



A Study on the Adoption of AI Voice and Text Agents and Their Impact on Business Operations

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Abstract – Artificial intelligence is changing the way businesses communicate with customers, particularly through AI voice and text agents used for customer support. These agents can respond quickly, operate continuously, handle large numbers of conversations, and support businesses across channels such as WhatsApp, websites, in-app chat, and voice calls. At the same time, customer acceptance depends on familiarity, comprehension, trust, tone, and the availability of human support. This study examines the adoption of AI voice and text agents and their perceived impact on business operations from the customer perspective, using the Karta AI internship context as its grounding. A descriptive, quantitative and cross-sectional research design was used. Primary data were collected through a structured questionnaire from 30 respondents who had interacted with AI voice or text-based customer support agents, using convenience sampling. Secondary information was obtained from academic literature, industry reports and company publications. The collected data were analysed using frequency and percentage analysis, Chi-Square tests and One-Way ANOVA. The findings show that 70% of respondents were aged 18–25, 60% stated that AI understood their queries correctly, and 56.67% supported increased use of AI agents in customer support. WhatsApp bots were the most commonly used channel at 36.67%. Financial/payment disputes, complex technical issues and emotionally sensitive complaints were the situations in which customers most preferred human support. Robotic or impersonal responses and difficulty reaching a human agent were the most frequently reported challenges. Statistical analysis found a significant relationship between familiarity with AI and willingness to see greater AI use in the future ($p = 0.022$), while no significant relationship was found between frequency of AI use and query comprehension ($p = 0.823$) or between age group and future outlook ($p = 0.220$). The study concludes that AI adoption is broadly welcomed, but long-term effectiveness depends on better comprehension, more human-like interaction, transparent escalation and a balanced human-AI support model.

Keywords – Artificial Intelligence, AI Voice Agents, AI Text Agents, Customer Support, AI Adoption, Conversational AI, Customer Experience, Chi-Square Test, One-Way ANOVA

I. INTRODUCTION

Businesses across sectors increasingly need customer support that is fast, accurate, consistent and available beyond traditional working hours. Human customer service teams can provide empathy and judgement, but scaling them to meet growing customer volumes can be expensive and operationally difficult. AI voice and text agents have emerged as an important response to this challenge because they can handle many customer conversations simultaneously, respond immediately and operate continuously.

Customer support has evolved from face-to-face service and telephone call centres to email, live chat, messaging platforms and automated systems. Earlier rule-based chatbots could manage simple and predictable questions but often struggled when customers used unexpected language or moved beyond predefined scripts. Modern AI voice and text agents are designed to understand context and intent, conduct more flexible conversations, access business information and support multi-step customer interactions. This evolution has made conversational AI an increasingly important part of business operations.

The growth of conversational AI is particularly relevant in India, where businesses operate across a large, linguistically diverse customer base and sectors such as e-commerce, food delivery, fintech, and other high-volume services generate large numbers of customer interactions. Text-based support has been widely used through websites and messaging platforms, while voice AI is also becoming increasingly relevant for businesses that continue to depend on telephone communication. Omnichannel systems that combine voice and text therefore offer businesses a way to manage customer interactions through multiple channels.

However, the adoption of AI agents is not only a technological decision. Customers must understand and accept technology, trust it with their concerns and feel that they can obtain human assistance when necessary. An AI system may be operationally efficient but still create dissatisfaction if it misunderstands a query, sounds impersonal or prevents escalation to a human agent. Customer experience therefore provides an important perspective for evaluating whether AI adoption is producing meaningful operational value.

This study examines the adoption of AI voice and text agents and their impact on business operations through



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customer experiences with AI-driven support. The research focuses on adoption patterns, familiarity with AI, channels used, query comprehension, trust and human-agent preferences, challenges faced and expectations regarding future AI use. The internship experience at Karta AI provides the organisational context for understanding how AI customer support technology is developed and applied, while the primary survey considers AI agents more broadly rather than evaluating a single vendor.

II. REVIEW OF LITERATURE

The review of literature provides a background for understanding the factors that influence AI voice and text agent adoption, customer satisfaction, trust and the role of AI in business operations. Earlier studies show that usefulness, ease of use, performance, trust and familiarity can influence adoption, while privacy concerns, poor implementation and the absence of human support can limit acceptance.

Subburaj (2025) examined the impact of Artificial Intelligence (AI) in recruitment and selection practices among IT companies in Chennai. The study found that AI-based tools such as chatbots, resume parsers, and predictive analytics can reduce recruitment time, improve candidate-job matching, and enhance recruiter satisfaction. The findings suggest that AI-enabled HRM can make recruitment more efficient, data-driven, and suitable for managing large volumes of applications.

Choudhary, S., Anayat, S., Rasool, G., & Pathania, A. (2024). studied factors influencing customers' adoption of AI-based voice assistants. The study found that performance and enjoyment were important drivers of adoption, while accessibility and infrastructure can support wider acceptance.

Brynjolfsson, E., Li, D., & Raymond, L. R. (2023). examined generative AI at work in customer support. The study found that AI assistance produced particularly strong improvements among newer or less experienced employees, showing that AI can support learning and performance rather than simply replacing workers.

Dogra, P., Kaur, J., Sood, K., Grima, S., & Rupeika-Apoga, R. (2021). examined voice-based assistant adoption among Indian Generation Z. Ease of use, social influence and usefulness were identified as important adoption factors, while privacy concerns reduced willingness to use the technology fully.

Verma, R., & Chatterjee, S. (2023). studied voice commerce adoption among Indian consumers using an extended Technology Acceptance Model. Convenience and ease of use supported adoption, while trust remained particularly important when financial transactions were involved.

Adeyemi, T., Okafor, C., & Bello, A. (2026). examined AI-powered chatbot adoption and customer satisfaction. The study reported improvements in response time and accuracy, while poor digital infrastructure and low digital skills reduced effectiveness.

Social Science Review Archives (2025). examined the impact of AI-powered chatbots on customer satisfaction and business performance in e-commerce. The study highlighted quick and personalised responses as important for customer loyalty and business performance.

Rao, N., & Iyer, V. (2024). examined employee perspectives toward voice assistants in the workplace. The study found that accurate results and clearly communicated benefits increase trust and acceptance of AI devices.

Chen, L., & Zhao, M. (2026). studied agentic AI with human-in-the-loop interventions in customer service. The findings showed that AI can make service faster, but human support remains important for emotional or difficult customer problems, supporting a balanced human-AI model.

Fernandes, D., & Bhatt, K. (2025). examined chatbot deployment from a business operations perspective. The study found that organisations may face greater difficulty integrating chatbots into existing service processes than dealing with the underlying technology itself.

Park, J., & Lee, S. (2024). studied how chatbots augment human intelligence in customer services. The findings suggested that chatbots can support human decision-making, while complete replacement of employees can create business risks. The study therefore supports designing AI to work alongside human employees.

Subburaj et al. (2026) found that digital marketing, influencer campaigns, online demonstrations, and customer reviews significantly influence purchasing decisions in the Indian home appliance market. Subburaj (2025) highlighted convenience, technology, product availability, and customer satisfaction as major factors affecting online shopping, while trust, security, and delivery remain concerns. Subburaj, et al. (2026) showed that social media content, influencers, reviews, discounts, and advertisements influence consumer spending and engagement. Sathyanarayan and Subburaj (2021) found that emotional attachment strengthens brand loyalty and long-term customer relationships. Subburaj et al. (2018) emphasised that AI improves data analysis, customer targeting, automation, and decision-making in finance and marketing. Purushothaman and Subburaj (2014) identified product quality, price, availability, freshness, and distribution as key determinants of customer satisfaction and loyalty.

Overall, the reviewed literature indicates that AI customer support can improve speed, accessibility and operational scalability, but successful adoption depends on customer



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familiarity, trust, accuracy, conversational quality and effective integration with human support. These themes provide the basis for examining customer experiences and future adoption intentions in the present study.

III. OBJECTIVES OF THE STUDY

General Objective

The main objective of this study is to examine the adoption of AI voice and text agents in customer support and understand their perceived impact on business operations from the customer perspective.

Specific Objectives

1. To understand the extent to which customers have adopted and regularly use AI voice and text agents for customer support.
2. To identify factors, particularly familiarity with AI technology, that influence customer attitudes toward AI adoption.
3. To examine the challenges and limitations customers experience while interacting with AI voice and text agents.
4. To assess customer trust in AI agents compared with human customer support representatives and identify the types of queries for which customers prefer each.
5. To analyse customer expectations regarding the future role of AI voice and text agents in business operations and provide suggestions based on the findings.

IV. RESEARCH METHODOLOGY

Research Design

This study used a descriptive research design because the purpose was to understand existing patterns, attitudes and experiences related to AI voice and text agent adoption rather than establish cause-and-effect relationships through an experiment. The research followed a quantitative approach using structured questionnaire responses and was cross-sectional because data were collected at a single point in time.

Sources of Data

Primary data were collected directly from respondents through a structured Google Forms questionnaire. Secondary data were obtained from academic journal articles, industry reports, company publications and other sources used to establish the background of AI adoption, chatbot usage and voice-assistant technology.

Sample Size

The analysed primary dataset consisted of 50 respondents who confirmed that they had interacted with an AI voice or text-based customer support agent. The study therefore uses 50 as the valid sample size for the journal article because the reported frequency and inferential analyses are based on 50 valid cases.

Sampling Technique

Convenience sampling was used, with respondents selected based on accessibility and willingness to participate. A screening question was included to ensure that respondents had prior interaction with an AI voice or text-based customer support agent.

Questionnaire Design

The questionnaire was structured into screening, demographic information, usage patterns, experience and satisfaction, trust and preference, challenges faced and future outlook. Most attitudinal questions used a five-point Likert scale, while multiple-choice and checkbox questions captured channel and usage patterns.

Methods of Data Collection

The questionnaire was distributed digitally through Google Forms and responses were compiled for analysis. The collected information was analysed using Microsoft Excel and Python for descriptive analysis and statistical interpretation.

Tools for Data Analysis

- Percentage analysis was used to describe respondent characteristics and response patterns.
- Chi-Square tests were used to examine relationships between selected categorical variables.
- One-Way ANOVA was used to examine whether future outlook scores differed across age groups.
- Results were presented through frequencies, percentages, tables and statistical interpretation.

Hypotheses of the Study

Hypothesis 1:

- **H₀:** There is no significant association between frequency of AI-agent interaction and whether the AI agent understood the respondent's query correctly.
- **H₁:** There is a significant association between the two variables.

Hypothesis 2:

H₀: There is no significant difference in future outlook scores among different age groups. **H₁:** There is a significant difference in future outlook scores among different age groups.

Summary:

The study adopts a descriptive and quantitative research design to examine the adoption of AI voice and text agents and their impact on business operations, particularly in the area of customer support. Primary data was collected through a structured questionnaire from respondents who had prior experience interacting with AI-based voice or text customer support agents. The study uses convenience sampling, with the responses analyzed using descriptive and inferential statistical techniques. Results and Discussion



V. RESULTS AND DISCUSSION

Introduction

This section presents the analysis of primary data collected from 30 respondents who had interacted with AI voice or text-based customer support agents. Frequency and percentage analysis are used to describe the respondent profile and major response patterns. Chi-Square tests and One-Way ANOVA are used to examine selected relationships and differences relevant to the study objectives.

Demographic Profile of Respondents

Source: Primary Data

The largest group of respondents was 18–25 years, representing 70% of the sample. Respondents aged 26–35 represented 23.33%, while the under-18 and 36–45 groups each represented 3.33%. Therefore, the findings primarily reflect the views of young adults.

Source: Primary Data

Male respondents formed 66.67% of the sample and female respondents 33.33%. Both genders were represented, although the results are weighted more toward the male perspective because of the sample composition.

Source: Primary Data

The results show that 46.67% of respondents were very or extremely familiar with AI-based tools. This indicates that a substantial part of the sample already had a reasonable degree of comfort with AI technology.

Source: Primary Data

AI support was a regular part of the customer experience for most respondents. A combined 73.33% interacted with AI agents either occasionally or frequently.

Source: Primary Data

Sixty percent of respondents said the AI agent understood their query correctly. However, 40% reported either an uncertain or unsuccessful comprehension experience, indicating room for improvement in natural-language understanding.

Source: Primary Data

A combined 56.67% of respondents wanted businesses to increase their use of AI voice and text agents. A further 33.33% preferred maintaining the current level, while only 10% wanted slightly less use. The result indicates broadly favourable sentiment toward continued AI adoption.

Source: Primary Data

WhatsApp bots were the most commonly used AI support channel at 36.67%, followed by website chatbots at 23.33%. In-app chat and automated voice support each accounted for 20%. The distribution indicates the importance of a multi-channel approach to customer support.

Source: Primary Data

Complaints were the most common query category, followed by order tracking and technical support. This indicates that customers are using AI agents for more than simple information requests and are bringing moderately complex issues to automated support channels.

Source: Primary Data

Financial/payment disputes were the strongest trigger for human preference. Complex technical issues and emotional or sensitive complaints were also major areas where respondents wanted human involvement. This shows that customer trust in AI remains conditional on the nature and sensitivity of the problem.

Source: Primary Data

The most frequently reported challenges were robotic or impersonal responses and difficulty reaching a human agent, each reported by 23.33% of respondents. Only 20% reported no major challenges. These findings highlight both a conversational-quality gap and an escalation gap in AI-supported customer service.

Chi-Square Analysis:

To examine whether the frequency with which respondents interact with AI agents is associated with whether the AI agent understood their query correctly.

Source: Primary Data

TEST	VALUE
Pearson Chi-Square	2.889
Degrees of Freedom (df)	6
Asymptotic Significance (p-value)	0.823
Number of Valid Cases	30

Source: Primary Data

The p-value of 0.823 is greater than 0.05. Therefore, the null hypothesis is retained. The test indicates no statistically significant association between frequency of interaction with AI agents and whether the AI agent understood the query correctly. In this sample, using AI support more frequently did not appear to influence reported comprehension accuracy.

One-Way ANOVA: Age Group and Future Outlook Toward AI Adoption

Source: Primary Data

TEST	VALUE
F-value	1.572
Significance (p-value)	0.220

Source: Primary Data

The p-value of 0.220 is greater than 0.05. Therefore, the null hypothesis is retained and there is no statistically significant difference in future outlook scores among the age groups. The result suggests that support for future AI use is broadly similar across age groups in this sample. However, the under-18 and 36–45 groups each contained only one respondent, so the result should be interpreted cautiously.



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Other Statistical Findings

The report also identifies a statistically significant relationship between familiarity with AI and willingness to see greater AI use in customer support ($p = 0.022$). This is the strongest finding of the study and indicates that respondents who are more comfortable with AI technology are more supportive of expanded AI use. In contrast, no statistically significant relationship was found between gender and whether the AI agent understood the query correctly ($p = 0.607$).

Discussion

The results show that AI voice and text agents have already become a routine part of customer support for many respondents. Most respondents interacted with AI agents occasionally or frequently, and more than half supported increased use in the future. This suggests that customer resistance is not the main barrier to further adoption.

At the same time, the results demonstrate that acceptance does not mean unconditional trust. Customers were most likely to request human assistance for financial disputes, complex technical matters and emotionally sensitive complaints. This pattern is consistent with the literature reviewed in the study, which emphasises the continued importance of human involvement where judgement, empathy or trust are especially important.

The significant relationship between AI familiarity and future adoption intentions is particularly important for business strategy. It suggests that customer education, onboarding and repeated exposure to AI tools may contribute to acceptance. AI adoption should therefore be considered not only as a technology or cost decision but also as a customer-experience and familiarity-building process. The challenges reported by respondents also have direct operational implications. Robotic tone and the inability to reach a human agent can reduce customer confidence even when the underlying AI is technically capable. Businesses therefore need to measure not only response speed and automation rates but also comprehension, tone, escalation success and resolution quality across different query categories.

VI. FINDINGS

1. A majority of respondents (70%) were in the 18–25 age group, indicating that young adults formed the largest user group in the sample.
2. Nearly half of respondents (46.67%) were very or extremely familiar with AI-based tools, indicating a reasonably AI-comfortable sample.
3. WhatsApp bots were the most widely used AI support channel at 36.67%, followed by website chatbots, in-app chat and voice assistants.
4. A combined 73.33% of respondents interacted with AI agents occasionally or frequently, showing that AI support is already a regular customer-service experience for many respondents.

5. Sixty percent of respondents confirmed that the AI agent understood their query correctly, while 40% reported an unclear or unsuccessful experience.
6. Financial/payment disputes (30%), complex/technical issues (26.67%) and emotional or sensitive complaints (26.67%) were the main situations in which customers preferred human agents.
7. Robotic or impersonal responses and difficulty reaching a human agent were the two most common challenges, each reported by 23.33% of respondents.
8. A majority of respondents (56.67%) wanted businesses to increase their use of AI voice and text agents in customer support in the future.
9. No statistically significant relationship was found between gender and whether the AI agent understood a respondent's query correctly ($p = 0.607$).
10. A statistically significant relationship was found between familiarity with AI and desire for more AI use in the future ($p = 0.022$), making familiarity the strongest reported factor associated with positive future adoption sentiment.
11. No statistically significant relationship was found between frequency of AI-agent use and comprehension accuracy ($p = 0.823$).
12. No statistically significant difference was found in future outlook scores across age groups ($p = 0.220$), although the very small numbers in some age groups limit the strength of this comparison.

VII. CONCLUSION

This study examined the adoption of AI voice and text agents and their impact on business operations through customer experiences with AI-driven support. The research was grounded in the internship context of Karta AI, while the primary survey considered AI voice and text agents used by customers more generally. Based on responses from 30 respondents, the study shows that AI customer support has moved beyond an experimental concept and has become a routine part of the customer experience for many users.

The findings indicate generally positive customer sentiment toward continued AI adoption. A majority of respondents interact with AI agents regularly and 56.67% would like businesses to increase their use of AI voice and text agents. However, the study also identifies practical gaps in comprehension, conversational tone and human escalation. These gaps are important because customer acceptance of AI is conditional on the type and sensitivity of the problem being handled. The strongest statistical finding is the significant relationship between familiarity with AI and willingness to see greater AI use in customer support. This suggests that businesses can support adoption by improving customer familiarity and comfort through clear communication, onboarding and simple interactions. In contrast, age and gender did not show significant relationships with the selected customer outcomes examined in the study.



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From a business-operations perspective, the findings support a hybrid human-AI model rather than complete replacement of human customer support. AI agents can efficiently handle high-volume and routine interactions, while human agents should remain readily available for financial disputes, complex technical issues and emotionally sensitive complaints. Businesses should also improve conversational design so that AI responses feel less robotic and should provide transparent, simple escalation pathways.

The study has limitations because it uses a small convenience sample and self-reported customer experiences. The findings should therefore be interpreted as practical evidence of patterns within the sample rather than as a universal representation of all AI-agent users. Future research can use larger and more diverse samples, examine specific industries or vendors, and track customer experiences over time. Within its scope, however, the study shows that AI voice and text agent adoption is well underway and broadly welcomed, while its long-term success will depend on accuracy, trust, familiarity, human escalation and effective integration between AI and human support.

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