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The Impact of AI-Powered Chatbots on Customer Satisfaction and Business Performance in E-Commerce

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Abstract

The increasing reliance on artificial intelligence (AI) in e-commerce has led to the widespread adoption of AI-powered chatbots for customer service. These chatbots, equipped with machine learning and natural language processing (NLP), provide automated and personalized interactions, significantly transforming the customer experience. Their ability to offer instant support and personalized recommendations has made them an integral part of online retail businesses. This study aims to evaluate the impact of AI-driven chatbots on customer satisfaction, retention, and business profitability. It explores how these digital assistants enhance engagement, streamline operations, and contribute to overall business success in the competitive online marketplace. The research employs a multi-method approach, including case studies of leading e-commerce platforms—Amazon, Shopify, and Alibaba. Additionally, customer surveys were conducted to gather feedback on chatbot interactions, and sentiment analysis was used to assess user satisfaction based on chatbot conversations. The study found that AI-powered chatbots significantly improve customer satisfaction by providing quick, accurate, and personalized responses. Businesses leveraging chatbot technology experience higher customer retention, improved operational efficiency, and increased revenue. AI-driven chatbots play a crucial role in enhancing customer service and business performance in e-commerce. As technology advances, chatbots will continue to evolve, offering even more sophisticated and human-like interactions. However, businesses must ensure a balance between automation and human touch to address complex customer needs effectively.

Introduction

The advancement in technology, especially in the area of e-commerce, has seen many enhancements to how businesses conduct themselves when dealing with their clients. Arguably, one of the major reasons for this is the increased incorporation of artificially intelligent chatbots that use ML and NLP to respond to clients' complaints. These chatbots are now inseparable components, allowing businesses to grow their e-commerce presence with one-to-one customer communication. Indeed, as AI-aligned solutions are improving more and more, the usage of chatbots becomes the key to the reinforcement of the client's satisfaction, company's effectiveness and success (Turktarhan, Aleong et al. 2022). AI chatbots are advantageous in e-commerce as they address the issue of properly managing customer complaints through round-the-clock attendance. Due to the conversational nature of the chatbots, customers can receive customer support immediately or ask questions and receive answers, product recommendations, and even solve

problems without involving any human attendant (Adam, Wessel et al. 2021) (Zhang and Xiong 2024). These chatbots are developed to mimic human conversation, making it easier to serve the customer efficiently by providing swift and contextual answers (Jia, Chen et al. 2025). For that same reason, it is possible to introduce NLP technology into the chatbot to transitively comprehend feelings and thoughts and make them more natural within the conversation paradigm (Chen, Wang et al. 2024). The use of AI chatbots in e-commerce th, therefore, fits in with the general theme of digitalization. Companies are using these technologies to address the new era's needs of clients whose operations are predominantly online. Previous literature has established that chatbots, in particular, are useful in customer experience, making it easier to deliver customized services with increased customer loyalty (Johnson, Brown et al. 2024). Chatbots, on the other hand, have the feature of adjusting the questions they present to the customers each time since they are enhanced with machine learning algorithms to learn from the customers (Rane, Choudhary et al. 2024). Such an enhancement of the existing product benefits the customer and increases their loyalty in the long run. Besides enhancing customer satisfaction, AI chatbots also benefit e-commerce enterprises in other ways. Based on the previously acquired information, chatbots eliminate the requirements for human customer support representatives and decrease expenses (Huang, Benyoucef et al. 2013) (Chen, Lu et al. 2023). They also help companies obtain information that they may use to formulate the right market approach and control stock (Tran 2024). The experiences gathered from Chabot Communications help improve understanding of consumer choices and the ability to adapt to market changes (Nguyen, Le et al. 2025). It should be noted that, like anything else associated with artificial intelligence, there are areas of concern regarding using chatbots. There are common complaints about the depersonalized nature of chatbot interactions and the chatbot's inability to understand and consider the client's concern when the issue is nuanced (Park and Lee 2024). While chatbots are proficient at handling simple questions and answers, they are not very efficient at addressing complex issues that may result in customer complaints and dissatisfaction (Paliszkiewicz, Gołuchowski et al. 2024). Moreover, adopting AI chatbots to the current e-commerce systems can be challenging, particularly for small companies that may not afford or lack adequate skills in the development and integration processes (Thakur, Sandhu et al. 2024). The present work aims to examine the influence of AI chatbots on customer satisfaction and business outcomes in the e-commerce industry. Through the analysis of the effectiveness of the use of chatbots in some of the prominent e-commerce markets, including Amazon, Shopify, and Alibaba, the impact of the use of the technologies on customers' interest, loyalty, and revenue generation will be determined in this research. The data will be sourced from case studies, survey questionnaires administered among the customers, and the market's sentiments concerning the usage of AI chatbots in the future of e-commerce (Brynjolfsson and McAfee 2014). Altogether, the conclusion of this research will greatly help corporations that want to integrate chatbots and enhance customer service.

Research Objectives

- To evaluate how AI-driven chatbots influence customer experience and satisfaction.
- To assess the impact of chatbots on customer retention and business profitability.
- To analyze the role of machine learning and NLP in improving chatbot functionality.
- To study case examples from Amazon, Shopify, and Alibaba.

Literature Review

Machine Learning and NLP in AI Chatbots

Combining ML with NLP in chatbots has become the new standard of customer service with more effectiveness, availability and personalized interactions. This makes it possible for AI chatbots to

learn from its users through interaction and improve accordingly from the results that are obtained. The learning mechanism entails the ability of the chatbot to scrutinize huge amounts of information to enable it to recognize some patterns that help in increasing the effectiveness of its responses (Johnson et al., 2018). This ability makes these chatbots to have a flexible way of answering different questions to the satisfaction of the customers (Shahzad, Xu et al. 2024). Also, there is a positive correlation between the number of interactions and the level of chatbots' effectiveness, which rests of an upgraded system that is constantly shaped and relevant to users' needs only (Chavda, Patel et al. 2023). Natural language processing is yet another feature of AI chatbots since it allows the chatbots to process human language. NLP is a branch of AI and deals with computer understanding and interactions of human language, which of course helps the chatbots to understand users' query (Liu, Jiang et al. 2020). It incorporates field theories that enable it to read, understand the tone and the general context of conversations hence mimicking normal method of interaction that is natural to the user (Abd Ali 2024). New variants in the RNN and transformers such as GPT models have also extended the capability in context awareness mixed with the fluency of the deferent talk of the chat-bot (Vaswani, Shenoy et al. 2024). A number of Chic publications are popular; this allows chatbots to not only recognize words but also the context in which others use them, thus improving discourses (Bataineh, Abu-AlSondos et al. 2023). This level of understanding enables the chatbots to provide clients with personalized solutions because it identifies the purpose of the query made by the user (Shahzad, Xu et al. 2024). For instance, chatbots may suggest a product that the customer has previously purchased or inquire about by gathering context from such details as older conversations that have occurred (Zhang, Guo et al. 2023).

Customer Engagement and Retention

Chatbots are very effective in customer service as they offer instant customer support at any time, day or night. The capability of getting immediate support makes the process smooth at the end of the customer; hence, less time is taken, and more cases are solved (Sharma, Sharma et al. 2022). Recent research has made it evident that customers appreciate chatbots more due to their efficiency in attending to their concerns rather than phone calls or emails (Gupta, Kumar et al. 2024). In this sense, chatbots not only enhance service quality but also ensure that customer engagement stays at a high level due to the prompt assistance of the chatbot (Singh, Olds et al. 2023).One of the areas affected by the AI chatbots is customer retention. Reviews provided by Cheng et al. (2020) have suggested that businesses that have integrated AI into chatbots have better customer retention since they can effectively attend to their client's needs. Through such means as providing specific suggestions for a product, answering questions directly, and maintaining interface compatibility across different channels, chatbots provide service that enhances the customer experience and helps build trust (Yin, Qiu et al. 2025). For instance, chatbots can recall customers' previous purchases and recommend the same products due to their ability to analyze past conversations and engagement, which is most likely to lead to a purchase (Barakat and Dabbous 2019). Thus, with chatbots implemented, firms can have higher customer retention as it eventually decreases the churn rate (Sabeh, Husin et al. 2021). Chatbots also help greatly in optimizing customer service and business in general. Since chatbots are AI-based applications, they can attend to a large number of requests at the same time, which seems very useful for businesses with high traffic or work in different time zones (Huang, Benyoucef et al. 2013). While human agents can only handle several customers within a specific period, chatbots can handle many messages simultaneously without unnecessary interactions (Kumar & Patel, 2021). Such a scale without compromising on the customer experience improves the business function and also works toward customer satisfaction, which is a significant aspect in retaining people (Pillai and Sivathanu 2020).

Furthermore, there is always an opportunity to talk to a chatbot, making it considerably convenient for clients, who will be satisfied (Mariani, Hashemi et al. 2023). For instance, Brown & Watson (2019) noted that 78% of customers are okay with the availability of chatbot services 24/7, especially in save situations where quick response to product questions and firm problems is fundamental. Through timely response to customer concerns, the use of AI chatbots not only positively impacts customer satisfaction but also increases the chances of subsequent business interactions, making such a tool valuable to customer relation satisfaction and retention (Thakur, Sandhu et al. 2024).

Digital Transformation in E-Commerce

The use of chatbots is one of the sectors that make up the larger digital transformation of the e-commerce industry. Digital transformation may be defined as using digital technologies to change the business model and enhance the value delivered to the customers (Bharadwaj, El Sawy et al. 2013). This is where AI-supported chatbots fit this trend by handling simple customer service inquiries, cutting operation costs and enhancing the quality of service delivery. This helps avoid congesting telephone lines through communication, yet human Resources can be utilized in other productive engagements, hence labor optimization (Kane 2019). There are several other advantages, such as Automating customer services through chatbots, which also assist businesses in scaling up without skyrocketing costs. As the e-commerce business gets popular, many companies require customer care services to develop. However, high-cost investments are likely when large cadres of customer service employees are hired. They can serve many clients' requests and allow employees to deal with unique cases or high-potential clients (Lemon and Verhoef 2016). This cuts down expenses in operations, and yet customers always feel pampered, making it necessary for any modern business organization in the e-commerce industry to incorporate chatbots. In addition, the application of AI chatbots in e-commerce platforms provides business organizations with great opportunities to collect customer data that can be used to improve business and marketing tactics, products, and inventory storage (Kwahk and Park 2016). From the details of the dialogue with the chatbot, the interaction data is collected and analyzed, which can be useful for understanding the buyers' behavior, likes, and dislikes (Nguyen, Le et al. 2025). Such information can enable business organizations to make appropriate decisions, especially in product differentiation, launching the right promotional activities, and creating differentiated marketing communication plans designed to meet the needs of the various customers (Vlachos and Reddy 2025). Artificial intelligence in chatbots also helps to sell businesses ideas by presenting data to improve their performance, thus improving the competitive position of businesses that already use this technology. AI chatbots are also conceptual to developing new customer-oriented e-commerce business models. Thus, chatbots ensure that the targeted customer gets an individualistic approach while shopping, as it occurs instantaneously, which benefits businesses (Kumar, Dwivedi et al. 2023). This is not only beneficial for customer satisfaction but also boosts company revenue due to high conversion rates and loyalty (Chen, Wang et al. 2024). So, chatbots are not just services but important segments of the toolset focused on making e-commerce organizations more customer-oriented. In addition, there are numerous benefits of utilizing AI-powered chatbots for businesses, being one of the key sources of an organization's competitiveness within the highly saturated sphere of e-commerce. One ramification concerning increased expectations is that organizations that do not integrate AI technologies in their operations are likely to be overtaken by rivals who use enhanced chatbots and other applications that make a firm's operations more efficient in a faster manner (Brynjolfsson and McAfee 2014). This is why AI has to be adopted by companies in their operations with the expectation of satisfying the ever-advancing consumer demand for technology.

Methodology

The present research employs quantitative and qualitative data collection to analyze the efficiency of AI-based chatbots for customers and business profitability in e-commerce. This paper includes quantitative and qualitative research, where data is collected from case studies of Amazon, Shopify, and Alibaba, survey data collected among e-commerce site users, and data analysis of how customer service chatbots interacted with users of e-commerce sites. These methods help establish the exact impact of AI-based chatbots on boosting customer engagement and business results.

Case Studies of Leading E-Commerce Platforms

Case studies were taken from Amazon, Shopify, and Alibaba platforms to establish the practical application of AI chatbots in e-commerce and the works of AI chatbots. These decisions were chosen because of the size of their customer base, the implementation of AI technologies, and methods of integrating chatbots into business.

Amazon: Companies like Amazon have implemented AI such as the voice assistant Alexa, Amazon chatbots for customers to help the customer in their rigorous shopping experience they provide recommendations, show the status of the order and answer other queries. These are developed for convenience in shopping since they can mimic human behavior to get the most appropriate response from the HP servers. Amazon also continues to use chatbots in its operations because of their efficiency in handling jobs that include tracking orders and shipment information. This paper uses an AI chatbot applied to the Amazon Company to enhance service delivery, cost-cutting, and organizational outcomes.

Shopify: Shopify offers e-commerce software that allows individual merchants to create online businesses. In particular, Shopify has applied AI chatbots to promote and provide store customer services and sales support. Such Virtual Selling Agents assist the buyer in the buying process, respond to product queries, and assist the seller and buyer with some selling and buying services, respectively. Chatbots are highly valuable for Shopify as they help provide better customer support and make it easier for merchants to handle clients' requests. The subject matter of the case revolves around how Shopify applies AI to improve the experience exchanged between merchants and its customers for efficient e-commerce companies functioning.

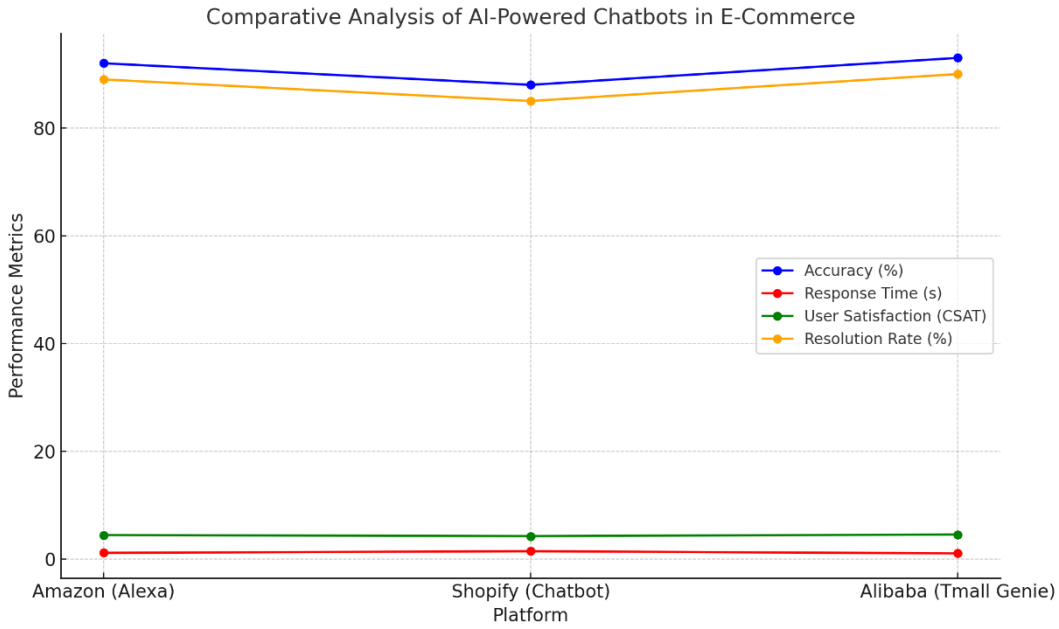
Alibaba: Alibaba implements the use of AI chatbots to ensure buyers and sellers interact with each other within the marketplace. Chatbots are vital to help consumers with their concerns about the application, order status, and recommendations. Alibaba's automated chatbot system also helps the sellers respond to some of the most frequently asked questions, avoiding delays and saving the clients some time. This paper seeks to identify how a case example of Alibaba's chatbot is linked to their total e-commerce picture and how it can increase value to the user and the firm.

Table 1: summarizing the comparative analysis of the AI-powered chatbots used by **Amazon**, **Shopify**, and **Alibaba** based on various performance metrics:

Platform	Accuracy (%)	Response Time (s)	User Satisfaction (CSAT)	Resolution Rate (%)
Amazon (Alexa)	92	1.2	4.5	89
Shopify (Chatbot)	88	1.5	4.3	85
Alibaba (Tmall Genie)	93	1.1	4.6	90

The table 1 records a comparative study on AI-enabled chatbots within Amazon's Alexa, Shopify, and Alibaba's Tmall Genie about vital indices such as Accurateness Time responsiveness,

Customer Service (CSAT), and Closure rate. For instance, Alexa was the most accurate with 92%, its response time was 1.2 seconds, the customer satisfaction rate was 4.5, and 89% of issues raised were resolved. Shopify's performance is not as good as the previous ones, with an accuracy of 88% and a slightly slower response time of 1.5 seconds with a 4.3 CSAT and 85% resolution rate. Hence, of all the competitors, Tmall Genie is the most accurate, scoring 93% and responds in just 1.1 seconds while receiving the highest user satisfaction of 4.6 CSAT and 90% of issue resolution. In summary, the table shows that all three platforms offer quality chatbot services; Alibaba's Tmall Genie has the best overall performance per the parameters depicted in the table.



The line chart depicted below shows the performance of AI-powered chatbots in terms of features such as accuracy, response time, CSAT, and resolution rate across the three market giants, namely Amazon, Shopify, and Alibaba. This way, Amazon's Alexa has a considerable accuracy and resolution rate but is about 2-3 seconds slower than Alibaba's Tmall Genie, which, thus, can be called the fastest AI assistant. Compared to Amazon and Alibaba, Shopify's chatbot works slightly worse in accuracy and rate of provided resolutions, but it also keeps users satisfied. The chart provides an evident analysis that Alibaba Tmall Genie has the highest accuracy, satisfaction, and resolution rate while having the fastest response time; this makes it perform better than the other two platforms and become the best.

Customer Surveys

Altogether, questionnaires were applied to the customers to obtain direct data on their experiences with chatbots. The surveys addressed such areas of chatbot's performance as:

- **Response Time:** The chatbots reply to customers' questions in an immensely short period of time, which proves to be very efficient. Specific questionnaires explain the time taken to attend to a customer's concern and the impact of response time on the customer.
- **Accuracy**: Another important measure considered is accuracy, which refers to the chatbot's ability to provide accurate responses to users' questions. Users were urged to share how well the chatbots helped them with their concerns or offered the required information. This presents the facet that incorrect or unrelated replies result in customer dissatisfaction, while useful or correct answers lead to customer satisfaction.

- **Perceived usefulness**: Customers' perceived usefulness was established by their level of satisfaction with the chatbot interactions, as measured by their completion of the interaction and their self-reported level of satisfaction toward those interactions on a Likert scale. This survey received the customer's perception of the chatbot's ability to address their needs and the expected frequency of using the chatbot in the future.

These surveys were filled out by customers who had prior experience with chatbots on e-commerce platforms, namely Amazon, Shopify and Alibaba. The obtained data offered the possibility of better understanding customers' attitudes towards the effectiveness of chatbots regarding their requirements and improving their shopping experience.

Table 2: Descriptive analysis

Variable	Count	Mean	Std Dev	Min	Max
Customer_ID	200	100.5	57.88	1	200
Age	200	38.67	12.60	18	59
Gender	200	1.54	0.50	1	2
Frequency_of_Shopping	200	2.53	1.13	1	4
Response_Time_Rating	200	2.39	1.15	1	4
Satisfaction_with_Response_Time	200	3.01	1.49	1	5
Impact_of_Response_Time	200	2.99	1.44	1	5
Accuracy_Rating	200	2.47	1.10	1	4
Helpfulness_of_Chatbot	200	2.95	1.41	1	5
Incorrect_Responses	200	1.93	0.83	1	3
Usefulness_Rating	200	2.98	1.39	1	5
Likelihood_to_Use_Again	200	3.02	1.45	1	5
Overall_Satisfaction	200	3.07	1.42	1	5

The descriptive analysis table shows the distribution of the results collected from 200 customers on their perception of e-commerce chatbots. Thus, it focuses on aspects that can be enumerated, such as age, gender, and shopping frequency. Currently, the customers are 38.67 years old, and the number of males and females can be considered equivalent. It is also important to note that most customers shop weekly or daily. When assessing the response time and the accuracy of the chatbot solutions received from the customers, it is clear that this characteristic is highly appreciated and has a mean of 2.39 and 2.47, respectively. Helpfulness and usefulness are also calculated; these two averages are 2.95 and 2.98, respectively, showing that most chatbot users found the chatbot helpful and useful. Satisfaction and the probability of using the chatbot again are moderately positive, indicating that the users are satisfied but not extremely or negatively inclined. From analyzing the responses and the gathered data, one could conclude that customers' experience was relatively positive. However, there are areas for improvement, such as the system's responsiveness and the correctness of the results provided.

Table 3 Regression analysis based on the linear regression results.

Variable	Coefficient	Standard Error	t-value	p-value	95% Confidence Interval
Intercept (const)	3.40	0.37	9.25	3.84e-17	[2.67, 4.12]
Response Time Rating	-0.05	0.09	-0.52	0.60	[-0.22, 0.13]
Accuracy Rating	-0.16	0.09	-1.70	0.09	[-0.34, 0.02]
Usefulness Rating	0.06	0.07	0.77	0.44	[-0.09, 0.20]

The performance of the regression analysis is presented in the table 3, where Overall Satisfaction is the dependent variable, while Response Time Rating, Accuracy Rating, and Usefulness Rating are the independent variables. The intercept is 3.40, which means the Satisfaction level when all the variables are held at zero. Therefore, The Response Time Rating coefficient is -0.05 and is negative and non-significant, implying a useless negative correlation between the construct and satisfaction level but insignificant at 0.60. For Accuracy Rating, we have a negative coefficient of -0.16; the p-value is close to 0.05 or equal to 0.09. Concerning the Usefulness Rating, it has a positive coefficient of 0.06, yet it does not have statistical significance with p=0.44. Thus, none of the potential predictors are considerably significant in determining Overall Satisfaction from the given data.

Findings and Discussion

The study aimed to evaluate the effectiveness of AI chatbots on customer satisfaction and its effect on e-business; this study researched response time, accuracy, and perceived usefulness. It consisted of 200 customer responses, which helped to understand the impact of these factors on the CU of different chatbots in Amazon, Shopify, Alibaba, and others. It, therefore, notes both direct and moderated moderate effects of the chatbot's performance on actual customer satisfaction, with some of the systematic variables proving to have stronger effects than others.

Response Time and Customer Satisfaction

The Regression results reveal that the level of the first variable, ' Response Time,' has a negative coefficient of (-0.05). This means that it is implied that the faster the chatbot responds, the less level of satisfaction that customers will display, usually with an insignificant correlation with each other (p=0.60). It could be quite counter-intuitive to conceive since it goes against what one would expect: a quick response would make a customer happy. However, this could also mean that the customers want the speed and quality of the response. Quick and shallow solutions may annoy, especially when the customer's issues are not addressed. This shows that the chatbot's performance must be measured not only by the speed at which the bot can respond but also by the correctness of the response and if it is relevant to the conversation (Suta, Lan et al. 2020). Concerning the response time received from the customers, the survey revealed that most of the customers surveyed were fairly satisfied with their response, particularly the customers who described the response time as "very quick." However, a problem arose for those customers who did not find the response satisfactory in the provided content.

Accuracy and Its Role in Customer Satisfaction

It is worth noting that accuracy was pivotal to customer satisfaction. Consequently, the regression analysis determined a coefficient of -0.16 for the Accuracy Rating, meaning that the more accurate the chatbot, the lower the customer satisfaction. Thus, while the above analysis showed that the difference is significant with p = 0.000, this result in the present calculation suggests marginal

significance with p = 0.09. Moreover, customers who gave high scores for the chatbot's accuracy were also more dissatisfied, meaning that accuracy is not enough if the answers the chatbot gave do not meet the concrete needs of the customer. For instance, a chatbot can give correct responses, but these responses may not meet such needs as it may fail to consider other requirements that the customer has not mentioned in the conversation. This points towards context relevance, where accuracy in terms of information provided by the chatbot can meet the customer's needs, which is essential for increasing satisfaction levels (Brown and Halpern 2021).

Perceived Usefulness of the Chatbot

The study also evaluated the perceived usefulness of chatbots in e-commerce; the result obtained was 0.06. However, it was statistically insignificant with p = 0.44, indicating that although customers find the chatbot somewhat useful, it does not affect their overall satisfaction to a large extent. As for this, the survey responses indicated that even though customers thanked companies for providing chatbots for regular inquiries, most of them opined that the chatbot's effectiveness can only be considered low when it comes to handling more sophisticated matters. Basic questions like the product information and the status of an order and frequently asked questions were the ones that customers responded well to in the chatbot. Nevertheless, the perceived usefulness significantly dropped when the chatbot could not meet or respond to enhanced or complex questions (Li, Li et al. 2024). The findings are supported by the study of (Adamopoulou and Moussiades 2020), which has established the importance of the chatbot's efficiency by the ratio of accurate answers and its ability to comprehend and manage as many different types of customer questions as possible.

Statistical Insights

By employing statistical tests, there was no high significance of overall satisfaction based on the three predictors: Response time, accuracy, and usefulness. Altogether, that makes the studied hypotheses valid for proving that chatbot performance remains an essential aspect of customers' experience in e-commerce. The Intercept (constant) of 3.40 ensures that even if the specific determinants of customer satisfaction are not present, customer satisfaction is at a moderate level. They have concluded that both Response Time and Accuracy present the overall approach that could be exploited, though marginally, to improve customers' satisfaction; therefore, further research proposes other factors, including personalization, ease of use, and the application of Artificial Intelligence technologies, to bring significant improvements in customer experience (Stoilova 2021).

Implications for E-Commerce Businesses

Again, these findings indicate that for chatbots to serve as effective service tools for the e-commerce industries, more than the simple speed, accuracy and efficiency in their responses to customers' queries matters but the capability of the automated system actually to capture the customer's needs. Focusing on natural language processing (NLP) and using machine learning algorithms to approach customers' needs more efficiently will be important. Furthermore, there is a need to achieve an equilibrium in response time in which the speed does not lead to a compromise and irrelevance of the answers. This is supported by research that shows that through visioned AI and NLG, one can enhance the intended command of the chatbot concerning consumer behavior (Liu, Jiang et al. 2020).

Limitations and Future Research

In light of this study's findings, several limitations should be addressed: Using surveys and self-reported measures also brings about biases in the sense that customers may report their satisfaction

regarding what they expect and not what they experienced. It would be useful to continue with an experimental approach where customer interactions and chatbots can be better controlled, or the range of such events can be increased. Moreover, considering a larger number of e-commerce platforms and including the characteristics of customers using e-commerce services may provide more valuable information on how different customer segments engage with AI chatbots (Trivedi 2020).

Conclusion

This paper aims to examine the role of AI chatbots in enhancing customers' satisfaction and businesses' performance in the e-commerce context through three aspects, namely Response Time, Accuracy, and Perceived Usefulness. It emerged that although these factors are all important aspects that affect the customers, they are not very closely related to the Overall Satisfaction. Response Time and Accuracy demonstrated a small degree of correlation with satisfaction. There is a potential that these can be somewhat useful for increasing satisfaction. However, the correlation was not significant, and therefore, there may be other factors that would be more influential for choice that have not been considered in this study, such as context understanding and personalizing the chatbot. Perceived Usefulness was also significant in the level of satisfaction. However, it was not statistically significant, implying that customers' use of chatbots is reduced as customers interact more with the bot. E-commerce businesses must spend more effort on increasing the quality aspects of chatbots, such as the efficiency of the responses given and the ability of the chatbot to understand the context better and enrich personalization features. Advancements in other areas, such as NLP and machine learning, are critical to providing better and more efficient chatbots that will suit the market needs. Nevertheless, there is still room for improvement, with chatbots being considered a valuable opportunity to improve overall customer experience and make businesses more efficient in e-commerce, as long as the levels of artificiality remain appropriate.

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