in digital services.

## 2. Practical Implications

For e-commerce practitioners, the results of this study show that AI chatbot integration serves not only to enhance service efficiency but also as a marketing strategy that has a direct impact on business performance. With chatbots, companies can increase the duration of customer interactions, speed up the checkout process, and build long term relationships based on trust and personalization. Therefore, skincare e-commerce companies are advised to invest in developing a responsive chatbot that can understand the context of the conversation, predict customer needs, and provide a humanized interaction experience.

In addition, chatbot based loyalty program management is a strategic opportunity that can significantly increase customer retention. By using chatbots to manage transaction history data, provide automatic rewards, and offer preference based offers, companies can create a sustainable loyalty ecosystem.

## 3. Policy Implications

In a regulatory and ethical context, utilizing AI in customer data management requires greater attention to privacy and security aspects. These implications suggest that companies must ensure their AI chatbot systems comply with applicable data protection regulations, such as the GDPR or similar local regulations. Ensuring transparency in data usage will strengthen customer trust and be a key factor in building long term loyalty.

#### 4. Conclusion

This study demonstrates that integrating an Artificial Intelligence (AI)- based chatbot into a skincare e-commerce digital marketing strategy has a significant impact on customer engagement, accelerating sales conversions, and strengthening customer loyalty. The average customer interaction duration increased, the sales conversion rate almost doubled, and customer loyalty was strengthened through data driven personalization services.

This research aims to prove that AI chatbots effectively support customer engagement, accelerate transactions, and retain customers within the e-commerce ecosystem. However, this study has limitations, including a narrow scope that focuses solely on the skincare industry and a limited number of interview samples.

For future research, it is recommended that the scope of industry sectors be expanded and that chatbots be integrated with other technologies, such as Augmented Reality (AR), to improve customer experience.

The results of this study suggest that businesses develop chatbots adaptively based on customer behavior analytics and pay attention to data security aspects to strengthen customer trust.

This research enriches the AI based digital marketing literature, especially in the niche e-commerce sector, and provides strategic guidance on implementing chatbots to drive sustainable business growth.

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