

Artificial Intelligence: The Future of Customer Service



Executive Summary

All indications are that remote shopping and contactless customer experiences are here to stay.

This is placing an increased emphasis on superior customer service to attract and retain remote customers. Further, the global nature of business today means someone, someplace, is reaching out for help 24 hours a day, 365 days a year.

Most organizations do not have the resources to provide live customer support agents to respond to every call around the clock. As such, they are increasingly turning to technology to bridge the gap to provide at least a minimum of customer assistance outside of normal business hours.

Artificial Intelligence (AI) is at the forefront of solutions designed to ease the burden on customer service operations. Although still in its infancy, AI is a powerful tool that will transform the customer service agent's job, allowing them to focus on higher level tasks while AI handles basic customer inquiries.

This white paper will explain why AI in customer service is also here to stay. It describes several examples of AI in customer service applications, highlights the advantages – as well as several drawbacks – of augmenting live customer service teams with AI tools, and why a strong network like Astound Business Solutions is key to delivering on the promise of AI.

AI: The Customer Service Agent That Never Sleeps



It's four o'clock in the morning (somewhere) and insomniacs and early risers alike are doing their shopping and business online.

They are...

- ...having difficulty finding merchandise.**
- ...checking on the status of their order or trying to make a return.**
- ...having trouble changing a reservation or booking a room or flight.**
- ...attempting to make a payment or initiate an insurance claim.**
- ...reviewing their account history and believe they found a fraudulent purchase.**

They have questions. They may be upset or in a panic. They are your customers.

The maturation of the internet has given rise to global markets. Online stores are always open, and customers from around the world expect someone – or something – to be there to help 24x7. The sun is always shining someplace.

The problem is that most businesses, no matter how large, do not have the resources to provide live customer service agents to respond to customer inquiries around the clock, every day of the year.

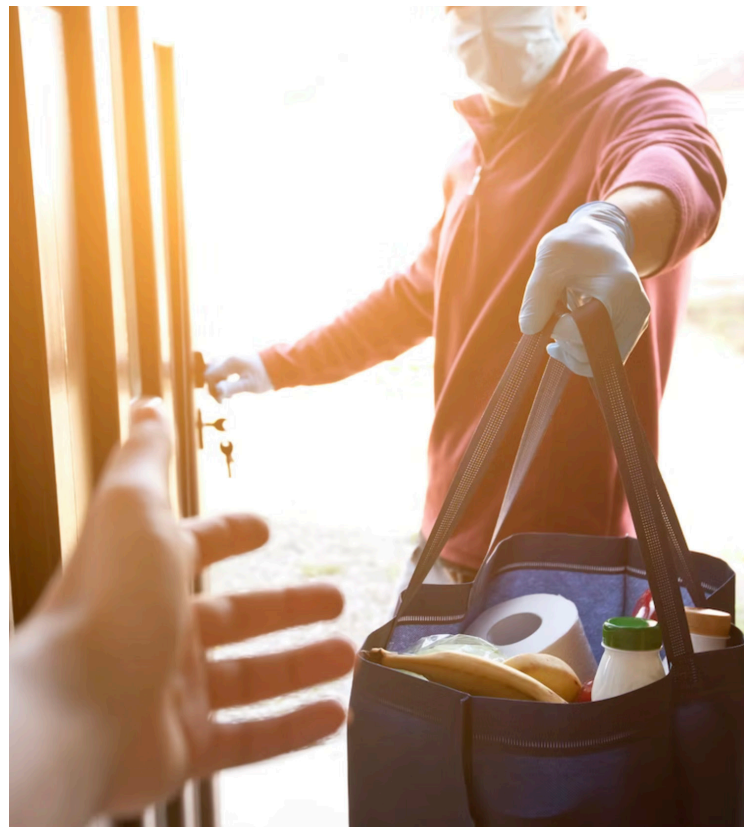
Enabling self-service through remote shopping is great. Many customers know exactly what they want, and companies do not have to incur the expenses of live customer support for those transactions. But making others wait on a lengthy hold or asking them to call back during “normal” business hours is a sure fire way to lose them. Especially when so many other businesses are eager to serve and just a click away.

Now factor in the permanent behavioral shifts forced upon us by the pandemic, and it is clear that businesses must change the ways they interact with customers.

A survey conducted by Medallia Zingle showed that prior to the pandemic, 78% of consumers said they visited businesses like grocery stores, restaurants, gyms, and beauty salons at least three times a week. Since COVID-19, that number dropped to 34% and indications are that despite the reopening of nonessential businesses and a return to the office by a growing number of employees, many consumers are continuing to exercise caution around returning to in-person interactions.¹

In fact, residual health fears and other geo-political factors will drive continued demand for contactless shopping and remote customer experiences going forward. The same survey found 87% of consumers want businesses to continue to provide delivery and curbside pickup indefinitely to reduce the need for in-person transactions.¹ Indeed these have become critical services for disabled, immunocompromised, and elderly shoppers, especially for food and drugs.

The pandemic also spurred tremendous investment and expansion in home delivery networks and vehicle fleets. Decentralized distribution centers enable the swift delivery of products ordered online, often within hours of placing the order. Many businesses have carved a competitive



advantage through the convenience of home delivery. Others are built on an entirely remote model. As a result, Amazon, FedEx, and private courier truck sightings are more common than school buses on residential streets today. And there's no going back.

IT'S A NEW DAY FOR CUSTOMER SERVICE

For many years customer service was viewed as a low priority cost center for organizations - a necessary evil to deal with unhappy customers, handle warranty claims, and manage product returns. Often outsourced, its impact on returning *customers*, however, was also often overlooked.

Nowadays, businesses have realized that it is much cheaper to invest in customer retention than go through the expensive and time-consuming process of finding new ones. Toward that end, customer service has become a major focus of investment in the past several years. Most efforts have centered on enhancing software, streamlining call center operations, improving employee training, and adding email/messaging as bi-directional communication channels to cut down on wait times and resolve calls faster.² But as markets expand so do support burdens and call volumes, and humans alone are having trouble keeping up.

AI is the Answer

Artificial intelligence (AI) is a new driver of innovation in customer service. AI is disrupting the customer service industry by making it more cost-efficient, improving customer experiences and retention levels, and making agents more productive.

AI is a marriage between machine learning models and natural language processing technology. By analyzing massive amounts of data against desired outcomes, AI is able to discern the meaning of a customer request and provide the proper link, open a support ticket, or automatically route a call to the most qualified agent, for example.²

With the progress that AI has made in recent years, including the ability to offer insights, predict customer selections, and even detect a customer's mood through keywords, it is important to understand how AI works and what it can do for your business. More than a tool to examine what has happened in the past, AI gives businesses the ability to recognize customer buying patterns in the moment using real-time intelligence.

Chances are your competitors are already exploring ways to use AI to improve their customer service. If they're not, then this is an opportunity for your business to stand out from the crowd. But adding AI is not a catch-all solution. You still need to maintain and train live customer support staff to talk to customers about issues that AI tools can't handle.³

However, you can save time, money, and resources by adding AI to your customer support toolset. In an era in which customers have ever-shorter attention spans, the fast resolution of problems and inquiries is critical to customer retention. AI tools are always available and never get tired, frustrated, or too busy to help the next customer. AI is the customer service agent that never sleeps.

AI is helping to bridge the gap between an organization's current customer service capabilities and its optimal state. This white paper identifies the ways businesses can leverage AI to improve customer service operations and the remote customer service experience.



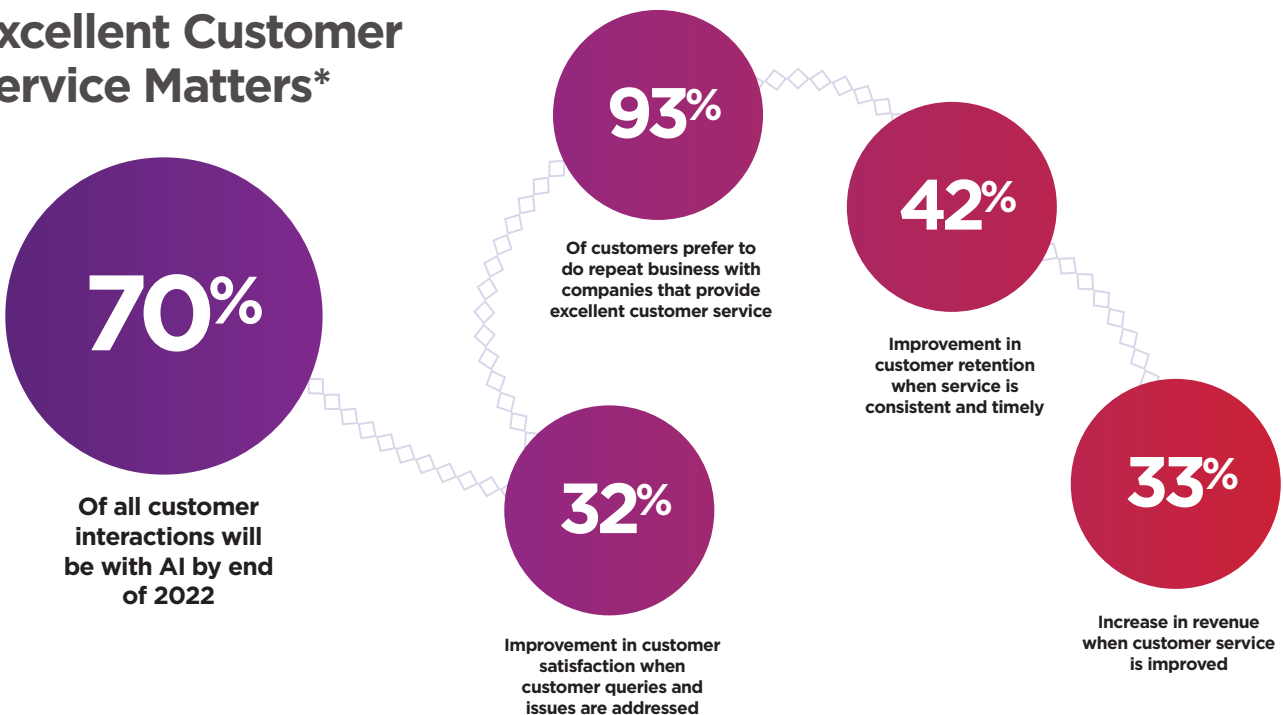
AI in the Customer Service Space

Artificial intelligence is the new frontier in innovation and the applications are limitless. AI is being used for DNA sequencing, to identify patterns in medical images undetectable to the human eye, to enable autonomous vehicles, to design next-generation drugs, to predict all types of hypothetical outcomes, manage high-frequency financial trading, create never before seen images

and artwork, and yes, to improve the customer experience. It all depends on the data sets the machine learns from, and the human-thinking conclusions it is designed to emulate.

In fact, Gartner predicted AI will be involved in handling some aspect of 70% of all customer interactions by the end 2022.⁴ Why?

Excellent Customer Service Matters*



* <https://dzone.com/articles/top-ai-driven-customer-service-trends>, by Joydeep Bhattacharya. Posted 8/23/2021

- **Modern customers are no longer basing their loyalty solely on brand name, product, or pricing.** They are greatly valuing the quality of service they receive, their experience with the company, and their level of satisfaction.
- **According to HubSpot's Research Trust Survey, 93% of customers love to make regular purchases with companies having excellent customer service.** The survey found addressing customer queries and issues can improve

satisfaction by up to 32%, customer retention up to 33%, and revenue up to 42%.⁴ AI is an enabling technology to achieve these results.

Some customer service agents are fearful AI will replace them. They need to understand that when it comes to delivering the seamless and simple experiences that keep consumers coming back, AI will **not** eliminate the need for humans in the customer service function, but it will impact their jobs.



HELLO!

Examples of AI in Customer Service

As with most technologies, there are elements to AI in customer service that are front and center for consumers to use like chatbots, and some that operate in the background they'll never see. Together, they create a more efficient customer service experience.

- **Call routing.**

Directing inbound calls to customer service agents is about more than placing callers in a hold queue, it's about connecting callers with the proper agent. AI uses intelligent automation to route inbound conversations based on the caller's native language, contact type, lifetime order value, or previous contact history, thereby ensuring the best agent is always assigned to each call for maximum customer satisfaction. In fact, the Dialpad survey found the most common use for AI in customer service today is routing inbound inquiries.⁶ Callers may not even be aware AI is being used to streamline response.

AI is capable of bi-directional human-like communications that pinpoint a customer's exact needs and decision-making drivers. Advances in AI allow it to assess language and tone in a conversation using keywords to determine if a caller is happy or upset. By monitoring sentiment, agents can adapt their approach to provide better, more empathetic service when they get on the line.¹

Further, not every call or contact needs to result in a conversation with a live agent. Imagine how much time could be saved if the AI system could instantly find the data customers were searching for, like a current account balance or pointing them to a self-help URL without any human intervention.

- **Information intake.**

The second most popular application for AI according to the Dialpad survey was "processing customer inquiries to determine needs or intent." In other words, AI is being used to

manage the initial intake of customer data to determine the scope of a problem, narrow the search for a suitable product or service, or capture critical customer information to initiate a support ticket or warranty claim.⁶

- **Feedback analysis.**

AI is used to quickly tabulate results and generate insights from customer surveys and feedback from social media posts. This data can be used to identify trends to serve consumers better, which products and services to add to the marketing mix, and to help resolve any pain points in their customer service experience.¹

- **Customer Relationship Management (CRM).**

Many large sales organizations use CRM software tools to manage their interactions and monitor the sales lifecycle of clients. When databases get too unwieldy for humans alone to manage, AI tools can parse the data collected by entire salesforces to reveal buying patterns, trends, and when to reach out to individual customers.¹

- **Chatbots & virtual assistants.**

The consumer-facing side of AI in customer service, these are the automated apps that pop up on a PC asking if you need assistance finding a product or information. AI-driven chatbots use language algorithms and keywords to recognize and answer customer inquiries. At present, most chatbots and virtual assistants cannot answer high-level questions, but they can execute basic functions such as providing pricing information or directing customers to related knowledge bases. These tools offer assistance at the consumers' convenience (especially for those 4:00 a.m. shoppers) and are a fraction of the cost of a live customer service agent.⁴

- **Automated messaging response.**

Overwhelmed or understaffed customer service teams may take hours, days, or weeks to respond to a customer inquiry. AI-based automated email and text messaging response tools can send smart replies to consumers in seconds, like matching a tracking number for an accurate delivery ETA, confirming the opening of a service ticket, or composing intelligent answers to customer inquiries without human assistance. AI assures customers that their message has been received and action is being taken while removing the potential of human error and delays in the response.⁴



10 Advantages of AI for Customer Service

AI will transform the role of customer service agents. Instead of wasting time on low level activities, customer service agents will now have a hugely important job: building deeper relationships with customers. AI will relieve the stress of overloaded call center employees and customer service representatives by taking over repetitive menial tasks such as information gathering, call routing, and answering simple information requests, leaving agents free to handle more pressing issues, such as difficult problem solving and data mining for new insights.⁵

Organizations are focusing on customer satisfaction now more than ever and AI has started to play a major role. AI-based chatbots, emails, and automated systems are incredibly enhancing the customer experience with their accuracy, promptness, advanced data analysis, and high reliability. AI is still in its infancy and there are a lot of challenges ahead, yet it has already fundamentally changed the customer service experience. Here are ten ways how:

1 24/7/365 availability.

AI tools like chatbots and virtual assistants are always available, never sleep or take vacation, and do not require constant monitoring. AI chatbots only need to be trained once and can learn as they go.² Virtual assistants are a great alternative for customers when they need help outside of call center operation hours.

2 Enables self-service.

Customers can connect with a business, get answers to straightforward questions, and leave satisfied – without having to talk to a person if they don't want to – relieving a portion of the burden on live agents.

According to Harvard Business Review, 81% of customers try self-service before reaching out to speak to someone.⁶ Once a customer problem becomes too difficult for a chatbot to solve, it can then escalate the call to a live agent.²

3 Automates pre-interaction tasks.

AI sets calls up for a positive customer experience by helping to identify issues and gather as much information as possible before engaging a customer service agent. This makes agents more productive and problem resolution faster by skipping basic fact finding.



AI is enabling customer service agents to spend more time on the most complex issues that can only be solved by humans”

Further, rather than dumping the call into a general hold queue to wait for the next available agent, once the issue is identified AI can match the call or support ticket to the most qualified agent to handle the problem based on topic, priority, language, or customer sentiment. Better pairings of issue to agent lead to higher customer satisfaction, faster problem resolution, as well as higher agent job satisfaction.²

4 Automates repetitive tasks.

By automating routine tasks, AI is enabling customer service agents to spend more time

on the most complex issues that can only be solved by humans as opposed to repeating the same simple answers to the same basic questions that a chatbot could do for the agent.²

According to the Dialpad survey, many customer service professionals say that basic questions like “what’s my user number?” or “what’s my account balance?” make up at least 26 to 50 percent of the questions that agents get. Over 20 percent of respondents said “simple requests” make up 50 to 75 percent (or more) of their daily workload.⁶

5 Gauging customer sentiment.

As mentioned, improvements in natural language processing technology allow AI to judge customer emotions using keywords and tone to determine if they are angry or upset, for example, and use that information to prioritize problem resolution.^{2,7}

6 Improves agent performance.

AI tools can monitor agent behaviors while on a call, and automatically pull up product information or scripted responses for the agent based on the topic being discussed, and even display messages on screen in real-time such as, “you’re talking too fast.”⁶

AI can fill in forms automatically to eliminate cut and paste activities and data entry errors, launch an application, or recommend a different knowledge base to allow agents to respond to customer queries more seamlessly.⁷

7 Accurate real-time call transcriptions.

Live transcriptions allow managers to keep an eye on multiple agents’ calls simultaneously. Transcriptions also serve as records of customer conversations and reveal buying patterns. They are excellent for training, building customer histories and profiles, and for security purposes.⁶

In multi-touch experiences in which the customer calls several times regarding the same issue, the responding agent can quickly review a transcription of a previous conversation.

8 Customer insight and prediction.

The data collected from customer interactions can be analyzed to obtain insights into customer buying patterns and behaviors. More than just a cost-cutting tool, AI can make product recommendations based on past purchases, subjectively offer incentives to premier customers to boost sales and revenue, personalize communications to build more intimate relationships, and fine tune the product mix to attract repeat customers.⁸

9 Process improvement for cost reduction.

While AI automates routine customer service activities and frees live agents to perform higher value tasks, automation also lowers the cost of operations. Chatbots and virtual assistants are less expensive than live customer service agents, do not require overtime pay or benefits, and can eliminate or minimize the need for multiple shifts of customer service agents working around the clock.⁸

10 Customer service agent metrics.

AI can help measure and rank the performance of agents against management benchmarks such as call duration, call volume, topic, revenue generation, outcome, etc. Analyzing this data can also help with workforce forecasting and scheduling demands, like when to bring in more agents during peak travel or shopping periods, for example.⁶



The Drawbacks of AI in Customer Service⁶

Not everyone loves AI. For transparency, here are few reasons why some consumers, customer service agents, and businesses are still wary of AI:

- Some customers, especially the elderly, find AI impersonal and prefer to speak to a live agent. They need information repeated or explained slowly.
- Some customers get frustrated or confused by Interactive Voice Response (IVR) technology and will abandon the call if instructions are unclear, if there are too many choices, or if it takes too long to navigate to a live agent.
- Customers with hearing or comprehension issues may not be able to keep up with choices, may enter a wrong selection, or may not be able to articulate the proper response due to accent or language barriers to drive the call forward, leading to the call being routed improperly.
- Customer service agents fear AI will put their jobs at risk of being replaced by a robot.
- Agents fear the technology will be misused by managers who monitor their calls to spy on them and unfairly scrutinize job performance.
- Some businesses feel their product or service is too unique, exclusive, or has too many variables for AI and requires a live customer agent to answer every call.
- Some businesses believe AI is too expensive or is not advanced enough at this point to execute as promised.

Most of these issues are driven by a misunderstanding of the technology and will diminish over time as AI matures and continues to prove itself as a reliable augmentation to live customer service agents. We've barely scratched the surface of what AI can really do, and it will probably take a decade or more for the full potential of AI in customer service to be realized. But its power and potential are undeniable, and its path is inevitable.²

AI Requires A Strong Network

The concept behind AI is to enable a machine to emulate human thinking; using reasoning and input from surrounding conditions to learn and arrive at the same conclusion as you might. Only AI can do it a thousand times faster.

The key to effective AI lies in the data sets used to train the machine to predict outcomes and desired responses. Theoretically, you could build an AI solution to perform any given task if you feed it the right set of behavioral parameters, from forecasting the weather to diagnosing brain tumors. And we are.

The thing is those data sets are vast and require high performance computing (HPC) assets with huge amounts of storage. These solutions use terms like *hyperconverged infrastructure*, *Kubernetes*, *containers*, *multi-core processors*, and *hypervisors* to process petabytes of data in real-time to enable AI. (But that is a topic for another paper).

Think about autonomous vehicle driving, one of the most widely recognized applications for AI.

Thousands of sensors on each vehicle collect millions of data points every second. That information is used to draw a picture of the environment around it to safely stay between the lines, avoid people and obstacles, sense traffic and weather conditions to control speed, and obey traffic signals. That information doesn't just stay in the vehicle; it is communicated over a 5G wireless network to corporate servers that log activity and tell the vehicle what to do next.

Without a reliable network backbone in place, those cars would be incapable of autonomous driving.

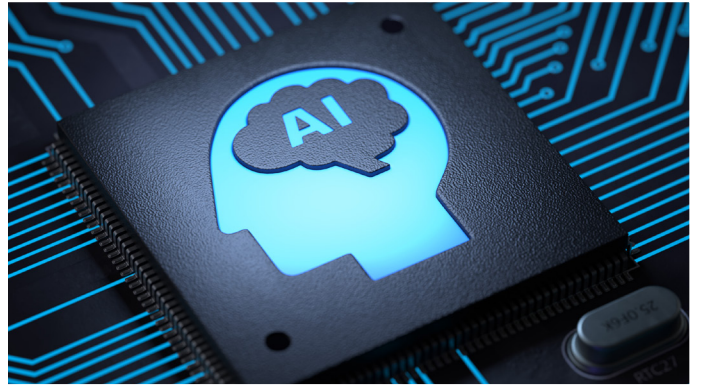
The same principle applies to AI in customer service. With customers reaching out to businesses for help from all over the globe, in different languages, using a variety of wired and wireless devices, connecting across multiple carriers, at all hours of the day and night, using a mix of text, voice, and video channels, reliable network performance is critical.

AI needs a fast network to be able to answer customer inquiries in real time, route calls to the proper agent without lengthy holds, reach out to other connected knowledge bases to locate the right model number or replacement part in milliseconds, and enable bi-directional communications which allows AI to discern a customer's meaning and emotions to present accurate answers based on interpreted data.

Granted, businesses are always going to need educated, trained, and courteous customer service agents, but integrating AI into their operations will make agents better at what they do.



Maximize your Investment in AI with Astound



Taking maximum advantage of AI requires a strong, resilient voice and data network. That's where **Astound Business Solutions** comes in. Great customer service needs great AI with a network that operates faster than the speed of human thought behind it.

Astound Business Solutions offers the network solutions to ensure the effective use of AI throughout all of your customer service centers and across all customer connections. Astound's modern **fiber-rich network stretches across 12**

states, taps into **over 100 data centers** across the country, and **serves eight of the top ten U.S. metropolitan markets**, so we can connect your customers to your AI-assisted customer service agents from virtually anywhere at the speed of light.

Contact an Astound representative to learn how our coast-to-coast fiber-optic network can maximize your investment in AI technology and deliver the best customer service experience possible.

Sources & Acknowledgements

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