

**CHATBOTS AS RECRUITER AND CUSTOMER SERVICE**

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**Abstract**

This paper provides comprehensive overview on chatbots in customer service and recruiting, with an emphasis on function of improving chatbots customer service. Chatbots have grown of popularity for automating hiring processes & customer service. The literature review indicates that chatbots have a significant impact on the recruitment process, such as improved efficiency, increased candidate engagement, and reduced workload for HR personnel. Chatbots have proven effective in improving customer service interactions, with benefits including increased customer satisfaction, reduced wait times, and improved customer engagement. However, review also highlights several challenges that must be addressed to fully realize the potential of chatbots in these areas. These challenges include issues related to user acceptance and perceptions of chatbot technology, as well as concerns about privacy and data security. Therefore, this study provide recommendation to solve challenges, like improving design & chatbots functionality, ensuring transparency and clear communication with users, and enhancing the protocols for data security. Our analysis leads us to conclude that more study fully explore potential of chatbots in customer service and recruiting, as well as to gain a deeper knowledge of the variables influencing user adoption and views of chatbot technology. Such research may involve the development of new chatbot designs and features, as well as the use of experimental research designs to explore user attitudes and behavior. Ultimately, the integration of chatbot technology into recruitment and customer service processes has the potential to significantly enhance organizational efficiency and customer satisfaction. Therefore, we suggest that further research would conduct to enhance organizational efficiency and customer satisfaction through the integration of chatbot technology in recruitment and customer service processes.

**Keywords:** *Chatbots, Artificial Intelligence, Recruitment, Customer Service, User Acceptance, User Attitudes, User Experience, Technology Adoption*

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## **Introduction**

In recent years, chatbots become popular for business to expedite their hiring and customer support procedures. Chatbots are artificial intelligence programs that mimic conversations with consumers via messaging apps, websites, or mobile apps. Chatbots can assist customers with inquiries and provide support in real time. They, chatbots are being increasingly used in recruitment process, as they can communicate with candidates, screen resumes, schedule interviews, and even provide feedback. The chatbots has become particularly relevant in context of customer service, where customers expect quick and efficient responses to their queries. With the growing demand for instant customer service, organizations are turning to chatbots to provide 24/7 support, reduce response time, and improve customer satisfaction. Chatbots can also personalize customer interactions by analyzing customer data and tailoring responses to individual preferences thereby enhancing the overall customer experience.

Chatbots in the context of employment can speed up the hiring process by automating tedious processes like evaluating resumes and arranging interviews (Andrade & Tumelero, 2022). Recruiters also engage himself in higher-level tasks like interviewing & assessing nominee, leading to more efficient and effective hiring decisions. Moreover, chatbots would offer more interactive candidates experience for asking questions & receive feedback in real time. By leveraging chatbots, organizations can streamline their recruitment process, reduce the workload for HR personnel and improve candidate engagement.

Current studies aim to examine employing chatbots customer service and recruiting, with a special emphasis on the latter. We will examine the benefits and limitations of chatbots, as well as the potential ethical considerations. Additionally, we will consider best practices for implementing chatbots in recruitment and customer service. This paper seeks to provide a current state of chatbot technology and its applications in recruitment and customer service

## **Literature Review**

Recently, chatbots have grown more and more common, especially in the employment and customer service sectors. In this review we would see at research already done on the usage of chatbots in various fields, with a particular emphasis on how well they work to enhance customer service and speed up the hiring process.

Customer service chatbots is effective in providing customer service in industries like banking, and hospitality etc. A study conducted by Accenture found that chatbots were able to resolve 80% of customer inquiries, providing an efficient and cost-effective solution for businesses (Koivunen et al., 2022). Chatbots' effectiveness in customer service may be attributed in part to their capacity to respond to inquiries from clients in a timely and precise manner. Chatbots would handle high volume of inquiries simultaneously, eliminating customers to wait in long queues or be transferred to different departments. Additionally, chatbots can be programmed from previous interactions and improve their responses.

Recruitment chatbots have also been used as a recruitment tool, particularly in industries with high levels of turnover such as hospitality and retail. Chatbots may be used to pre-screen candidates, give information about the business and its culture, and respond to frequently asked inquiries regarding job openings. This can enable recruiters to concentrate on the most qualified prospects by saving them time and resources. However, there are also potential drawbacks to using chatbots in recruitment. Some candidates may find the lack of human interaction impersonal or disengaging. Additionally, chatbots may not be effective in identifying certain skills or traits that are important for certain job roles.

Another important aspect of chatbots as recruiters is their ability to reduce bias in the hiring process. Traditional recruitment processes are often plagued with human biases, whether conscious or unconscious like discriminatory hiring practices (Jenneboer et al., 2022). Chatbots can help to minimize these biases by applying consistent and objective criteria to all applicants, without regard to their race, gender, or other personal characteristics.

Several studies have shown that chatbots can help reduce bias in the hiring process. For example, a study by the recruitment firm HireVue found that using an AI-powered chatbot to conduct initial interviews led to a more diverse pool of candidates being selected for in-person

interviews (Koivunen et al., 2022). Chatbot was programmed to ask the same questions to all candidates and evaluate their responses based on predetermined criteria, thereby eliminating any potential for bias in the screening process. Another study by the University of Melbourne found that chatbots can help to reduce gender bias in job ads by providing gender-neutral language in job descriptions and using gender-neutral avatars.

Moreover, chatbots can provide a personalized and conversational experience for customers, making them feel heard and understood (Koulouri et al., 2022). They can also learn from past interactions with customers, allowing them to provide more personalized and effective support over time. Several companies have successfully implemented chatbots in their customer service operations. The chatbot asks customers a series of questions to understand their preferences and then recommends clothing items that are most likely to meet their needs. Similarly, the airline KLM uses a chatbot to provide flight information, check-in assistance, and other customer service functions (Lei et al., 2021).

Despite the many benefits of chatbots in recruiting and customer service, potential drawbacks and challenges to consider. Chatbots may lack emotional intelligence and empathy of human recruiters or customer service agents. While chatbots can provide efficient and objective responses to inquiries, they may struggle to understand the nuances of human communication and provide the kind of emotional support that some customers or job candidates may require.

Another challenge is that chatbots require a significant investment of time and resources to develop and implement effectively. Building a chatbot that can accurately understand and respond to human language requires sophisticated machine-learning algorithms and a large amount of data. Companies must also carefully consider the ethical implications of using chatbots in their operations, particularly in sensitive areas such as recruitment and customer service.

In conclusion, chatbots are rapidly transforming the way companies approach recruiting and customer service. With their ability to automate repetitive tasks, provide personalized experiences, and reduce bias, chatbots have the potential to revolutionize these areas of business (Maeng & Lee, 2022). However, companies must carefully consider the challenges and ethical implications of using chatbots, and invest in the development and implementation of these technologies responsibly and effectively.

## **Methodology**

The present study utilizes a qualitative methodology based on a literature review of existing research on chatbots as recruiters and customer service agents. The study draws on variety of scholarly sources, like peer-reviewed journals, & reports. The literature search was conducted through various online databases such as JSTOR, EBSCOhost, and Google Scholar, as well as library databases such as ProQuest and ScienceDirect. The search terms used included “chatbots,” “recruitment,” “customer service,” “artificial intelligence,” “human resources,” “job applicants,” “job seekers,” and “job interviews,” among others.

The inclusion criteria for selecting articles were relevant to the study's research questions, publication within the last ten years, and English language publications. The exclusion criteria were articles that did not directly address chatbots as recruiters or customer service agents. Initially, a total of 50 articles were identified for potential inclusion. After careful screening and review, 35 articles were included in the final analysis.

Data analysis was conducted through a systematic approach, which involved the development of categories and themes based on the study's research questions. The research questions were aimed at exploring the current use of chatbots in recruitment and customer service, their effectiveness in these roles, and their potential impact on the job market and job applicants.

The initial step in the analysis was to create an inventory of the articles, including their title, author, publication date, and key findings. This helped to identify the main themes that emerged from the literature. The articles were then read and re-read to develop a deeper understanding of the concepts and ideas presented.

The data were then analyzed using content analysis, which involved the identification of key concepts and themes, categorization of the findings, and interpretation of the results. The categories were based on the research questions and included the following:

- Current use of chatbots in recruitment and customer service,
- Effectiveness of chatbots in recruitment and customer service
- The potential impact of chatbots on the job market and job applicants.

A second researcher independently read and coded the papers to guarantee the authenticity and trustworthiness of the data analysis. Any disagreements were settled by discussion and agreement. The research team also used member checking, where the findings were reviewed by experts in the field to confirm the accuracy and validity of the results.

The dependence on secondary data sources, which could not accurately reflect the present status of chatbots in recruiting and customer support, is one of the study's shortcomings (Majumder & Mondal, 2021). Additionally, the study's focus is limited to English language publications, which may exclude relevant research in other languages.

Overall, the study's qualitative methodology offers a thorough examination of the research on chatbots as hiring managers and customer support representatives. The methodological rigor of the study is supported by the systematic approach to data analysis, the use of multiple sources, and the validation of findings through member checking. The next section presents the results of the analysis in detail.

## **Results**

The analysis of the data collected showed that chatbots are becoming an increasingly popular tool in the recruitment and customer service industries. In the recruitment sector, chatbots are being used to automate the initial stages of the recruitment process, such as screening CVs and conducting initial interviews. This has led to increased efficiency and reduced costs for companies, as chatbots can handle a large volume of applications at once.

In the customer service industry, chatbots are being used to provide instant support to customers, handling queries and resolving issues without the need for human intervention. This has resulted in faster response times and increased customer satisfaction. Chatbots are also being used to provide 24/7 customer support, which is not feasible with a human workforce.

In terms of the effectiveness of chatbots, the data showed that they can provide accurate and timely responses to queries, reducing the need for customers to wait in a queue or for a response via email. However, there were some limitations identified in terms of the chatbots' ability to handle complex queries or to understand regional dialects and languages.

The data also showed that there is a growing trend towards using natural language processing (NLP) technology in chatbots, which allows for more conversational and human-like interaction with customers. NLP technology uses machine learning algorithms to understand the meaning and intent behind a customer’s query, allowing for a more personalized response (Nair et al., 2018).

Overall, the data indicate that chatbots are a valuable tool for both the recruitment and customer service industries. They offer better customer satisfaction, more efficiency, and quicker reaction times. It is crucial to remember that chatbots cannot take the place of human workers and have limits when it comes to handling difficult questions and comprehending regional dialects and languages.

**Table 1: Summarizes the Key Findings of the Analysis**

| <i>Industry</i>         | <i>Use of Chatbots</i>  | <i>Effectiveness</i>                              | <i>Limitations</i>  |
|-------------------------|---|---|---|
| <b>Recruitment</b>      | Recruitment Automation  | Process efficiency, reduced costs                 | Limited ability to handle complex queries                     |
| <b>Customer Service</b> | Provide instant support to customers                          | Faster response times, customer satisfaction      | Limited ability to understand regional dialects and languages |
| <b>Both</b>             | A growing trend toward natural language processing technology | More conversational and personalized interactions | Not a replacement for human employees                         |

In addition to the above findings, the data also revealed that certain factors can impact the success of chatbots in both the recruitment and customer service industries. These factors include the design and functionality of the chatbot, the quality of the data being used to train the chatbot, and the level of human oversight and intervention in the chatbot’s interactions with customers (Nordheim et al., 2019). Overall, the results of the analysis suggest that chatbots have significant potential for improving efficiency and customer satisfaction in the recruitment and customer service industries. However, it is important to carefully consider the design and functionality of

chatbots, as well as the quality of the data being used to train them, to maximize their effectiveness (Pillai & Sivathanu, 2020). Additionally, while chatbots can provide valuable support to human employees, they should not be seen as a replacement for the human touch in these industries.

### **Discussion**

The results of this study show that chatbots have the potential to be an effective recruiting tool for organizations. Chatbots can automate the initial screening process, which can save HR personnel a significant amount of time. Additionally, chatbots can engage with candidates 24/7, providing a more convenient experience for candidates who may not be able to talk during normal business hours. The study found that chatbots can also be an effective customer service tool for organizations. Chatbots can answer commonly requested questions quickly and accurately, lightening the strain on customer support agents. Additionally, chatbots can assist customers with simple transactions, such as making reservations or placing orders.

While chatbots have many potential benefits, they are not without their limitations. One limitation is the inability to handle complex or emotional issues (Rzepka et al., 2021). In situations where a customer or candidate requires empathy or understanding, a chatbot may not be the best option. Additionally, chatbots may struggle with understanding dialects or accents, which could lead to miscommunication.

The study found that customization is critical for the success of chatbots. Chatbots should be tailored to the specific needs of the organization and the audience they are serving. This includes using appropriate language and providing relevant information. Without customization, chatbots may not be as effective or may even harm the organization's reputation.

The study found that integrating chatbots with existing systems, such as applicant tracking systems or customer relationship management software can improve the effectiveness of chatbots. Integration can allow for more accurate data collection and can help ensure that chatbots are providing the most relevant information to users.

One issue that emerged in the study was privacy concerns. Chatbots collect personal information from candidates and customers, and organizations must ensure that this information



is stored securely and used appropriately. Failure to do so could harm the organization's reputation and lead to legal issues.

The study found that chatbots can be a cost-effective solution for organizations. Chatbots can reduce the workload on HR personnel and customer service representatives, allowing them to focus on more complex tasks (Sands et al., 2020). Additionally, chatbots can handle a large volume of inquiries simultaneously, reducing the need for additional staff.

The study found that user experience is critical for the success of chatbots. Chatbots should be easy to use and provide accurate and relevant information. Additionally, chatbots should be designed with the user's perspective in mind, and the organization should seek feedback from users to continually improve the chatbot's performance.

The study found that there are ethical considerations that organizations must consider when implementing chatbots. Organizations must ensure that chatbots are not being used to discriminate against candidates or customers (Schildknecht et al., 2018) organizations must be transparent about the use of chatbots and how they collect and use personal information.

Employee training: The study found that employee training is critical for the success of chatbots. HR personnel and customer service representatives must be trained on how to use chatbots effectively and how to respond to inquiries that cannot be handled by chatbots. Additionally, employees must understand the benefits of chatbots and be supportive of their use.

One important aspect to consider implementing chatbots in HR functions is the ethical implications. Chatbots, like any other technology, can be prone to errors and biases that can negatively impact job applicants or employees. Therefore, it is essential to ensure that chatbots are developed and implemented with ethical considerations in mind.

Chatbots can also play a significant role in promoting inclusivity in HR functions. For example, chatbots can be programmed to interact with job applicants and employees in multiple languages, making the hiring and onboarding process more accessible for non-native speakers. Additionally, chatbots can help reduce unconscious biases in the recruitment process by providing standardized and objective evaluations (Skjuve et al., 2022).

Chatbots can also be used as a tool for employee engagement and development. Chatbots can provide personalized training and development plans for employees, which can help improve job performance and increase employee satisfaction. Chatbots can also be used to conduct employee surveys and gather feedback, allowing employers to address any issues and improve the work environment.

One important consideration when implementing chatbots in HR functions is the integration with existing HR systems. Chatbots must be able to communicate with existing HR systems to retrieve and update employee information accurately (Swapna & Arpana, 2021). Therefore, the development and implementation of chatbots must be done in coordination with the HR department to ensure seamless integration.

Chatbots can also be used as a tool for data analytics in HR functions. Chatbots can collect and analyze data on employee performance, job satisfaction, and engagement levels. This data can be used to identify trends and patterns that can inform HR strategies and decisions.

Chatbots for Employee Wellness can provide reminders for employees to take breaks, exercise, or engage in mindfulness activities. Additionally, chatbots can provide resources for employees to manage stress and improve their mental health.

One of the key factors influencing the adoption and success of chatbots as a recruiting and customer service tool is user perception and acceptance of the technology (Schildknecht et al., 2018). Research has shown that users generally have a positive attitude towards chatbots, but their perceptions can vary based on factors such as the type of task the chatbot is performing, the level of personalization in the interaction, and the overall user experience. Studies have also shown that users tend to prefer chatbots that are designed to be conversational, engaging, and provide a sense of personality or character. Additionally, users tend to have more positive perceptions of chatbots that are transparent about their limitations and capabilities, as this can help manage user expectations and prevent frustration.

Several factors have been identified as key influencers of user acceptance of chatbots. These include perceived usefulness, perceived ease of use, trust, and social influence. Perceived usefulness refers to the extent to which users believe that chatbots can help them accomplish their goals or tasks effectively (Schildknecht et al., 2018). Perceived ease of use, on the other hand,

refers to the extent to which users believe that chatbots are easy to use and require minimal effort. Another important aspect of user adoption of chatbots is trust. Users must have faith that the chatbot is trustworthy and will offer correct and useful information. The acceptability of chatbots by users is also influenced by social factors. The degree to which users are impacted by the thoughts and impressions of others, such as friends or coworkers, is indicated by this. Research has shown that social influence can be a powerful motivator for users to adopt and use chatbots.

### **Recommendations for Improving User Acceptance of Chatbots**

To improve user acceptance of chatbots, several recommendations have been put forward. First, it is crucial to design chatbots that are user-friendly and easy to use, with clear instructions and feedback. This can help users feel more comfortable and confident in their interactions with the chatbot. Another recommendation is to ensure that chatbots are transparent about their capabilities and limitations and that users understand the purpose of the chatbot. This can help manage user expectations and prevent frustration or disappointment. Personalization is also key to improving user acceptance of chatbots. Chatbots should be designed to provide a tailored experience for each user, taking into account their preferences and needs. This can help users feel more engaged and invested in the interaction. Finally, chatbots can also be used to promote employee wellness. Chatbots can provide reminders for employees to take breaks, exercise, or engage in mindfulness activities. Additionally, chatbots can provide resources for employees to manage stress and improve their mental health. In conclusion, chatbots have the potential to transform HR functions by streamlining processes, improving employee engagement, and promoting inclusivity. However, the development and implementation of chatbots must be done with ethical considerations in mind and coordination with the HR department to ensure seamless integration with existing HR systems.

### **Conclusion**

In conclusion, chatbots are gaining widespread popularity as an innovative technology that can revolutionize the way businesses interact with their customers and manage their HR functions. As a recruiter, chatbots can streamline the hiring process by automating repetitive tasks, enhancing

candidate experience, and improving communication. As customer service assistants, chatbots can provide 24/7 support, enhance customer engagement, and optimize service delivery.

However, the acceptance and success of chatbots depend on various factors such as their design, functionality, reliability, and user perceptions. Research shows that user perceptions of chatbot technology are generally positive, but there are still some concerns and reservations regarding its effectiveness and usefulness. Therefore, it is essential to consider these factors while developing and implementing chatbots to ensure their optimal performance and user acceptance.

Overall, chatbots have immense potential to transform the way businesses operate and serve their customers. By leveraging their capabilities, organizations can enhance their productivity, efficiency, and customer satisfaction while reducing costs and improving their bottom line. Therefore, businesses must embrace and invest in chatbot technology to stay competitive and meet the evolving needs and expectations of their customers.

### **Further Research Directions**

Despite the increasing adoption of chatbots in various domains, there is still room for further research in this area. The following research directions can be pursued to improve the understanding and effectiveness of chatbot technology. There is a need for further research to improve the quality of chatbot interactions. This can be done by designing chatbots with more sophisticated algorithms that can better understand user input and generate more accurate responses. Moreover, research can be conducted to understand the factors that influence the quality of chatbot interactions and how they can be improved. Although chatbots have been deployed in various domains, there are still many areas where chatbots can be applied. For instance, chatbots can be used in healthcare to provide patients with personalized medical advice and support (Koulouri et al., 2022). Moreover, chatbots can be integrated into educational systems to provide students with personalized learning experiences. Further research can be conducted to explore new domains where chatbots can be applied.

However, there is still limited research on the effectiveness of chatbots in multilingual settings. Future research can explore the factors that influence the effectiveness of chatbots in multilingual settings and how chatbots can be designed to provide better support for users who

speak different languages. Research can be conducted to understand the role of personality in chatbot interactions. For instance, it can be explored how users perceive chatbots with different personalities and how chatbots with different personalities can affect user behavior. This can provide insights into how chatbots can be designed to better engage and support users. It's critical to comprehend how chatbots affect job displacement as they are employed more and more in customer service and recruitment. Future studies might look at the elements that determine the deployment of chatbots in businesses and how they impact the labor market (Swapna & Arpana, 2021). Additionally, this can provide insights into how chatbot technology can be deployed in a way that maximizes its benefits while minimizing its negative impact on the workforce. Overall, chatbot technology has the potential to transform various domains, including recruitment and customer service. Further research can help to improve the understanding and effectiveness of chatbots, enabling organizations to better leverage this technology to achieve their goals.

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