

Bots, Assistants, and AIs: What Roles Do They Play in Customer Communication?



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Automation in customer communication has long been a tempting prospect. From IVRs to newsletters to marketing automation systems, the results have often been mixed. Bots, AIs, and virtual assistants are no different.



While they'll undoubtedly improve the customer experience for some, others will be frustrated. And there'll be companies who not only save millions but win entirely new markets, while others realize that automation done well might just take more effort than anything they did before.

In this first of our series looking at the fundamentals of automation in customer communication, we'll clear up some of the terminology.

And, if you're confused by names such as chatbots, AI, and virtual assistant, don't worry. They're often used interchangeably, despite their differences. Comparing bots to AIs to virtual assistants is not merely an apples-to-oranges problem, it's an apples-to-the-idea-of-apples kind of problem.

So, if you plan to make automated communication part of your customer communication strategy, read on to learn the difference between chatbots, AIs, and virtual assistants.

Bots: Automated Response Tools

“Bot” is a term so freely tossed around that we’ve muddled the word’s meaning. But understanding what counts as a bot will help us to define chatbots.

Let’s break away from industry hype and define a bot like this: **a bot is a digital tool that runs tasks in response to triggers**. Period, end of sentence. Whether it’s backed by an AI or a decision tree, delivered via Facebook Messenger, or running on a voice-powered digital assistant, is irrelevant to the description: it’s a tool that performs tasks as an automated response.

When it comes to communication, this definition arguably covers chatbots, virtual assistants, and more. That leaves plenty of room for ambiguity. Powerful AI-based customer service assistants find themselves in the same category as simple rule-based chatbots. Often, the tech deployed fails to live up to its promise.

In the context of customer communication, bots usually sit in chat windows or behind an SMS number. They use simple natural language processing to parse sentences and pick out keywords. True to its nature as a bot, a chatbot will then respond in a predefined way to certain trigger words or phrases. If they’re really good, they might be able to draw on a broader context such as past conversations and customer records.

So, does that mean bots are not AIs? Let’s see.

Als: Algorithmic Learners

An artificial intelligence is—at its core—a **a collection of algorithms**. And an algorithm is merely a mathematical formula that accepts input and produces output. The key difference between an artificially-intelligent algorithm and one that simply crunches numbers is this: if you provide a regular algorithm with the same input then it will produce the same output every single time. Als, on the other hand, can learn and so are capable of changing the response they provide even if the input appears to remain the same. (Arguably, the input does not stay the same; it’s just that the AI is choosing from a broader range of input than only what is given at the time it goes into action).

Think about our chatbot. Does it respond the same way each time it parses, “Tell me movie times for this evening,” or is it capable of changing its response as new information comes to light? For example, if the chatbot learns that you prefer thrillers, as opposed to romantic comedies and so lists those first, then arguably it’s using AI.

Much like a natural intelligence—a puppy, for example—Als tend to know nothing or very little to begin with. To start with, Als need to be taken through example scenarios and encouraged to make the right choices. Yes, just like pets, Als must be trained. But unlike pets, we needn’t cuddle Als or give them treats—however, world-dominating super Als in 2056 might go easier on humanity if we are super nice to them now. Just kidding (there will be no mercy).

But if Als are merely electronic puppies, what’s their role when it comes to chatbots? Rather than thinking of the term AI as interchangeable with chatbot, we need to understand that the best chatbots are collectives of technologies where the human-to-machine interface is but one layer. And in this patchwork of tech, AI plays a role in some and none in others.

For example, Amazon’s trainable Lex bot service is powered by two advanced forms of artificial intelligence known as neural networks. These networks, ASR (automatic speech recognition) and NLU (natural language understanding)—the next step up from NLP—are trained on thousands of voice and text samples in multiple languages. They convert voice to text, and then text into meaning that software can act upon. But these are just two parts of the puzzle.

The parts that “talk” to our backends to submit a work order or fire off an email are built on standard software communication techniques: HTTP protocols, APIs, and good old fashioned boring algorithms. However, when we combine the idea of bots, virtual assistants, and Als, they deliver incredible results to businesses and customers.

Virtual Assistants: Liaisons to Interconnected Services

According to one study, 47.3 million Americans have access to a smart speaker as of March 2018, and smart speaker adoption continues to grow. That same source estimates that by the end of this year, smart speakers will reach a worldwide install base of 100 million. So, what is it that makes these devices so attractive?

The virtual assistants found on our speakers and smart devices are but one type of virtual assistant, designed to respond to general-purpose requests and integrate with third-party services. However, a virtual assistant is any **contextually-aware tapestry of services that responds to natural language commands**. Assistants interpret or map commands to process work, offer replies, and perform tasks.

However, virtual assistants are not restricted to a device, mobile software platform, or even to general purpose requests. As in the example cited earlier, customers book travel and more through Amtrak's Ask Julie virtual assistant directly through Amtrak's webpage, and they file insurance claims with Lemonade by chatting with AI Jim.

Under the broad bot umbrella, virtual assistants are arguably a form of bot but they exceed that basic category because not only can they perform work on the user's behalf—create appointments, set reminders, turn off lights, and soon speak to other humans—but they learn as they go. A chatbot is, most often, limited in scope. A virtual assistant brings together huge numbers of services and bundles them into an autodidactic, natural language-powered interface.

Okay, here's what we've learned so far:

- A bot can be anything under the automated-response sun.
- An AI is a collection of algorithms that learn for themselves.
- A virtual assistant is an interconnected web of technologies.

The question now is how best can you use them in customer communication?

Bots, AIs, and Assistants in Automated Customer Communication

As in all customer communication, there's a fine line to tread between operational efficiency and providing the right level of service. As customer service becomes a differentiator, how can automated technologies help get the balance right?

Chatbots, AIs, and virtual assistants each have a role to play. Arguably, they're all part of the same story and should be indistinguishable as far as the customer is concerned. The chatbot on your website should be powered by the same AI as your Alexa skill, for example, and have access to all the same conversational and account history as a human agent working in your contact center.

Let's look at each in turn to see where they fit in customer communication strategy.

Understand What Bots Can—and Can't—Do

Today's chatbot technology tends to be very limited. So, before we consider deploying a chatbot, we need to know what those limits mean for the customer experience.

For example, does the chatbot require an exact text match before it can offer a response or is it capable of parsing natural language? If so, how well does it respond to that natural language? Can it handle unusual customer requests, or does it get stuck on anything more complex than “show me my billing statement?”

Most importantly, can the bot hand off a conversation to a human when necessary? Can it perform work (like a virtual assistant) or can it merely present already known information?

We must ask these questions and more because what customers and vendors think of as bots varies so widely. Arguably, a chatbot could be anything between an automated out-of-office reply right through to a cloud-backed virtual assistant with a voice UI.

Managing those expectations will decide whether a chatbot improves or harms your customer experience.

Put Your Virtual Assistants Virtually Everywhere

Your virtual assistant strategy breaks down into two main considerations. First, there’s how you should be targeting smart device platforms, such as Amazon’s Alexa. Then, there’s the question of how these technologies integrate with your existing customer communication channels.

Let’s look at the smart device platforms first. You can think of these almost as a proving ground. Creating Alexa Skills or Google Actions will allow you to experiment somewhat with what your customers find valuable, allowing you to adjust and iterate until you get the UI right. That’s not to say that we’re in a Wild West situation like the early web: first impressions will count here in ways that they didn’t in the web of the mid-90s.

But the real game here is not just to target one or two third-party platforms: it is to create a virtual assistant that spans every single contact point you have with customers. In 10 years, imagine an AI-powered virtual assistant that takes care of your customers as part of an ongoing conversation across WhatsApp, voice calling, email, and more.

Where Does That Leave AIs?

We can see how bots and AIs fit as touchpoints in a customer communication strategy but AIs have a much more “behind the scenes” role.

As we’ve seen, AIs are algorithms that have a voracious appetite for data and they use that data to learn for themselves. A mature customer service organization has years’ worth of customer communication data. Using an AI-powered tool, it is already possible to trawl through thousands of hours of customer calls, gigabytes of emails and libraries’ worth of messages to spot trends, analyze what leads to good or bad outcomes, and so on.

AI is also at the heart of enabling virtual assistants, and the best bots, to communicate naturally and to appreciate the sometimes messy context that comes along with many human requests.

The role of artificial intelligence in customer communication will be, for the time being, as an enabler. It makes things faster, easier, and maybe even cheaper. It will provide insights that would be simply too hard, or too expensive, for humans to discover alone.

Automation Technology	What They Are	What They Aren't (Yet)	Implementation Tips
 Bots	A digital tool that runs tasks in response to triggers	R2D2	Understand their limitations to set realistic expectations with customers.
 Virtual Assistants	An interconnected web of services that responds to natural language commands	Samantha, the operating system from Her	Determine which smart device platforms you'll target but plan for coverage at every customer touchpoint.
 Artificial Intelligence	A collection of algorithms that have the capacity to learn	HAL 9000 from 2001: A Space Odyssey	Don't conflate AI and chatbots. Apply AI only to the bots where they enhance the customer experience.

Don't Forget Real, Live Human Beings

Today, none of these technologies can replace human interaction.

Again, it's about setting and understanding expectations. In a world where self-service is becoming more common, customers tend to get in touch with customer service because they need another human to help them. If a customer *thinks* they're speaking to a human, but they're actually dealing with an unsophisticated bot, then that has the potential to do greater harm than any money it might save.

While we're still in a period of establishing cultural norms around interacting with non-human agents, and bringing the technology up to speed, there's a baseline solution that needs to be present in any implementation: the "speak to a representative" option.

While we might be working towards a future where technology can augment and, in some cases, replace human-reliant customer service, there's no denying that, when frustrated, people still prefer to speak to other people who empathize with their concerns rather than uncaring machines that have been built to mimic empathy.

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