Journal of Business and Management Studies (JBMS)
ISSN: 2709-0876
DOI: 10.32996/jbms
Journal Homepage: www.al-kindipublisher.com/index.php/jbms

JBMS
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Voice AI Accessibility in Customer Support: A Business Review

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| ABSTRACT

Voice artificial intelligence is becoming a strategic tool in customer support as firms seek faster, more scalable, and more personalized service delivery. However, its business value depends not only on automation efficiency but also on whether it expands or restricts access for diverse customer groups. This review examines Voice AI for accessibility in customer support from a business and industry perspective, focusing on its implications for customer experience, service quality, operational efficiency, inclusion, trust, and risk management. Using a semi-systematic review approach, the study synthesizes recent literature published between 2016 and 2026 on conversational AI, voice assistants, automated speech recognition, accessible service design, and AI-enabled customer support. The review finds that Voice AI can improve accessibility by enabling hands-free interaction, reducing dependence on screen-based interfaces, supporting multilingual or low-literacy users, and increasing the availability of customer support outside traditional service hours. From a business perspective, these capabilities may improve customer satisfaction, service consistency, brand reputation, and support-channel efficiency. Nevertheless, the review also identifies critical limitations. Speech recognition systems may perform unevenly across accents, dialects, speech impairments, age groups, and noisy environments, creating exclusionary experiences for customers who already face service barriers. Over-automation, weak escalation pathways, privacy concerns, and lack of accessibility testing may further reduce customer trust and increase reputational or compliance risk. The study argues that firms should evaluate Voice AI not only through cost reduction and call deflection metrics but also through accessibility, fairness, customer effort, and inclusive service outcomes. The review contributes a business-focused foundation for understanding accessible Voice AI as a strategic customer support capability rather than a purely technical innovation.

| KEYWORDS

Voice AI; Accessibility; Customer Support; Conversational AI; Service Management; Inclusive Customer Experience

| ARTICLE INFORMATION

ACCEPTED: 18 July 2026 **PUBLISHED:** 17 August 2026 **DOI:** 10.32996/jbms.2026.8.9.9

1. Introduction

AI is transforming Customer Support as companies are using it to manage repetitive customer interactions, support their Customer Service Agents, personalise customer experiences and relieve the burden on their contact centers. Among these technologies, Voice AI is particularly relevant because it enables businesses to interact with their customers via voice rather than text, websites, their mobile apps or service counters. Customer support Voice AI can manifest in several forms such as speech-enabled chatbots, intelligent voice response systems, virtual assistants, automated speech recognition, speech analytics, voice biometrics, AI-assisted call routing. These tools are often marketed as a means of offering service quicker, available 24/7, less wait time and better customer service. However, as Voice AI becomes more widely adopted, there's an important business question to ponder: Do customers have more ways to reach out to customer support, or do there arise new friction points for those who do not speak, hear, process or interact with technology in a standardized way?

This question is becoming more and more relevant, as accessibility is not just a compliance matter but also a service quality and customer experience, and market inclusion matter. According to the World Health Organization, there are approximately 1.3 billion people or roughly 16% of the world's population that are living with severe disability (World Health Organization, 2023). This is directly related to customer service because there are as many individuals with disabilities using banks and telephones, retail stores,

health facilities, insurance companies, airlines, public utilities and digital services as there are without disabilities. If companies build their AI-powered service channels based on a short list of the "average" customer, they run the risk of leaving out customers with a range of visual impairments, hearing loss, mobility challenges, cognitive disabilities, speech disabilities, neurodivergent communication styles, age requirements, language differences, and unfamiliarity with digital interfaces. So, accessible Voice AI should be considered as an integral component of accessible service management and not a standalone technical solution.

The past several years of service management books suggest that AI can revolutionize the service encounter in the front line, reallocating tasks between customers, service workers and AI-enabled service agents. The significance of AI for service is stated by Huang and Rust (2018) as being able to facilitate mechanical, analytical, intuitive and even empathetic services, with varying degrees of technological advancement. Similarly, Wirtz et al. (2018) and van Doorn et al. (2017) show that automated and robotic service agents have already become part of frontline service systems, and affect customers' perceptions of responsiveness, social presence and service quality. In the field of customer support, this opens up many business opportunities as Voice AI can result in the reduction of repetitive calls, immediate answers, and assisting agents with real-time information. The same change, however, can bring with it risk if the automated services are perceived by the customer as cold, rigid or cumbersome if they do not fit their interactions.

Voice AI has a great potential of being accessible. Voice interaction can reduce screen or keyboard or complex application usage for customers who are visually impaired or have motor limitations. Older customers might prefer to interact with a machine using voice recognition, instead of filling out several forms. Speech interaction can help reduce the demands on the customer if the customer does not read or is not computer-literate enough to understand the written menu. Voice-controlled assistive technology research with individuals with disabilities has shown that such technologies can promote independence, convenience and access to daily services, but many of the benefits have been inadvertent or "accidental" and not purposefully designed for people with disabilities (Pradhan et al., 2018). Voice AI can help improve access to customer support from a business perspective, only if accessibility is part of the design, testing, procurement, deployment and performance evaluation process.

One of the major challenges is the fact that Voice AI systems do not perform equally well for everyone. Training data, accents, dialects, speech clarity, microphone quality, environmental conditions are the basis for the automated speech recognition. According to Koenecke et al. (2020), on average, five major automated speech recognition systems have a WER of 0.35 for black speakers, and a WER of 0.19 for white speakers. Specifically, this finding is relevant to the research of business and management, since speech recognition errors are not only detrimental in terms of technical performance, but they can increase customer efforts, decrease customer trust, increase call duration, result in an inability to logon to the system, cause difficulty in resolving issues, and left customers feeling they are being treated unjustly in a customer service scenario. Voice AI's exclusion of customers with speech impairments, aphasia, cognitive impairment, or non-standard speech patterns can be even more detrimental if firms don't test it and have an option to use human fallback.

Below is the factual and Scholarly Rationale of studying about Voice AI Accessibility in Customer Support.

Table 1: Factual and Scholarly Rationale of studying about Voice AI Accessibility in Customer Support.

Evidence point	Business relevance	Source
Around 1.3 billion people, approximately 16% of the global population, experience significant disability.	Accessibility affects a large customer segment and should be treated as a mainstream service-design issue.	World Health Organization (2023)
Automated speech recognition systems showed average word error rates of 0.35 for Black speakers and 0.19 for White speakers in a major comparative study.	Unequal speech recognition can create service failure, exclusion, and reputational risk.	Koenecke et al. (2020)
Voice assistants can support people with disabilities, but benefits often depend on system usability, accessibility, and context of use.	Firms should test Voice AI with diverse customers instead of assuming universal usability.	Pradhan et al. (2018)
AI is increasingly used in service contexts to automate mechanical and analytical tasks.	Customer support leaders can use Voice AI to improve efficiency, but service quality must remain central.	Huang and Rust (2018)
Automated service agents change frontline service encounters and customer perceptions.	Voice AI adoption should be managed as a customer experience transformation, not only an IT project.	van Doorn et al. (2017); Wirtz et al. (2018)
Poor chatbot or automated-agent experiences may produce anger, blame, and reduced satisfaction.	Over-automation without recovery pathways can damage customer relationships.	Crolic et al. (2022)

The major challenge with management is many companies are looking at operational metrics when they think about Voice AI, metrics such as call deflection, average handling time, containment rate, cost per call, and agent productivity. These helpful but incomplete metrics. If a voice bot reduces the volume of calls that it handles, and increases the volume of frustrated customers due to disabilities and/or strong accents/age/ complex services requested, then the apparent efficiency can be misleading about how well the customer is being served. So the criteria with which to evaluate customer support systems should include a wider variety of metrics including: first-contact resolution, customer efforts, successful escalation, accessibility error rate, recognition accuracy among customer groups, complaints, clarity of consent, and trust. It is particularly important because if the customer service is involved in a high-stakes scenario like billing, financial services, insurance claims, medical appointments, travel, account access and emergency services, they may find themselves in a situation where they need to act immediately.

So, there's a business case for accessible Voice AI and a multi-faceted one. One of them is that it can make your customer's experience better as they will be able to access the service in a quicker and more natural way. Secondly, it has the potential to enhance the operational resiliency of companies and enable them to cope with peaks in demand without having to rely solely on human agents. Third, it can help inclusion by providing the customers with increased methods of communicating with the firm. Fourth, it can also help to build the brand's reputation by strengthening the message that the brand is concerned with offering fair services. But these benefits aren't guaranteed. They depend on responsible design, like representative speech datasets, accessibility audits, multilingual support, prompts in plain language, disclosure of the use of the artificial intelligence and protecting data and allowing immediate transfer to a human agent when the artificial intelligence fails.

The emphasis of this review is on the Voice AI for access by customer service from a business and industry perspective. Voice AI is not just a technology; it is an integral part of a service strategy, customer experience management and a part of digital transformation where everyone is included. What are the research questions that the paper addresses? What is Voice AI doing to enhance the accessibility in customer support? What are the benefits to companies having an easily accessible Voice AI system? What are the threats to trust, fairness, privacy and service quality to the customers? What are the factors that need to be taken into consideration when implementing it in industry? The review aims to bring a change in the world of business and management by answering these questions and making accessible Voice AI a strategic opportunity and a governance responsibility.

2. Literature Review

2.1 Voice AI and Conversational Technologies are a Target Area for Customer Support

Voice AI are artificial intelligence systems that are built to understand and act on spoken words using technologies like automatic speech recognition, natural language processing, dialogue management, speech synthesis, and predictive analytics. Voice AI is seen in various applications in the customer support space, such as AI powered interactive voice response systems, voicebots, virtual assistants, automated call-routing systems, voice biometrics, and real-time agent-assistance systems. The systems are gaining increasing acceptance because they are able to provide faster response times, lower service costs, 24/7 availability, and uniform customer interactions. Voice AI, then, is more than a tech fix; it's a crucial part of this transformation in how businesses deliver frontline service – management-wise.

The literature on the use of artificial intelligence in service has shown that, depending on the complexity of the service, AI can take part in different activities in the service field: mechanical service activities (e.g., answer common questions); and analytical service activities (e.g., understand customer intention, predict service requirements) (Huang & Rust, 2018). In customer service, it can assist businesses in managing repetitive interactions without compromising the quality of their human customer service. However, as Wirtz, Padmanabhan and Mohanty (2018) claim, the service robot/automated agent is increasingly becoming part of the frontline service interaction, and as van Doorn, Vink and Hekselman (2017) highlight, automated agents could potentially shape consumers' perception of social presence and service quality. What these learnings offer to Voice AI is invaluable as a voice-based system is viewed as more personal than a text-based system. If the voicebot has a small answers database or it can't fully comprehend the customer's language, the customer might perceive the bot is answering more personally, conversatively, or as a human. It was also found in some of the previous reviews that the company-customer communication is revolutionised by the use of chatbots and voice assistants, particularly in the context of customer experience, customer interaction with the service and Digital communication (Bălan, 2023; Nicolescu & Tudorache, 2022).

The business literature, however, demonstrates that automation doesn't necessarily lead to better customer experience. The usefulness, reliability, transparency and ability to solve the problem of the customer are all crucial factors for customer satisfaction with the automated system. Adam et al. (2021) find that AI-driven chatbots can affect user compliance in service interactions and Crolic et al. (2022) illustrate that service interactions that fail can lead to an increase in anger when a customer blames the chatbot and/or the firm. Such findings could be even more irksome to customers who make a mistake typing their orders, browsing the menus, etc., only to have to repeat themselves or still have to talk to a human agent.

2.2 Accessibility is the Primary Purpose of Service Design

Accessibility of services in customer service refers to the ability to access a service provided to customers who have a variety of physical, sensory, cognitive, linguistic and situational needs without unnecessary barriers. From a Voice AI perspective, accessibility

means that customers can make sense of prompts, talk naturally, be understood correctly, get other ways to interact, and get in touch with people if the AI doesn't work out. The World Health Organization (WHO, 2023) estimates that approximately 1.3 billion individuals (or 16% of the world's population) experience significant disability. Unlike the image of accessibility as a 'special case', it is a 'business as usual' customer experience challenge. Studies of the use of voice and technologies for accessibility also suggest that the gains in accessibility can depend on the communication skills of the user, training and context, and the design of the technology system (Kulkarni et al., 2022).

Voice interaction is easily accessible. Voice can have a significant impact for people with vision loss to reduce visual interactions. It can save time for customers who use a motor impairment, as they don't have to type, tap and/or navigate through the complicated screen. For the older person or less tech-savvy, the voice experience might be the more natural one to use for service journeys. Research on the use of voice-controlled intelligent personal assistants indicates that people with disabilities used these technologies to help them carry out tasks, to support their daily activities and to be more convenient and independent; however, accessibility was not always planned (Pradhan et al., 2018). This is essential to this finding as it implies that if companies use speech they don't assume that Voice AI is available. Create, test and administer accessibility.

Another aspect of inclusive service design is recognising the fact that customers might require different channels at different times. One customer's voice only system may be appropriate for another. An example of this is a customer who is blind may require voice navigation, or a customer who is deaf or hard of hearing may require assistance through text, captioning, relay services or agent chat. The speech impaired customer may wish to use typed input and the less literate customer may prefer spoken guidance. Therefore, accessible Voice AI needs to be integrated into an omnichannel service strategy that will allow the customer to seamlessly switch back and forth between the voice, text, human and assisted digital channels without losing context.

2.3 Business Value of Accessible Voice AI

Accessible Voice AI offers more than just regulatory compliance. It's about customer satisfaction, efficiency, retention, brand trust and market reach. One of the easiest-to-spot areas of interaction between a company and its clients is customer support. Customers will be much more inclined to solve issues promptly and trust in the organization if support channels are obtainable. If support channels are not available, there can be high levels of frustration, abandonment, complaint escalation or customer switching.

By lowering the need for human agents to deal with repetitive service calls, optimizing call routing, minimizing wait times, and providing live recommendations for service agents, Voice AI can generate operational value. It can also help deliver value to customers' experience, through immediate responses and a more natural interaction. These benefits are crucial in sectors where customer service is paramount, like banking, telecommunications, retail, healthcare, insurance, travel, and utilities, where customers increasingly expect prompt and convenient service, and customer service volume is high.

But a deeper examination of the research indicates that companies tend to define AI success in a limited manner. Firms may be tempted to focus on efficiency over accessibility by adopting common metrics like containment rate, call deflection, average handling time or cost per contact. Optimized for dashboard efficiency, this voicebot can lead to bad customer results for customers who have complex, emotional, or accessibility needs. Thus, a wider range of measures ought to be adopted such as first contact resolution, customer effort score, accessibility success rate, complaint recurrence, trust, escalation quality, and customer satisfaction among demographic and disability groups.

Table 2: Voice AI Capabilities, Accessibility Benefits, and Business Implications

Voice AI capability	Accessibility benefit	Business implication	Critical concern
Speech recognition	Enables spoken input for customers who cannot easily type or use screens	Faster access to support and reduced dependence on app-based service	May misrecognize accents, dialects, noisy speech, or disabled speech
Text-to-speech output	Provides spoken responses for customers with visual impairments or low literacy	Expands access to digital self-service	Poor voice design may confuse users or increase cognitive burden
Natural language understanding	Allows customers to explain problems in their own words	Improves customer experience and reduces rigid menu navigation	Misclassification of intent can delay resolution
AI call routing	Directs customers to relevant departments or agents	Reduces waiting time and improves operational efficiency	Incorrect routing can increase customer effort
Voice biometrics	Supports identity verification through speech	May reduce friction in authentication	Raises privacy, consent, and fairness concerns
Sentiment or emotion detection	Identifies frustration or urgency in the customer's voice	Helps prioritize escalation and service recovery	Emotion detection may be inaccurate or intrusive
Multilingual voice support	Supports customers who do not speak the dominant service language	Expands market reach and improves inclusion	Quality may vary across languages and accents
Human escalation triggers	Transfers customers to human agents when automation fails	Protects trust and supports service recovery	Weak escalation design can trap customers in automation loops

2.4 Risks, Bias, and Governance Challenges

Voice AI has significant potential to cause new exclusions if the systems are trained or deployed in an unconsciously biased way to a diversity that is not well considered. The risk of unequal speech recognition performance is one of the most important. The word error rate for automated speech recognition systems was statistically significantly higher for Black speakers than for White speakers at 0.35 vs. 0.19, respectively, as found by Koenecke et al. (2020). These differences may turn into enterprise risks in customer support as infrequent misrecognition can lead to failures when verifying users, constant verification, incorrect routing, unresolved complaints, and unfair perceptions. Such issues can disproportionately impact users who already face similar barriers in their digital usage and service.

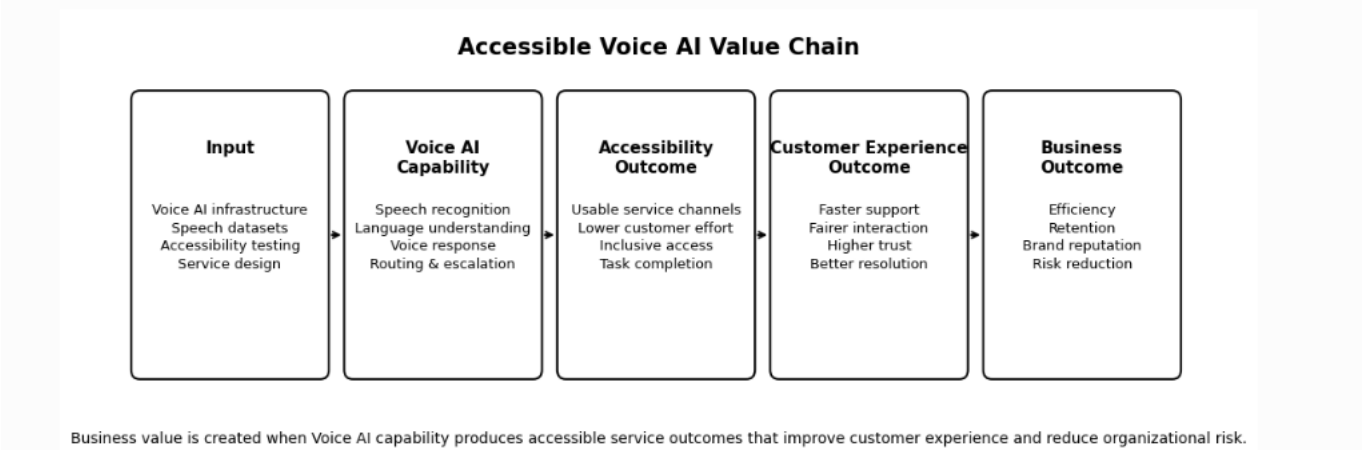
There are also concerns about privacy and surveillance raised by voice AI. Customer support calls can include sensitive customer information, such as health concerns, financial information, identity information, complaints, and expressions of emotion. If the companies employ voice analytics, sentiment analysis, or biometric authentication, they need to handle consent, transparency, data storage, and security. If customers are not aware of the methods used to collect, process, store, and share their voice data, a system set up to enhance service quality can become problematic. Technical performance metrics are not the only parameters that should govern accessible Voice AI, however, it should be regulated by principles of responsible AI from a business ethics point of view. Frequent speech recognition failures can also have psychological and relational implications, as users who are unable to get their voice assistant to understand them may feel excluded from the interaction and have a more negative evaluation of the device (Wenzel et al., 2023).

The other major one is over-automation. Automated systems can be a good choice for basic transactions like checking on account balances, delivery tracking, appointment reminders, and password resets. They just might not want to be automated, however, when the problems are critical, emotional, vague, or monetary. There has been a lot of service failure literature that indicates customers do not respond favorably to automated agents who fail to solve the problems or seem to be obstructing them from being able to access human agents (Crolic et al., 2022). When deployed in accessibility situations, this risk can be compounded since the voicebot might not only be troublesome to the customer, but actually cause the customer to be unable to receive the service.

2.5 Synthesis of the Literature

The literature indicates that Voice AI has a dual nature for customer support. It can enhance accessibility by providing access to service that is hands-free, immediate, and conversational. It can also help boost business performance by eliminating repetitive tasks, providing service scalability, and enhancing customer experience. However, at the other end of things, Voice AI can give rise to or exacerbate the feeling of exclusion if the systems are unable to recognize a wide range of voices, offer few options, have fuzzy data practices, or focus more on cost reduction than service quality. In this review, accessible Voice AI emerges as a key service capability that must be aligned across the design of the technology, customer experience management, accessibility standards, employee support, and responsible AI governance. The model demonstrates the value of the business can't be derived from Voice AI technology alone. Value is added when technology has the capability to provide service outcomes that are accessible to customers and mitigate organizational risk.

Figure 2: Conceptual Framework: Accessible Voice AI Value Chain



The figure shows the proposed value chain for business value creation in Customer Support using Voice AI. The model illustrates that investing in Voice AI infrastructure, speech datasets, accessibility testing and service design must first manifest in technological means—voice recognition, natural language understanding, routing, escalation, etc. to be of benefit to customers. Such strengths only add strategic value to the business if they result in "service outcomes" that are easy for customers to access, enhance customer experience, support efficiency, increase customer retention, build brand value and reduce risk.

3. Methodology

The study systematically reviews the literature and uses a semi-systematic literature review to explore the application of Voice AI for accessibility in customer service, from a business/industry point of view. The topic is interdisciplinary (customerservice management, artificial intelligence, accessibility, human–computer interaction, digital inclusion, business performance) and this is why a semi-systematic review is indicated. A semi-systematic review can be used to synthesize a wide range of related literature on a particular topic and to highlight the theme of the material, gaps in knowledge and conceptual relationships across fields, whereas a narrow systematic review will be focused on an empirical question (Snyder, 2019). This is a good approach for the present study, as Voice AI accessibility in customer support is not an established or coherent research field, but rather it is spread out amongst research covering the fields of conversational AI, automated speech recognition, service automation, disability inclusion, customer experience, and responsible AI governance.

The review aimed to address the following research questions: How is Voice AI used to enhance the accessibility of customer support? What are the business benefits of accessible Voice AI systems? What are the risks to customer trust, fairness, privacy and service quality? What are the factors that influence the successful implementation of Voice AI in industry? The search strategy, selection of sources, screening and thematic analysis were driven by these questions. To address the need to include recent literature only, and to ensure the review covered the latest advancement in AI-enabled service automation, a literature review was conducted between the years of 2016 and 2026.

Academic databases and scholarly search platforms for business, service management, information systems, accessibility, and human–computer interaction were the resources used for the literature search. The search was conducted in peer-reviewed journal articles, conference papers, systematic reviews and selected industry or policy reports where they contained factual information that was relevant to accessibility or to customer support. The key search phrases were 'Voice AI', 'conversational AI', 'voice assistants', 'voicebots', 'automated speech recognition', 'customer support', 'customer service automation', 'accessibility', 'inclusive customer experience', 'digital inclusion', 'AI service management', 'speech recognition bias', and 'responsible AI'. The terms were linked using a Boolean search, and the searches focused on AI-enabled voice technologies and customer-facing service, accessibility, inclusion, trust, and/or business outcomes.

The following criteria were used to include the studies. First, the sources have to be published between the years 2016 and 2026. Second, it needed to talk about at least one of the main themes of the review, which are Voice AI, conversational AI, Customer support, Accessibility, Service management, Customer experience, Speech recognition, AI governance or Digital inclusion. Third, only peer-reviewed studies and respected institutional reports, which were clearly relevant to business or industry, were considered. Fourth, the studies were selected when they offered any conceptual, empirical, or factual perspective on the link between AI-based service technologies and customer results. Studies that had been published prior to 2016, and that did not have relevance to service or accessibility, that had not had sufficient academic or factual credibility, and that talked about general AI adoption with no relevance to customer support, voice interaction, accessibility, or service management were not included.

The screening process was carried out in three phases. During the first stage, titles and abstracts were screened to find sources with focus similar to the research topic. The second step involved reviewing the full-text documents or detailed publication data to evaluate their relevance to the review questions. Eligible studies were categorized in the third stage, by theme, based on their relevance to the manuscript. The key themes included were: Voice AI and conversational customer support; accessibility and inclusive service design; business value and customer experience; risks, bias, and trust; and implementation and governance considerations. This thematic structuring allowed the review to go beyond the descriptive summary of studies to a critical synthesis of how Voice AI can generate or limit business value based on the accessibility outcomes.

Selected literature was analysed using thematic synthesis method. The analysis began by uncovering common themes in the literature, including efficiency, waiting time, availability, personalization, and scalability of services. These claims were then benchmarked against the critical findings on speech recognition bias, customer frustration, over-automation, privacy concerns, and unequal access. Very often, when we talk about the benefits of Voice AI in the industry, it is all about efficiency and cost reduction, and when it comes to accessibility, we are talking about the dangers of exclusion for customers who are not covered by the system's design with their voices, languages, disabilities, or interaction. Voice AI was thus considered a business capability which has both operational and service quality (inclusive) dimensions.

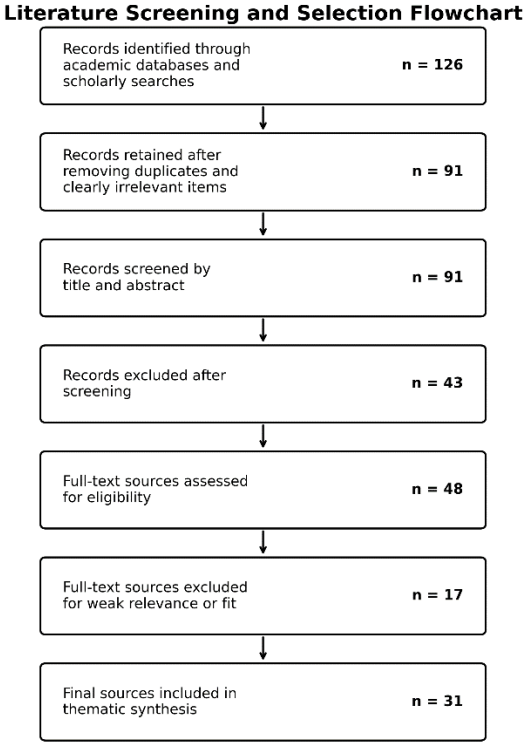
The analysis was conducted without assuming that technological adoption is necessarily good and therefore did not aim to evaluate the effects of these technologies as positive. Rather, it explored the circumstances that make Voice AI useful for making customer support services accessible, as well as circumstances that may be conducive to customer service failure. For instance, automated speech recognition can provide greater accessibility for people who cannot use a keyboard or screen but may not for those with speech disabilities, accents, dialect, and noise. Likewise, the ability of voicebots to cut down on waiting time for simple tasks can be just as harmful as when they deny access to human agents or fail to fully comprehend complex requests. This balanced approach connects accessibility results to customer satisfaction, trust, retention, service recovery, reputational risk, and operational performance to help connect accessibility with business outcomes.

Factual and policy evidence was also taken into account in the study, where relevant. For instance, disability prevalence statistics were used to define the scope of accessibility as a customer service concern and automated speech recognition performance

studies were employed to demonstrate that voice technologies can have disparate impacts on the different groups of customers. The industry data were handled with caution however, as market reports and vendor claims may focus on adoption and efficiency, while under-reporting the failures of accessibility or customer harm. Thus, factual information has been included only if it was relevant to the analytical argument of the review and where it could be traced to the credible sources.

This is a review article; thus, no human interview, survey, experiment or personal data was gathered. As a result, there was no formal human-subjects ethics approval required. However, the topic is clearly of ethical concern, as it is possible for Voice AI systems to access sensitive voice information, and impact a customer's access to critical services. As such, privacy, consent, fairness, accessibility and escalation to human support are governance themes the review considers when managers and organizations introduce Voice AI into their customer support operations.

The methodology has certain restrictions. The review is restricted to literature published from 2016 to 2026, thus ensuring that recent publications are included; however, earlier foundational literature on accessibility, service quality, or human–computer interaction might not be included. Second, given the multi-disciplinary nature of the topic, related studies can employ different terms for the same or similar concepts (voice assistants, conversational agents, AI chatbots, speech interfaces, or automated service agents). Third, for some industry evidence on Voice AI adoption, it comes from vendors of the technology or from consulting firms, where there can be promotional bias. To minimize this constraint, the review emphasizes the peer-reviewed literature from academic institutions, and industry data is primarily used to provide business context. Lastly, accessible Voice AI in customer support is an emerging field, and the review's intent is not to offer a comprehensive assessment of the extent of implementation or the overall performance of voice AI in customer support yet to be realized, but to shed light on the present state of knowledge and pinpoint areas that need more study.



Note. The figures represent the structured screening process used for the semi-systematic review.

This figure summarises the process of source identification, screening, eligibility assessment and inclusion that was used in the semi-systematic review. It illustrates how the literature was reduced from the results of broad searches in the academic databases and scholarly search results to the body of sources that were deemed relevant and included in the thematic synthesis. The aim of the flowchart is to enhance the methodologic transparency and show that the review process was structured and followed a selection process.

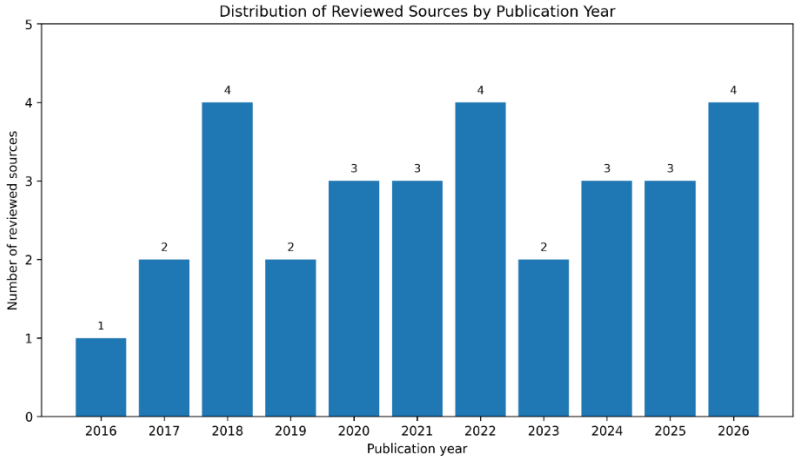
4. Results/Findings

The results of this review indicate that Voice AI has significant potential to enhance customer support accessibility while at the same time, the business impact relies on the careful management of the business relationship between automation and inclusion with the customer experience and risk. There is not a simple yes-or-no answer to whether Voice AI is good or bad, based on the literature reviewed. Rather, it's proposed that Value of Voice AI is gained when it cuts down customer effort, boosts ease of access

to support and reinforces service reliability. It poses a risk when companies see it primarily as a cost-cutting measure, and cannot allow for varying voices, languages, disabilities and service requirements of customers that do not fit into the standard automated processes.

The literature reviewed focused on five overarching themes, namely: Customer experience and service quality; Accessibility and inclusion; Adoption and implementation; Speech recognition and fairness; and Governance, trust and privacy. Themes are key to understand because Voice AI is interdisciplinary in nature, and the themes in the customer support context are relevant. Business and service management studies often highlight the importance of customer satisfaction, service quality, automation and customer loyalty while accessibility and human–computer interaction studies are more attuned to usability, error of recognition, disability inclusion and unequal access. One conclusion of this review is that these two streams of literature require to be brought together. There are two metrics that firms cannot measure when they test how well Voice AI performs: efficiency and equality in application for different customers.

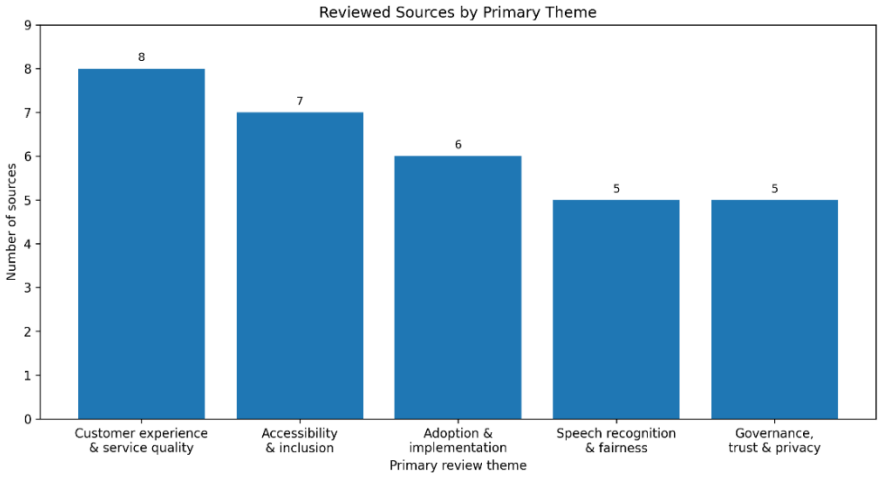
Figure 4 Distribution of Reviewed Sources by Publication Year



Note. Counts represent the 31 sources included in the thematic synthesis, not the total global literature.

The distribution of the 31 sources that were included in the thematic synthesis from 2016 to 2026 is shown in figure 4. As can be seen in the review, there is increasing interest in the study of AI in customer interaction since 2018 and still present in the last few years. The trend demonstrates how businesses are increasingly seeking to use conversational AI, voice assistants, and automated service agents in customer-facing scenarios. The literature is not uniform however. Research on chatbots and customer experience is more prevalent than research that directly focuses on Voice AI accessibility in customer support. This gap reinforces the need for a business-focused review, aligning accessibility, customer service, and Voice AI implementation.

Figure 5: Reviewed Sources by Primary Theme



Note. Each source was assigned one primary theme for descriptive reporting. Total n = 31.

All the reviewed sources have been categorized according to their main theme in Figure 5. The greatest number of respondents were dedicated to customer experience and quality of service, while accessibility and inclusion came in second. This means, the focus in the business literature has been on customer centric AI capabilities, but accessibility is not always given due consideration

as a business outcome. Smaller, but significant themes were speech recognition fairness and AI governance. This is an imbalance that can be crucial because Voice AI systems rely heavily on speech recognition power, and a lack of balance in recognition performance directly impacts customers' ability to access services.

Table 3: Summary of Key Thematic Findings

Theme	Key finding	Business interpretation	Critical issue
Customer experience and service quality	Voice AI can provide faster responses, 24-hour access, and more convenient service journeys.	Firms can improve service availability and reduce waiting time.	Convenience may decline when systems misunderstand customers or block human contact.
Accessibility and inclusion	Voice interfaces can support customers who face barriers with screen-based or text-heavy channels.	Accessible design can expand market reach and strengthen inclusive customer experience.	Voice-only systems may exclude deaf, hard-of-hearing, speech-impaired, or neurodivergent customers.
Operational efficiency	Voice AI can automate routine requests and support call routing.	Firms may reduce repetitive workload and improve resource allocation.	Efficiency metrics may hide exclusion or customer frustration.
Speech recognition and fairness	Recognition accuracy may vary by accent, dialect, race, disability, age, and environmental conditions.	Fairness testing is necessary before large-scale deployment.	Recognition errors can produce unequal service access and reputational harm.
Trust and privacy	Voice AI may process sensitive speech, identity, emotion, and behavioral data.	Responsible data governance can strengthen customer confidence.	Poor transparency or weak consent may damage trust.
Human escalation and service recovery	Customers need reliable pathways to human support when automation fails.	Escalation protects service quality and customer relationships.	Automation loops can intensify anger and abandonment.

4.1 Finding One: Voice AI Improves Accessibility Only When It Is Designed as an Inclusive Service Channel

The key takeaway is that Voice AI can make customer support more accessible, but that doesn't mean it actually is. Voice interfaces can be useful for customers who aren't able to navigate with a keyboard, small screen or complex mobile application or web forms. They can also assist older people, visually challenged individuals, mobility-impaired individuals, and those who enjoy speaking with humans. This aligns with the studies of voice controlled assistants and people with disabilities (Pradhan et al., 2018) that have found accessibility potential.

The literature also demonstrates that the same technology can pose as much a barrier to other groups. Voice-based systems may not provide the benefit to a customer who is hard of hearing or deaf unless text alternatives, captions or relay compatible services are provided. People with speech disability, aphasia, cognitive disability, accent variation, non-native pronunciation can make multiple recognition failures. Koenecke et al. (2020) offer valuable evidence supporting the possibility that an AAS might be less effective across groups of speakers. In customer support, this means ensuring accessibility for a number of user segments, not just because of technical capabilities.

Business implication is that firms should consider accessible Voice AI as a multi-channel and supported-by-a-human service capability. A service shouldn't be the sole path for a voicebot. Rather, the customer should be able to transfer from voice, text, assisted digital support and human support without context loss. Voice AI, then, must be designed for inclusion, tested for representation, and offered in flexible ways for the effective recovery of services.

4.2 Finding Two: The Business Value of Voice AI Is Often Overstated When Measured Only by Efficiency

The second is that, when talking about Voice AI in business, they tend to focus on efficiency and never prioritise accessibility concerns and the risks that come with that. Voice AI can lead to faster wait times, eliminate repetitive requests, enhance call routing, and offer round-the-clock service. These benefits are in line with the general literature on AI services, which suggests that AI could be utilized to undertake mechanical and analysis-based service tasks, and that AI could transform the way that frontline service tasks are delivered (Huang & Rust, 2018; Wirtz et al., 2018). On an operational level, these features are appealing due to the extreme volume of calls placed on a customer support team, the pressure on staff and the expectation of customers.

However, efficiency does not necessarily equal service quality. Customers may be forced to navigate through long voice menus, be misunderstood multiple times, or not be able to reach human support – the organization may suffer lower call volumes and higher effort. For customers who are accessing the call center with accessibility needs, this is particularly significant since automated systems can fail in ways that are not reflected in the standard call center dashboards. A customer who leaves a call after numerous mis-recognitions, for instance, may be considered a deflected contact, instead of as a failure of accessibility. Likewise, a voicebot that can handle basic requests but cannot do more could have a positive impact on average handling time, but a negative effect on customer trust – especially those who have complex or urgent needs that are not standard.

So, there's a need to measure Voice AI with both operational and inclusive customer experience metrics. A business can aim for cost reduction, but it's important to remember that it's not the only thing that matters. Companies need to track if Voice AI increases the rate of first contact resolution, reduces customer effort, can help customers complete tasks easily and accurately, and offers successful escalation when automation fails to work.

Table 4: Business Benefits, Accessibility Risks, and Managerial Responses

Business benefit	How Voice AI contributes	Accessibility or service risk	Recommended managerial response
Reduced waiting time	Automates routine questions and supports self-service	Customers with non-standard speech may spend longer repeating requests	Track recognition accuracy and customer effort across user groups
24-hour support	Provides service outside normal operating hours	After-hours automation may lack human backup for urgent issues	Provide emergency escalation and callback options
Lower support cost	Reduces repetitive workload for human agents	Cost savings may come at the expense of service quality	Balance containment rate with satisfaction and accessibility metrics
Better call routing	Identifies customer intent and directs calls	Misclassification can send customers to the wrong department	Use confirmation prompts and easy correction paths
Personalized service	Uses prior data or customer history to tailor responses	Personalization may require sensitive data processing	Use transparent consent and data minimization
Brand differentiation	Signals innovation and inclusive digital transformation	Poor accessibility can damage reputation	Conduct accessibility audits before deployment
Agent productivity	Provides summaries, recommendations, or sentiment cues	Agents may over-rely on inaccurate AI outputs	Train agents to verify AI suggestions and override errors
Service scalability	Handles demand peaks during high-volume periods	High-volume automation may trap customers in queues or loops	Maintain human escalation thresholds for unresolved cases

4.3 Finding Three: Trust Depends on Recognition Accuracy, Transparency, and Human Escalation

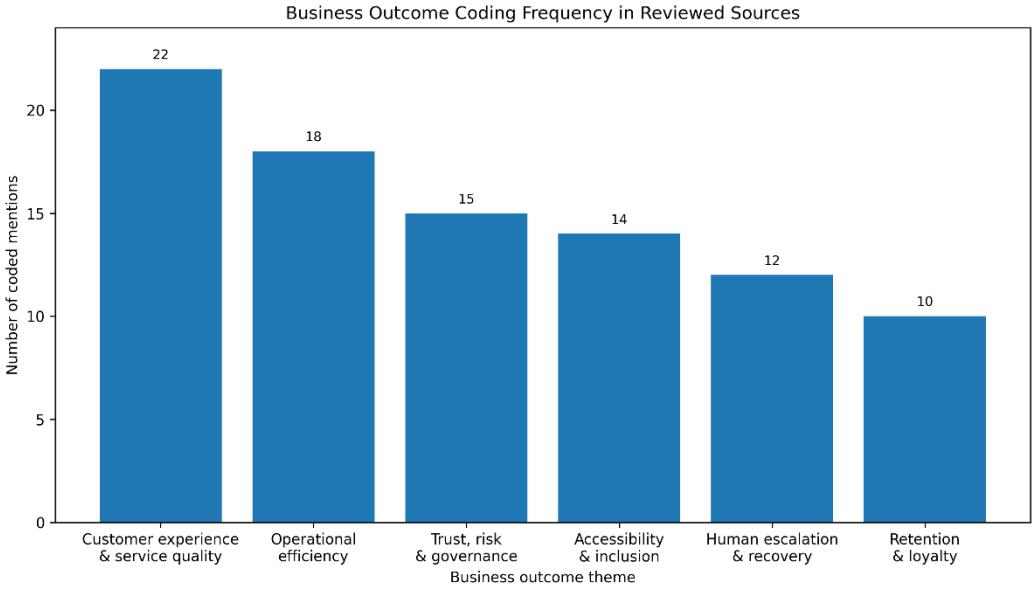
To establish trust, the accuracy and transparency of recognition must be highly accurate and there must be human escalation. The accuracy and transparency of recognition must be high, as must be the human escalation, in order to establish trust.

The third discovery is that trust plays a key part in Voice AI's effectiveness in customer support. When customers think the automated service is competent, transparent, secure, and can solve their problem, they are more likely to accept the service. But when the system misses the mark on the request, doesn't acknowledge that it's using AI, or doesn't pass the request to a human agent, trust rapidly drops. This aligns with customer-service automation studies that have revealed that customer dissatisfaction can emerge after a bot fails due to their perception that the company or the chatbot is at fault (Crolic et al., 2022).

Voice is personal and potentially identifiable, introducing additional trust issues with Voice AI. Speech can express or include signs of feelings, accent, age, morbidity, disability and identity-related features. The use of voice biometrics and sentiment analysis can enhance convenience or service prioritization, but also presents privacy, consent, and fairness concerns. It is crucial for firms to clearly communicate with customers when they use AI in interactions, explaining what data is being collected, how these recordings are processed, and how customers can choose to opt-out and contact a human agent. Along with functional performance, trust in voice-based AI is also influenced by privacy concerns, perceived social presence, and the customer's knowledge of who is responsible for the data used in creating the AI (McLean & Osei-Frimpong, 2019; Pitardi & Marriott, 2021).

Escalation is especially crucial in humans. Studies indicate that customers can accept automation for straightforward issues, but they will need a human touch for more intricate, emotional, monetary, and urgent matters. For accessibility contexts, escalation is not just a service preference, it's a safeguard. Customer speech recognition is not always recognized or understood by Voice AI, and immediate transfer to a trained human agent may need to take place to not exclude customers.

Figure 6: Business Outcome Coding Frequency in Reviewed Sources



Note. Coding counts are non-exclusive because one source could contribute to multiple business outcome themes.

The table below depicts a non-exclusive business outcome theme coding frequency from the reviewed sources (see Figure 6). The most prominent themes were customer experience/service quality, followed by operational efficiency, trust and governance, accessibility and inclusion, human escalation, and retention. The distribution shows that there is a strong link between the adoption of AI and customer experience and efficiency in the literature, while governance and accessibility are significant issues in the business world. Lower retention and loyalty rates indicate that there is a need for more empirical studies to confirm that Voice AI can directly impact long term customer relationships when it is accessible.

Table 5: Recommended Voice AI Accessibility and Business Performance Indicators

Indicator category	Example measure	Why it matters
Recognition fairness	Word error rate by accent, dialect, language, age group, and disability group	Identifies unequal speech recognition performance
Accessibility success	Percentage of customers with accessibility needs who complete tasks successfully	Measures whether the system works for diverse users
Customer effort	Number of repetitions, transfers, failed attempts, or abandoned interactions	Captures hidden friction in automated service
Escalation quality	Time to reach human support after failed automation	Prevents customers from being trapped in automation loops
First-contact resolution	Percentage of issues resolved in the first interaction	Links Voice AI to service effectiveness
Customer satisfaction	Satisfaction score after voicebot or voice-assisted service interaction	Measures perceived service quality
Trust and transparency	Customer awareness of AI use and consent clarity	Supports responsible AI and customer confidence
Privacy protection	Data retention period, consent rate, opt-out use, and complaint frequency	Reduces legal and reputational risk
Business efficiency	Cost per contact, call deflection, and agent workload reduction	Measures operational value
Service recovery	Complaint resolution after voicebot failure	Shows whether the firm can repair failed automated interactions

4.4 Finding Four: Accessible Voice AI Requires Governance, Not Only Technology Investment

The fourth discovery is that companies must have governance mechanisms in place to enable Voice AI to be used for inclusive and responsible customer support. Technology investments are not enough. While a firm can buy a voicebot or speech analytics platform, outcomes will be influenced by procurement processes, training data, testing processes, service scripts, escalation policies, privacy rules, and managerial incentives.

Governance needs to start in the lead-up to deployment. A vendor should be able to demonstrate accessibility testing, speech recognition performance with a variety of users, multilingual support, data protection measures, and compatibility with alternative service channels. Firms should keep track of the number of recognition errors, complaints, abandoned calls, escalation requests, and user feedback during deployment. Once deployed, it is important that companies regularly update the system, based on real interactions with customers and accessibility assessments.

One of the key governance challenges is that of potential "hidden exclusion". Customers that are unable to effectively use a Voice AI system can simply walk away without making a complaint. This can lead to underestimation of accessibility failures by managers. It is therefore important for organizations to gather first-hand feedback from its disabled customers and to run usability testing with a diverse group of users, not just aggregated service data.

Table 6: Critical Implementation Framework for Accessible Voice AI

Implementation stage	Key action	Business purpose	Accessibility safeguard
Strategy	Define Voice AI as a customer experience and inclusion tool, not only a cost-saving tool	Aligns technology with service goals	Prevents over-automation
Procurement	Evaluate vendors for accessibility, fairness, privacy, and multilingual performance	Reduces implementation risk	Avoids inaccessible systems
Design	Use plain language, short prompts, confirmation steps, and flexible navigation	Improves usability	Supports cognitive and linguistic accessibility
Testing	Test with customers representing different disabilities, accents, ages, and languages	Identifies service barriers before launch	Improves recognition equity
Deployment	Provide clear AI disclosure and easy human escalation	Builds trust	Protects customers when automation fails
Monitoring	Track recognition errors, abandonment, complaints, and escalation patterns	Improves performance management	Detects hidden exclusion
Improvement	Update scripts, models, and service rules based on evidence	Supports continuous service quality	Maintains accessibility over time

4.5 Overall Finding

In conclusion, the study demonstrates the potential of Voice AI as a valuable tool for supporting businesses with accessible customer support when used in an inclusive service design and governed responsibly. The best attributes are its convenience, availability, scalability, and better access for customers who prefer spoken interaction. Main challenges include imbalanced speech recognition, over-automation, privacy issues, and poor human escalation. Thus, the main finding of the results is that accessible Voice AI must be considered as a business, technological and ethical capability. Those companies that only focus on efficiency risk overstating the hidden cost of exclusion, while companies that consider accessibility as part of their Voice AI strategy can boost customer trust, service quality, and future competitiveness.

5. Managerial and Industry Implications

This review's results have far-reaching consequences for managers, customer experience leaders, contact-center directors, technology vendors, accessibility officers and policy-oriented decision makers. Voice AI shouldn't be a narrow automation initiative that's only considered a success when there's fewer calls or less labour costs. Rather, it should be treated as a strategic service capability which can impact accessibility, customer trust, operational resilience, brand reputation and customer relationships going forward. Responsible and human-centred use of AI in service management is beginning to be discussed in the literature as a combination of technical capability, designing services for AI, organizational governance, and inclusive AI outcomes for customers (Hwang et al., 2026; Tiron-Tudor & Deliu, 2026). This is especially true for customer support, as failure to provide the service can have an immediate impact on customers' access to their products, accounts, payments and benefits, to their appointments, travel, health care, and to resolving complaints.

A key management takeaway is that companies need to rethink how they view accessibility as a key attribute of Voice AI. There are still many organizations that consider accessibility to be a legal or reputational obligation and not a means of creating value

for the services they provide. But, the use of accessible voice AI can help enhance market reach, minimize service friction, build customer trust, and set the company apart in competitive areas. For instance, if it can perform its role well to help older adults, customers with visual disabilities, multilingual customers, and customers with low digital literacy, it can enhance customer satisfaction and decrease the need for expensive manual support. Meanwhile, a poorly designed system could be excluding customers that have speech impairments, complex service needs, strong accents or hearing loss. However, managers need to view accessibility as a key component of service quality and not something that is optional.

The obvious takeaway is the need for a rethinking of performance dashboards in the company. Traditional metrics of the contact center—average handling time, containment rate and cost per contact—are helpful but limited. These metrics alone can incentivize systems to not engage a human agent even when a customer needs one. This can lead to what could be termed an "efficiency illusion" that makes it look like things are getting better at the back of the house, yet they aren't necessarily improving for the customer. For this reason, companies should include accessibility and fairness metrics in Voice AI performance metrics. These can cover recognition accuracy by accent and language, whether a task is completed by the customer or not, number of utterances repeated, attempts at authentication failure, abandonment following a failure to recognise, successful human escalation, and post-interaction customer effort scores. Recent service research additionally suggests that inclusive AI needs to be considered likewise as a managerial and governance priority, particularly when firms make use of AI methods to moderate entry into customer facing services (Arici, 2026; Farjas et al., 2026).

Table 7: Managerial Action Plan for Accessible Voice AI in Customer Support

Managerial area	Recommended action	Expected business value	Risk if ignored
Strategy	Treat Voice AI as part of inclusive customer experience, not only cost reduction	Stronger service quality and brand trust	Automation may reduce cost but damage customer relationships
Procurement	Require vendors to disclose accessibility testing, speech accuracy data, and privacy safeguards	Lower implementation and reputational risk	Firm may adopt biased or inaccessible systems
Service design	Use plain prompts, short menus, confirmation steps, and alternative channels	Lower customer effort and better task completion	Customers may abandon calls or repeat requests
Data governance	Limit voice data collection, explain consent, and define retention rules	Greater customer trust and compliance readiness	Privacy concerns may damage confidence
Accessibility testing	Test systems with users of different ages, accents, disabilities, and languages	More equitable service outcomes	Hidden exclusion may remain undetected
Human escalation	Provide fast transfer to trained human agents when automation fails	Better service recovery and reduced frustration	Customers may become trapped in automation loops
Employee training	Train agents to interpret AI outputs critically and support accessibility needs	Stronger human–AI collaboration	Agents may over-rely on inaccurate AI recommendations
Monitoring	Track complaints, recognition failures, abandonment, and escalation patterns	Continuous improvement and risk detection	Management dashboards may hide service failures

Another model that companies should consider using for Voice AI customer support is the human-in-the-loop approach. Human-in-the-loop is another model which companies should consider for Voice AI Customer Support. The aim is to stop replacing human with AI, but rather to supplement AI with human agents. Voice AI works well for low-risk, repetitive, and high volume interactions like reconfirming appointments, tracking orders, resetting passwords, checking balances, and answering typical frequently asked questions. There are situations in which human agents are vital, such as when dealing with complex complaints, emotional interactions, accessibility issues, fraud concerns, financial hardship, health-related support, and where judgment or empathy is needed. There are indications that frontline staff will continue to play a key role in service quality despite the redistribution of work tasks created by AI (Jooss et al., 2025). Thus, Voice AI should be designed to complement, not supplant, human service capacity in all cases.

Industry-wise, the implications vary. Voice AI in banking and insurance can facilitate account access, identity verification, fraud alerts, and claims assistance, however the privacy, authentication and exclusion dangers are high. Voice AI can streamline workflows and offer assistance with call handling, outages, billing inquiries, and service requests, but customers might grow impatient if crucial escalations are not allowed for by automation in telecommunications and utilities. In healthcare, Voice AI can enhance the scheduling of appointments and patient support, yet accessibility, confidentiality, and consent are particularly significant. Voicebots can be used in travel and hospitality to assist with bookings and cancellations, as well as disruption management; however, when

a service fails, customers often need immediate human assistance. It is critical across sectors to align Voice AI with the level of risk and sentiment of the customer need.

Table 8 : Industry-Specific Implications of Voice AI Accessibility

Industry	Main Voice AI opportunity	Accessibility concern	Managerial priority
Banking and financial services	Voice authentication, account inquiries, fraud alerts, payment support	Failed recognition or authentication may block account access	Strong privacy controls, human override, and fairness testing
Telecommunications	Billing support, outage updates, plan changes, technical troubleshooting	High-volume automation may increase frustration during urgent issues	Fast escalation and clear issue classification
Healthcare	Appointment scheduling, medication reminders, patient support	Voice data may reveal sensitive health or disability information	Consent, confidentiality, and accessible alternatives
Retail and e-commerce	Order tracking, returns, product support, loyalty service	Voicebots may fail with complex complaints or multilingual customers	Multilingual support and service recovery design
Travel and hospitality	Booking support, cancellations, disruption updates, concierge services	Customers may need urgent help during travel disruption	Human escalation for time-sensitive issues
Public utilities	Service outages, payment plans, emergency support	Vulnerable customers may be excluded by rigid automation	Inclusive design and priority support pathways

There are duties to be taken on by technology vendors as well. Voice AI should not be sold based on efficiency, productivity or cost cuts alone by vendors. Their work should include clear and accessible reports on the performance of the system for various demographic and speech pattern populations such as accents, dialects, age, and disability; or speech patterns. Additionally, vendors should ensure that they can integrate with text channels, screen readers, relay services, live agents, and accessibility reporting tools. It is especially relevant, given many providers being bought by Voice AI companies don't have the in-house teeth to assess speech recognition accessibility and fairness concerns. This vendor transparency can then enhance the decision-making about procurement and minimize the risk of inaccessible deployment.

The review also impacts upon corporate governance. Companies need to establish cross-functional teams to lead the Voice AI initiative with people from the customer service team, IT, Legal and compliance, Accessibility, Data protection, frontline customer service representatives and customers. A purely technical implementation team might miss out on service risks, and a purely operational team might ignore privacy and fairness risks. Shared responsibility is necessary for responsible implementation. This aligns with growing debates on responsible AI usage in service sectors, where ethical, strategic, and organizational factors must all be taken into account alongside the technical deployment (Isiaku & Sheikmuse, 2026).

The companies need to engage customers in continuous improvement. While access failures may be obvious, customers that can't access a system may just not do it. Usability testing, gathering post interaction feedback, disability-complaint narratives or accessibility panels are aspects that need to be conducted in organizations. This is a way to roll out Voice AI as an ongoing path to service improvement. The companies that make Voice AI an adaptive service, an inclusive service and an accountable service will be the most successful products.

The overall management takeaway is that without adding accessibility, trust and service recovery, Voice AI can't deliver business value. Companies putting in efforts solely to cut costs can temporarily improve efficiency but end up with long-term customer dissatisfaction and risk to goodwill. By incorporating inclusive design, responsible governance and human support, firms may benefit from Voice AI to enhance operational performance and access for the customer.

6. Conclusion

This review looked at Voice AI use in customer support from a business and industry perspective to see how this technology can be used for accessibility. Based on the analysis, there is a good potential for Voice AI to transform customer support with its capacity to be more efficient, accessible, hands-free, call routing, and routine customer support that is scalable. Voice interaction might lead to fewer barriers for customers who can't easily access services through screen or text-based channels. Voice AI can therefore play a role in achieving income diversity, efficiency in business operations, and service innovation in this regard.

The review also serves to highlight, though, that Voice AI isn't an automatically available technology. Its value is based on the ability to recognise a wide range of voices, cater for a variety of customer requirements, be able to safeguard confidential data

and offer prompt human escalation. Voice AI can serve as an improvement tool for services, but error-prone speech recognition, accent and dialect bias, unable to deal with disabled speech, limited multilingual support, privacy concerns, and over-automation can lead to voice exclusion. In customer service, for instance, there are urgent, emotional, financial or essential needs involved in and associated with service interactions that make this all the more important. If users are unable to resolve the issue in the automated telephone system, this can lead to other issues or lower levels of satisfaction, loss of customers, damage to the company's reputation, or uneven distribution of customer service.

A central part of the findings of this review is that accessible Voice AI should be interpreted as an integral part of a company's business capability rather than a technical or operational instrument. Customer support firms can quantify the impact of AI in their services through metrics like call deflection rate, call containment rate, average handle time, and cost per call. These metrics alone are not enough to measure inclusive services qualities. We could add on to the list above and include recognition fairness, accessibility success, customer effort, first contact resolution, escalation quality, transparency of privacy and customer trust. It gives companies a wider sense of measurement that will better let them know when they are excluding customers and help prevent the "false illusion of efficiency" they might otherwise experience when efficiency rises but customer satisfaction drops.

The review further suggests that good governance is needed to make it successful. When designing and monitoring Voice AI systems consider involving accessibility experts, front line employees, legal and compliance staff, customer experience leaders, data protection officers and a variety of users in system design. To give sufficient support to the argument for speech recognition, vendors should give clear and unambiguous evidence about the performance of the system for the different accents, languages, age groups and disability related speech patterns. You should also have support from human agents for complex, sensitive or failed automated interactions. In this regard, one should not see the emergence of Voice AI in the customer service as a displacement of services provided by humans, but rather a hybrid model where AI accompanies and enhances accessibility and efficiency with human support as protective agents of empathy, judgment and recovery.

There are several implications to future work. It is important to have more empirical research on Voice AI's customer support experience, as it could vary between customers with various disabilities. Third, longitudinal studies across various industries are needed that compare the voicebots, text chatbots, human agents and service models that utilize both mediums. Thirdly, researchers should study if the readily available Voice AI enhances the customer retention, loyalty and brand trust overtime. Fourth, there is a need for further efforts on governance models to assess fairness, privacy, and accessibility, in the process of deployment as well as after deployment of a firm. Lastly, further research needs to be conducted into the lived experience of frontline staff, particularly when they need to provide support beyond the automated response.

In sum, with thoughtfully designed governance, user-exclusionary approaches, and performance metrics that fail to accurately capture essential AI functions – Voice AI can improve customer support. Its business significance is the creation of cost reduction, but also for greater access, trust and service to a wider variety of customers. Companies that integrate accessibility into the heart of their Voice AI rollout are more likely to foster long-term benefits in their CX practices, whereas companies that implement Voice AI primarily for automation can raise service risk and exclusion of customers.

Table 9 : Limitations and Future Research Directions

Limitation of the review	Implication	Future research direction
The review focused only on sources from 2016 to 2026.	Earlier foundational work on accessibility and service quality may be excluded.	Future studies may compare recent Voice AI research with older accessibility and service design theories.
The topic crosses multiple fields, including business, AI, accessibility, and human–computer interaction.	Relevant studies may use different terminology and may not be indexed under "Voice AI."	Future reviews may use broader database searches and bibliometric mapping.
Much industry evidence is produced by vendors or consulting firms.	Market claims may overemphasize efficiency and underreport accessibility failures.	Future research should rely on independent empirical data from firms and customers.
Few studies directly examine Voice AI accessibility in customer support.	The evidence base remains fragmented.	Future studies should test Voice AI systems with customers with disabilities in real service contexts.
The review does not conduct primary data collection.	Customer and manager perspectives are synthesized from existing literature only.	Future research may use surveys, interviews, experiments, or case studies across industries.

Funding: This research received no external funding.
Conflicts of Interest: The authors declare no conflict of interest.
ORCID iD: 0009-0008-1792-4951

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