

human vs. machines:

how to stop your virtual agent from lagging behind

When planned and executed well,
virtual agents can deliver business
and customer value

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A commissioned study conducted
by Forrester Consulting.



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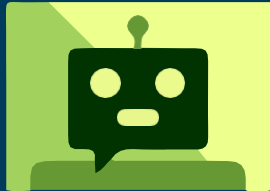
Contributing Research:

Forrester's Customer Experience
research group

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81% of communication and media service providers are leveraging AI solutions to improve customer services and build their own solutions on top of customer service platforms.

Executive Summary

A rise in chatbots, voice-based assistants, and more intelligent systems has fueled company interest in leveraging these tools fueled by artificial intelligence (AI) to enhance their digital customer interactions. AI-powered virtual agents/chatbots are an immediate opportunity to pursue across all industries, including telecom. Yet despite their ability to field thousands of requests quickly, launching a virtual agent alone isn't a silver bullet for success. This engagement channel is still relatively new and only just gaining acceptance from customers across the globe. Despite the enormous potential, businesses must overcome several hurdles in its implementation. This transformative capability will not only help prepare customers to win, serve, and retain customers, but will also determine who will get there first and who will do it right and best.

In July 2017, Amdocs commissioned Forrester Consulting to understand the synergies — and disparities/differences — between communication and media service providers and consumer expectations with regards to nonhuman engagement solutions, specifically virtual agents. To explore this, Forrester developed a hypothesis that tested how well communication and media service providers are meeting customer expectations by leveraging AI-powered solutions to provide instant and relevant answers and offers within the consumer's channel of choice.

Forrester conducted a quantitative survey of consumers and senior decision makers from the world's top communication and media service companies across 12 countries in the Americas, Europe, and Asia. An equal mix of over 7,220 female and male consumers between the ages of 18 to 74 were surveyed, as well as 31 service provider executives from tier-1 mobile, fixed-line, internet, and TV/Cable services. Nearly half (45%) were C-level personnel.

KEY FINDINGS

- › **Humans directly influence how an AI system works.** AI staff select the data and the algorithms, and it's this same staff who train and fine-tune the models moving forward. Ignoring this principle will have unintended and negative consequences, so it is critical to have realistic expectations about what's available out of the box and to instead feed the system with your existing data.
- › **Develop your AI talent strategy.** No organization will have all the required skills to develop and enhance the AI-powered tools like virtual agents. It's therefore mission critical to recruit, develop, and hone AI specialists to get the most out of their skills.
- › **Brands cannot reach their AI goals alone.** We're in the early days of AI-infused customer service solutions, and vendors are starting to incorporate these scenarios with varying degrees of success.

AI-Powered Assistants Are Here, And They're Fueling Customer Expectations

Artificial intelligence, the theory and capabilities that strive to mimic human intelligence through experience and learning, is becoming more prevalent in our daily lives in the form of voice-powered digital assistants (e.g., Amazon's Alexa, Microsoft's Cortana, Apple's Siri, or Google's Assistant), recommendation engines, and so forth.

CUSTOMERS INCREASINGLY USE VIRTUAL ASSISTANTS

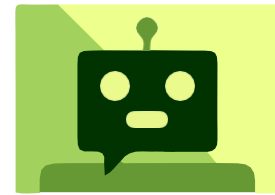
Today, consumers are already engaging in automated conversations with virtual assistants powered by voice recognition and AI. Virtual assistants provide answers to the consumer searching for a single answer or solution. In other words, virtual assistants enable meaningful ongoing interactions like ordering products or services, finding out the weather, adding reminders, and asking general questions to help consumers in their moment of need. Conversational interfaces such as these not only enable consumers to talk to the virtual assistant, but they also act as interfaces for brands to listen to consumers.

TELECOM CUSTOMER SERVICE TEAMS HAVE STARTED TO SEIZE THIS OPPORTUNITY

In the age of the customer, good customer service, a cornerstone of a company's customer experience (CX) strategy, must provide the capability to deliver exceptionally good customer interactions. How does a company gauge its customer experience? Across three key tenants: ease, efficiency, and emotion. And organizations that deliver a good CX tend to retain more of their customers, get more incremental purchases from them, and attract new customers through positive word-of-mouth testimonials — all attributes that have a quantifiable impact on top-line revenue. Forrester's research shows there is a direct link between a positive customer experience and revenue (i.e., a customer buys more if they retain their business with the company).¹

As customer familiarity with virtual assistants and their expectations of customer service teams continue to rise, call centers have honed in on emerging technology that promises to deliver on easy and efficient interactions.

The telecommunications industry has started to use AI to take its digital transformation strategy to the next level. Why? AI has the capabilities to provide differentiated customer experiences in addition to all-around process improvements across all aspects of the business. In fact, Forrester's Business Technographics data shows that AI is being invested in by 65% of the telecommunications industry to create and deliver better customer experiences or gain better customer insights, with 80% planning to implement, expand, or upgrade their AI tools within the next 12 months.² AI-powered tools such as virtual agents help customer service departments overcome repetitive, simple (yet laborious), and predictable tasks autonomously like billing inquiries, repairs, or troubleshooting. And they can do so at above-human speed: a call center could use virtual agents to intelligently answer thousands of requests at any time. This ultimately delivers better customer experiences as they get answers faster and their time is valued.



FOR THE PURPOSE OF THIS RESEARCH, A VIRTUAL AGENT IS DEFINED AS:

An avatar or computer that simulates a customer service conversation with a live person leveraging artificial intelligence technology intended to streamline tasks by allowing users to engage more naturally through language.

Note: The terms virtual agent and chatbot are by definition the same thing. For consistency, we have used the term virtual agents throughout the paper.

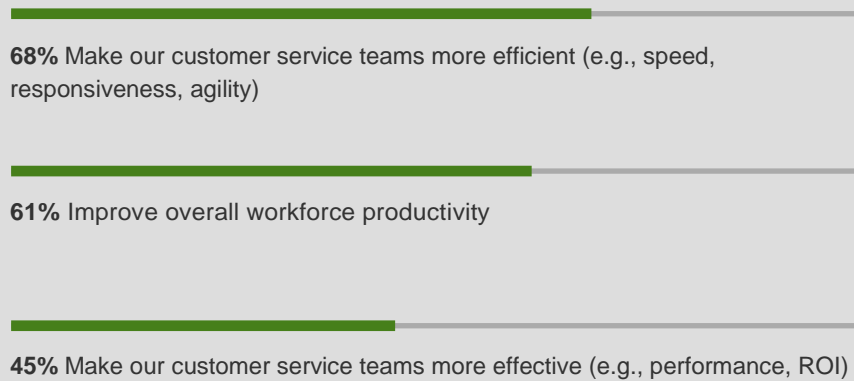
FOR THE PURPOSE OF THIS RESEARCH, A DIGITAL ASSISTANT IS DEFINED AS:

A voice-based application program that understands natural human language and performs tasks for the end user (i.e., the weather for today).

- › In fact, the study revealed several benefits:
- › **AI-powered tools will make current roles more effective.** Although 67% of consumers believe their communication and media service providers are investing in AI to cut costs and increase profits, 36% of communication and media service providers also believe investment in AI is occurring to replace jobs. However, communication and media service providers invest in AI capabilities to make their customer service teams more efficient (68%) and effective (45%). Firms understand they need more than just AI technology; acquiring AI talent is another top priority to release the full potential of AI-powered tools. In other words, AI systems are only as good as the people that program them and the data they feed them.
- › **AI-powered tools provide all-around improvements.** Communication and media service providers that are planning to invest or have already invested in AI capabilities are doing so not only to engage with customers, but also to improve various operational practices like increasing efficiency (68%), improving workforce productivity (61%), and making customer service teams more effective (see Figure 1).

Figure 1

“What do you plan to gain from leveraging AI capabilities to engage with customers?”



67% of consumers believe communication and media service providers are investing in AI to reduce costs and cut jobs, when in fact they’re investing in AI to improve customer satisfaction levels and their back office, in order to improve the level of CX.

Base: 31 communication service providers around the globe
 Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

DIGITAL ASSISTANTS HAVE ENHANCED CONSUMER EXPECTATIONS FROM BRANDS

Digital assistants, an application or software that can understand natural human language and complete tasks for the end user, have quickly emerged and gained popularity over the past few years and show no signs of slowing down. In our survey, we asked consumers to rank their interactions with sophisticated digital assistants; the survey found the following (see Figure 2):

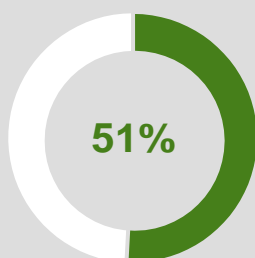
- › **Consumers expect digital assistants to become commonplace and essential.** Half (51%) of consumers said that interaction with digital assistants is increasingly becoming part of everyday life and that they can imagine it becoming essential to many tasks within the next five years.
- › **Consumers have heightened expectations of interactions.** Digital assistants are still some ways away from completely replacing human interactions, but half of consumers stated that they have already raised the customer's expectations for their interactions with online customer service teams.
- › **The role of virtual agents in their lives will expand.** Just under half (48%) of consumers believe their interactions with voice-based digital assistants (Microsoft Cortana, Amazon Alexa, etc.) have made them more comfortable with the idea of AI dealing with their personal needs; because of this, they are more open to presenting queries to virtual agents.

51% of consumers are interacting with virtual agents at least once every two weeks.

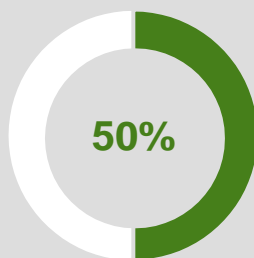
Figure 2

“To what extent do you agree/disagree with the following statements regarding interaction with sophisticated digital assistants such as Amazon Alexa, Google Now, and Apple Siri?”

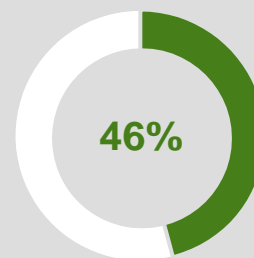
(Showing top 3 only)



Ranked 1: Such interactions are increasingly part of my everyday life, and I can imagine them becoming essential to many tasks within the next five years.



Ranked 2: Such interactions has greatly increased my expectations for online customer service.



Ranked 3: Such interactions have made me feel more comfortable with the idea of AI and robotics dealing with my personal need for communication services.

Base: 7,220 consumers ages 18 to 74 from around the world who have used customer support services from communication service providers (i.e., phone, email, virtual agents) in the past 12 months

Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

AI-Powered Customer Service Is Poised To Transform The Customer Experience

When consumers interact with a brand's customer service department, they state that they want at least one of three needs to be met: feeling unique, having the power to choose, and being valued. The survey found consumers want (see Figure 3):

- › **To be the center of the brand's world.** Ultimately, how consumers feel about their experiences with a firm can damage or improve their perception of the overall brand, so it is important for organizations to connect with them on an emotional level. Why? Emotion is the engine that drives customer retention, enrichment, and advocacy. It is no surprise then that 45% said the most important aspect of contacting a customer service department is being treated as a "valued customer."
- › **To hold the power to choose and liaise with brands using multiple channels.** Today's empowered customers expect and demand easy, effective experiences. Web and mobile self-services have unseated the phone as the first point of contact for customer service. This new precedent is further amplifying their expectations when liaising with a customer service department. This means that consumers want seamless and consistent CX regardless of which channels they use (44%) whilst getting their query resolved quickly (39%).
- › **The experience of more personal support.** Forrester's research also shows that quickly resolving issues and providing personalized support increases customer interactions, which is exactly what our survey found; consumers want personal support, and the level of personal support they receive matters (41%).³ One of the most important things a brand can do is to provide consumers with good online customer service: 66% of consumers said that valuing their time is most important to them.⁴



HUMAN AGENTS STILL OUTPERFORM VIRTUAL AGENTS — BUT VIRTUAL AGENTS ARE QUICKLY CATCHING UP

A confluence of factors — from messaging platforms emerging as the communication choice for today's smartphone generation to advancements in AI — have made virtual agents more viable than ever.

However, when exploring the satisfaction levels of consumers when interacting with their communication and media service provider, a phone call with an agent is still predominantly used and rated higher than any other type of communication, with 71% of respondents satisfied.

When comparing human agents to virtual agents, consumers expect human agents to be faster and easier to communicate with and to deliver more comprehensive information and showcase more personality.

39% of consumers know when they interact with virtual agents since the agent does not respond or act in a way a human would.

However, this is understandable since AI platforms are still in the early stages, and overly complex experiences and needs will often leave consumers feeling disappointed since these systems struggle to understand human context and intention. In fact, when given a choice, 83% of consumers said they prefer to speak to a human agent since they can better understand their needs and their emotions (see Figure 4).

› **Communication and media service providers often emphasize consistency and resolution times when delivering customer service.** By adopting virtual agents, organizations are addressing just that when consumers interact with virtual agents during a visit on the website (62%) or on an online chat service through a desktop browser (60%).

› **Smartphone communication is being adopted by consumers at an unprecedented pace.** Consumers are also contacting customer service departments by using an online chat service through their mobile app (55%) and through social media channels (51%). In other words, virtual agents support the tenants of good CX: ease and effectiveness since they deliver quick-hit information like account details and promotions and provide shortcuts to tutorials at the consumer's fingertips via multiple channels.

› **Consumers have high expectations for the ever-increasing speed of digitally delivered information to suit them when they want, wherever they want.** Although only 17% of consumers said they prefer to interact with virtual agents when given a choice, it was because of sheer convenience and speed: 49% said their query is sorted out more quickly, they're able to resolve issues at any time (40%,) and they can avoid queue times on the call (36%).

› **Virtual agents perform well and improve customer experiences.** A reduction in handle time for agent-assisted support by managing some conversations through a virtual agent indicates how useful virtual agents can be and why they're highly touted and used by service providers. By automating processes (32%), virtual agents deliver excellent customer experiences, and by expanding self-service to emerging channels such as mobile apps (61%), they enable customers to reach the customer service department at their own convenience and channel.

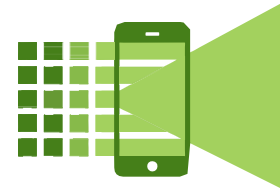
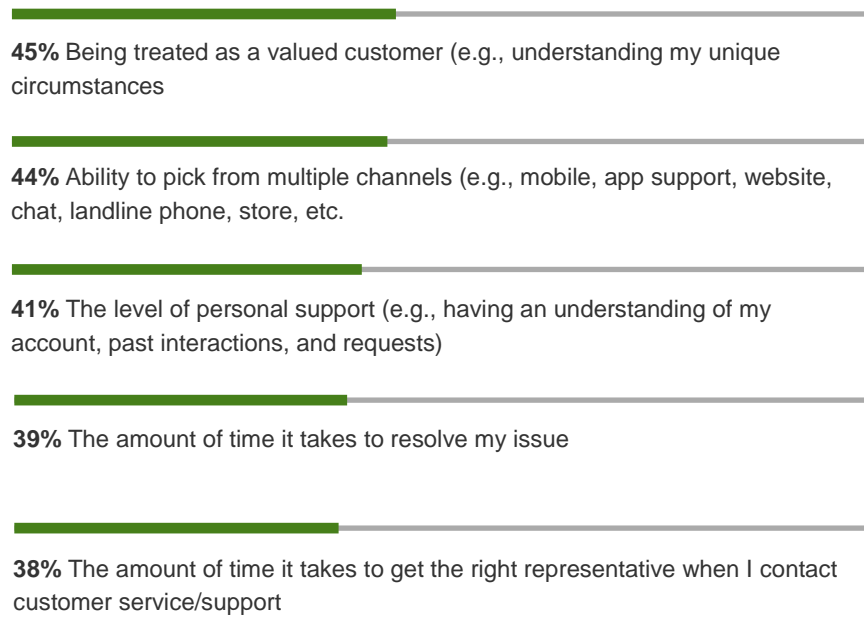


Figure 3

“Which of the following are important for you when contacting the customer service department at your communications and media service provider (CSP)?” (Showing top 5 only)

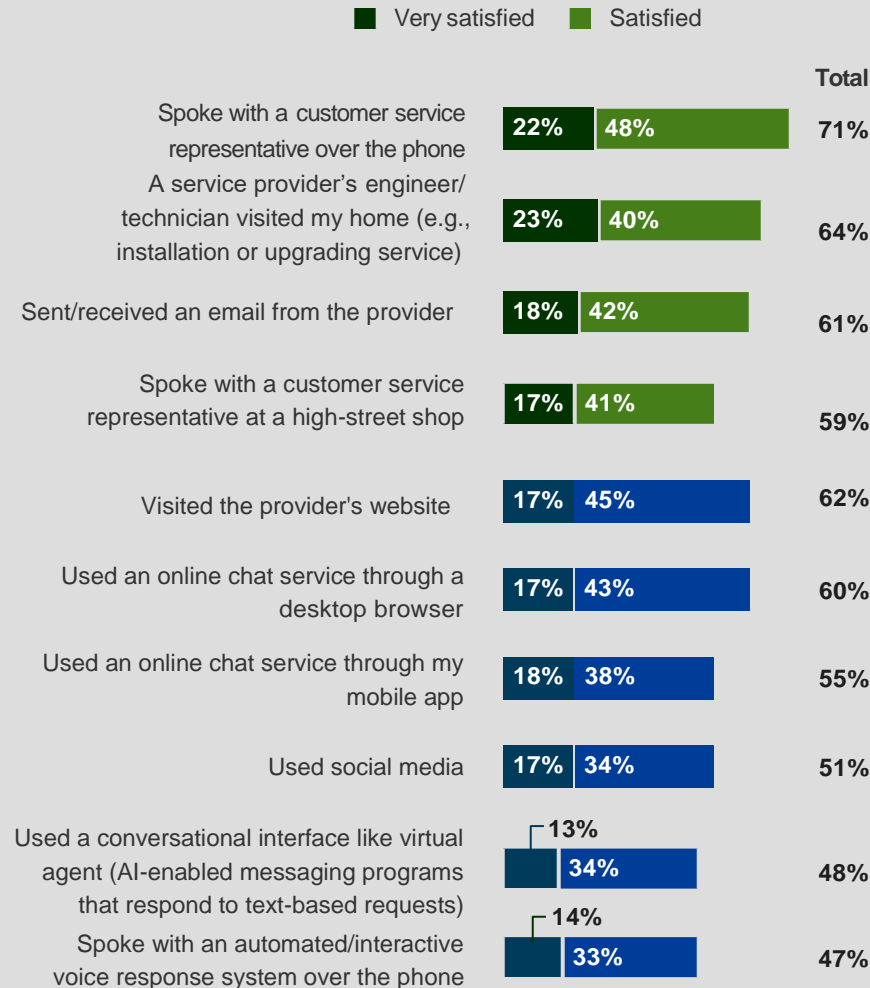


Base: 7,220 consumers ages 18 to 74 from around the world who have used customer support services from communication service providers (i.e., phone, email, virtual agents) in the past 12 months

Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

Figure 4

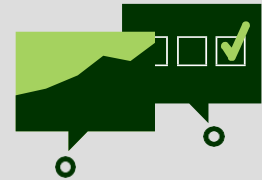
“How satisfied have you been with the interaction you’ve had with your communications and media service provider?”



Human agents



Virtual agents



HOW VIRTUAL AGENTS SHOULD SOUND

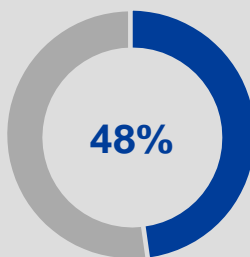
Consumers want specific attributes associated with virtual agents, specifically:

PERSONALITY/TONE

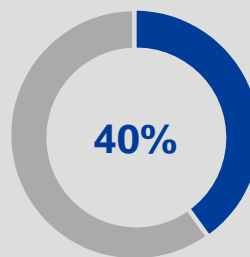
- › A polite voice or tone (64%).
- › A caring voice (44%).
- › A voice that sounds intelligent (42%).

“Why interact with a virtual agent when given a choice?”

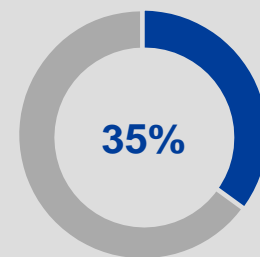
My query is sorted out more quickly



I can resolve my issue at any time



I avoid queue times on the call



Base: 7,220 consumers ages 18 to 74 from around the world who have used customer support services from communication service providers (i.e., phone, email, virtual agents) in the past 12 months

Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

Where There's Light, There's Shadow: The Challenges Of AI

Although AI-powered virtual agents hold promise, there is still a long way to go. And this is critical as launching a virtual agent that doesn't solve problems, overcomplicates the process, or isn't easier than another channel can lead to consumers abandoning the company (40%) and leaves a poor impression of the brand (32%). And when asked about how customer interactions with virtual agents have gone so far, respondents made it clear that there are a number of complexities and challenges to address. Customers stated that (see Figure 5):

- › **Virtual agents are general in response.** A big barrier to consumers using virtual agents is that consumers need to know if the bot will meet their specific needs. The survey found the biggest problem to be the lack of maturity of the tool to carry out specific tasks and requests (47%).

Figure 5

“The biggest problems for me when using a virtual agent are. . .”

47% Virtual agents are not yet sufficiently equipped to deal with complex requests and tasks

40% I feel that I'm often forced to use virtual agents when I don't want to

38% I get better, more personalized offers when speaking to a human

29% Virtual agent can't understand my emotions, for example if I'm angry about bad service

22% I get frustrated at having to repeat the same details several times, both to bots and when being transferred to a human agent

Base: 7,220 consumers ages 18 to 74 from around the world who have used customer support services from communication service providers (i.e., phone, email, virtual agents) in the past 12 months

Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

55% of consumers said they have had problems when interacting with a virtual agent.

- › **Virtual agents aren't better than humans.** Just as consumers want to choose which channels to use when engaging with customer service departments, they also want the choice between human agents and virtual agents. But the survey revealed that 40% of consumers are often forced to use virtual agents when they don't want to.
- › **Virtual agents are devoid of human bias, which means they lack emotional support.** Thirty-eight percent of survey respondents said they get better, more personalized offers when speaking to a human. And 29% of consumers said virtual agents lack an emotional understanding. This can be a flaw: Forrester's research has shown that service organizations aiming only to appeal to the rational side of customers' needs will have an increasingly difficult time maintaining loyalty. Companies with a reputation for great service forge strong emotional bonds with their customers, which ultimately feeds brand advocacy.⁵
- › **Consumers want to interact with "human-like" virtual agents.** Interacting with "human-like" virtual agents that are associated with a real-world human provides a more personal and "real" experience (46%). But communication and media service providers are failing to provide this need (see Figure 6).

FIRMS' VIRTUAL AGENT PRIORITIES/APPLICATIONS DON'T MATCH CUSTOMER NEEDS AND EXPECTATIONS

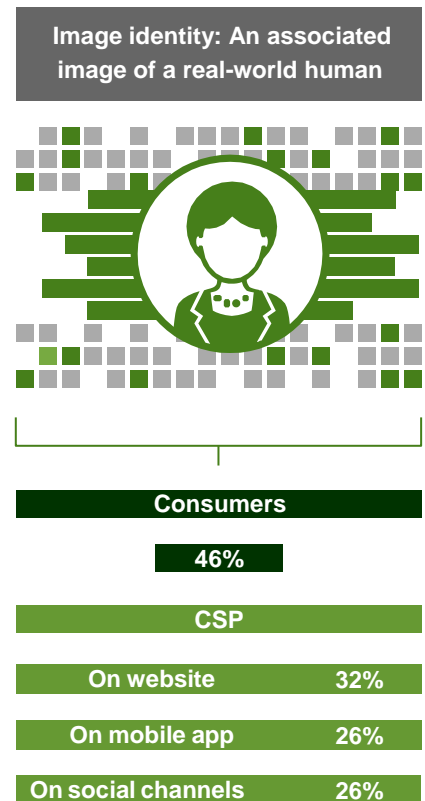
Successful customer service departments leveraging virtual agents have all the potential to provide great customer experiences by turning emotions into memories through careful design. However, no matter how many delightful "wow" moments customers experience, consumers will forget these moments if communication and media service providers fail to provide them with the information they look for.

The survey found that customer service teams are failing to meet these needs even before a consumer becomes a customer (see Figure 7):

- › **Consumers care about price.** Before becoming a customer, 47% of consumers want pricing information, but with current virtual agents, only 22% of firms are already providing this capability.
- › **Consumers research everything before they buy.** One of the most important aspects of obtaining new customers is allowing them to find information as easily and quickly as possible; 46% said they would like to research and learn more about their service options. However, only 33% of communication and media service providers use virtual agents to become an online resource to help customers learn more.
- › **Consumers don't know you, but they want to.** When customers seek products or services, they want to learn more about the company; a third (35%) of consumers said this was one of the top priorities when interacting with a firm's virtual agent. But only 19% of communication and media service providers invest in AI to inform and educate their customers, a difference of 16% between expectations and what is actually being delivered.

Figure 6

When interacting with a virtual agent, consumers want an image associated with a real-world human, but CSPs fail to deliver:



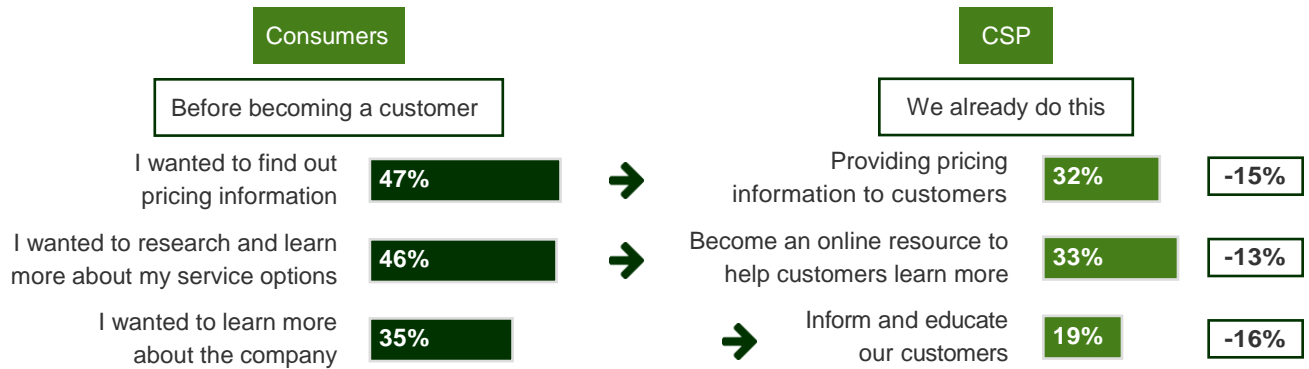
Base: 7,220 consumers ages 18 to 74 from around the world who have used customer support services from communication service providers (i.e., phone, email, virtual agents) in the past 12 months

Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

Figure 7

“Please specify the reason for interacting with a virtual agent before, during, and/or after making a purchasing decision.”

“What are your firm’s plans in terms of investment in the following AI-powered areas to benefit customers in the purchasing lifecycle?”



Base: 7,220 consumers ages 18 to 74 from around the world who have used customer support services from communication service providers (i.e., phone, email, virtual agents) in the past 12 months
 Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

Communication Service Departments Face Various Roadblocks For Successful Implementation

We anticipate that AI-powered virtual agents will eventually enable and drive performance by autonomously creating and delivering tailored customer interactions with customers across all the various channels they use.

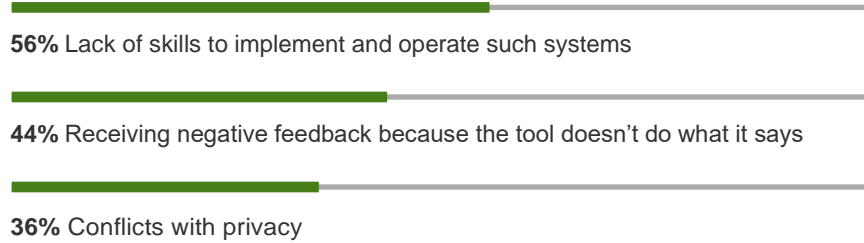
Today, though, the state of AI is very much like other early technologies; all companies jump to implement the technology before having a handle on the key issues associated with successful delivery. Our survey found (see Figure 8):

- › **There's a shortage of skills and expertise.** When technology teams leverage technologies that are either completely new to them or with which they don't have extensive expertise, gaps in delivery will naturally occur. Fifty-six percent of communication and media service providers perceive the lack of skills to implement and operate AI systems as a top risk. In fact, when using AI technologies to improve customer experiences, 64% said the same.
- › **AI-powered tools lack the maturity.** With AI recently regaining traction in the business world, it's no surprise to find that the biggest barrier faced by communication and media service providers is the lack of technical maturity. Just under half (48%) said the technology is not yet mature enough, which explains why there are certain gaps with virtual agents (i.e., not being able to provide personalized support).
- › **Costs and application hinder confidence in AI.** Simply applying an AI-powered tool won't provide the solutions brands are looking for, which explains why businesses don't know how to apply the tool correctly (36%). It is thus mission critical for organizations to collaborate with existing and new vendors to find a solution that can provide the expertise, knowledge, and skills to track and support the firm's AI strategy, which explains why 42% of communication and media service providers are looking to their existing vendors to embed AI technologies.

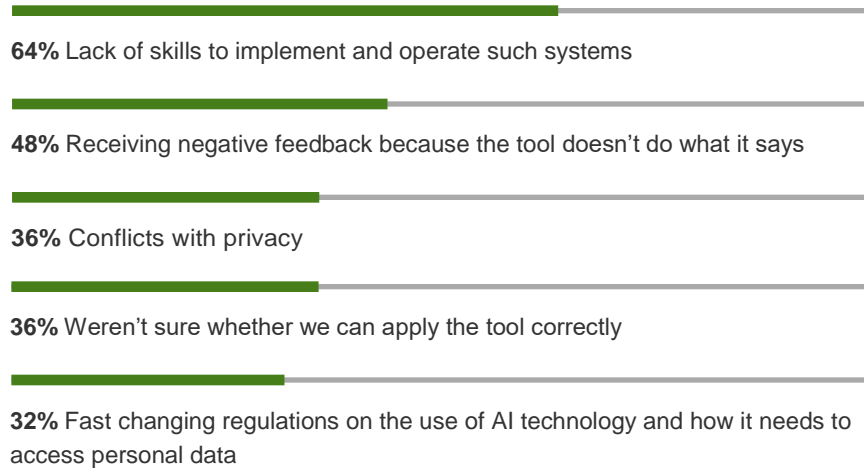
Over the next 12 months, half of organizations surveyed expect their AI budgets to increase by at least 6%. But budgets won't make a difference if firms fail to meet customer expectations, as it will only lead to frustrating experiences.

Figure 8

“What top risks or challenges do you perceive from the use of AI?”



“What would be the biggest challenges for your organization using AI technologies to improve customer experiences?”



87% Communication and media service providers said they will expand the size of their AI team in order to support the expansion of AI-powered processes and bots by the next 12 months.

Base: 31 communication service providers around the globe

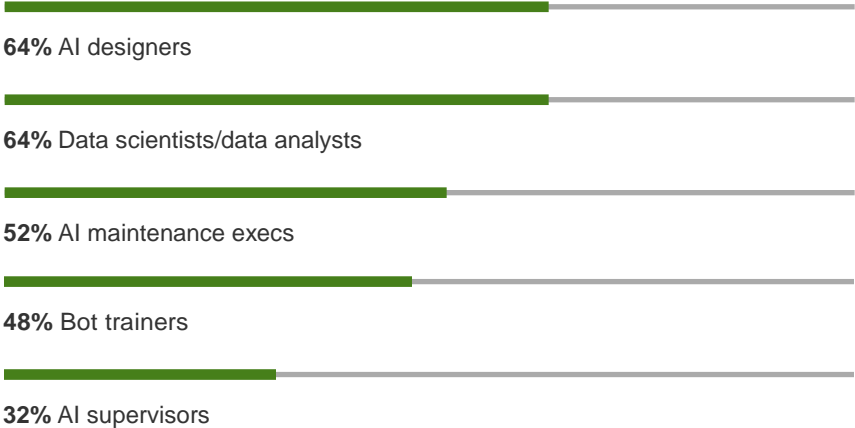
Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

Leveraging Virtual Agents Successfully Will Help Brands Win And Get Ahead Of The Game

Virtual agents that go beyond what is expected of a customer service department will delight customers. Although there are a number of challenges with virtual agents, virtual agents will get better at meeting customer expectations as AI continues to evolve and mature. In fact, customers who prefer to interact with virtual agents revealed their expectations were either matched or exceeded across different areas of their interaction. Consumers said their interactions were relevant (70%), pleasant (68%), easy to use (67%), and saved time (64%) and money (62%) (see Figure 9).

Figure 9

“Which new kind of jobs are being opened in your organization to support AI?”



65% Communication and media service providers said they were satisfied with their AI investments as the results exceeded their expectations or were what they expected.

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Virtual agents enabled in this manner truly emulate engagement: They deliver value to customers and encourage them to use the service more by accommodating their needs of convenience and speed. To get started, communication and media service providers plan to avoid launching poorly designed technologies that often leave consumers feeling frustrated by (see Figure 10):

- › **Focusing on the design.** Brands realize they've been missing the mark by focusing on implementation and execution of the tool rather than how virtual agents will come across to consumers. This is why firms are now focusing on hiring AI designers (64%) to meet customer needs.
- › **Seeking data expertise.** Furthermore, organizations are also looking to hire data scientists (64%) to make sense of all the data being accumulated. Why? To turn data insights into action creating a more personalized view of the customer.
- › **Optimizing AI management.** Fifty-two percent of brands also said they will hire AI maintenance executives to ensure that virtual agents are working as intended.
- › **By hiring help, brands will further boost virtual agent capabilities and in turn boost personalization.** Communication and media service providers realize they need to fill the workforce knowledge gap to enhance existing virtual agents to meet customer expectations. Poorly designed technologies often leave consumers feeling frustrated. In fact, consumers increasingly want experiences with design to be more personalized and agree that brands should do more to personalize their experiences.⁶

48% of communication and media service providers said interaction with computers will be indistinguishable from interaction with humans.

Figure 10

“How did the interaction (with the virtual agent) meet your expectations?”



Base: 31 communication service providers around the globe
 Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, September 2017

Key Recommendations

Many customer service organizations are rushing to adopt AI to boost customer service and meet consumers' rapidly evolving expectations; AI simply helps them keep up. But not everything points to a seamless transition. Despite advances in AI, even the best virtual agents still struggle in the face of complex conversations.

Forrester's in-depth survey of consumers and communication and media service providers yielded several important recommendations:



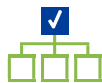
Start with strategy; end with technology. Most investments are focused on increasing information security and privacy (42%), rather than the consumer's desire for personalization (23%) and the ability for the bot to deliver more comprehensive information (19%). Organizations must fine-tune and train virtual agents; otherwise, firms will be left in the dark as to why virtual agents are not working as expected. Service providers must therefore formally strategize on how to best execute their AI goals. This explains why AI engagement strategies are being led by various departments within the organization: technology management (39%), customer service (26%), C-level executives (19%), and product management (10%).



Bring the right people to discuss the strategy and use cases. AI solutions like virtual agents must be integrated into the relevant business processes. They must be part of the processes and not managed separately or managed as silos.



Tailoring virtual agents is critical to success. To reap the rewards of AI-powered agents, businesses must marry the design elements to the personalization capabilities required by customers. Poorly designed circular experiences often leave consumers frustrated. This must be addressed, especially since 40% of firms believe virtual agents will be the future of customer service, placing even more importance on creating, developing and tweaking virtual agents and increase their "emotional intelligence" close to that of a human.



Parse out vendor skillsets. Don't try assembling the building blocks of AI; that will turn into a science project. We are in the early days of AI-infused customer service solutions, and vendors are starting to incorporate these scenarios with varying degrees of success. Customer service vendors are looking at partnerships and integrations with these more advanced solutions that firms should also investigate: 42% said they are looking at existing vendors to embed AI technologies to improve customer service, and 39% will build their own in-house solutions on top of their customer service platforms.

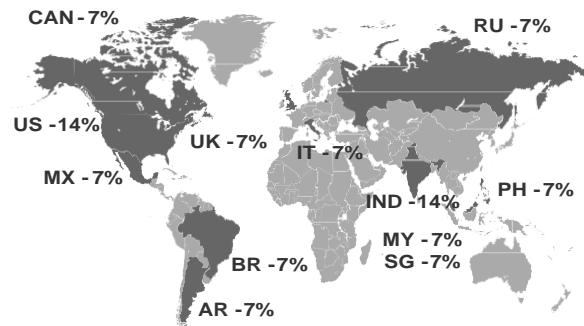
Appendix A: Methodology

In this study, Forrester conducted an online survey of 7,220 consumers who had interacted with their communication and media service provider over the last 12 months and 31 CSPs to evaluate how AI-powered tools, particularly virtual agents, are viewed and experienced. The ages of consumer survey participants ranged between 18 and 74 years. CSP respondents consisted of managers, directors, vice presidents, and C-Level executives. They were asked why they were investing in AI tools for customer service, the challenges and risks associated with AI, and future sentiments. The study began in July 2017 and was completed in September 2017.

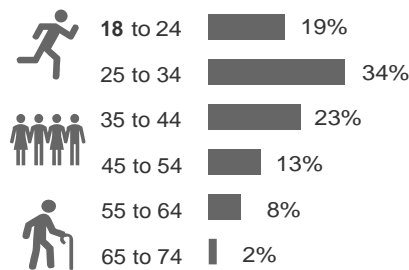
Appendix B: Demographics/Data

CONSUMERS

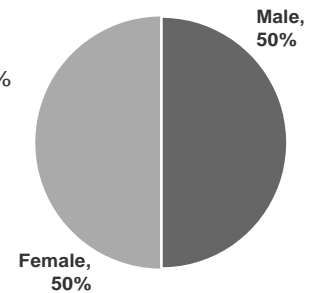
“In which country are you located?”



“How old are you?”

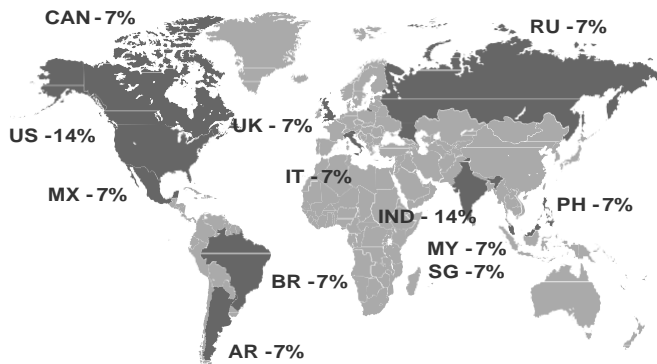


“What is your gender?”

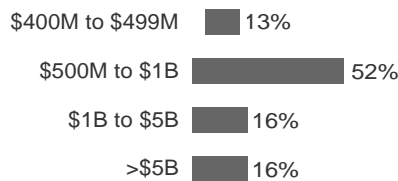


COMMUNICATION AND MEDIA SERVICE PROVIDERS*

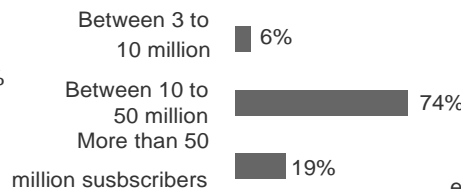
“In which country are you located?”



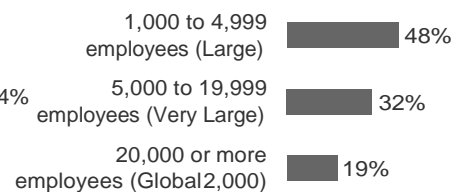
“How many employees work for your firm/organization worldwide?”



“How many customers does your organization currently have?”



“How many employees work for your firm/organization worldwide?”



Base: 7,220 consumers ages 18 to 74 from around the world who have used customer support services from communication service providers (i.e., phone, email, virtual agents) in the past 12 months

*Base: 31 communication service providers in around the globe

Note: Percentages may not total 100 because of rounding.

Source: A commissioned study conducted by Forrester Consulting on behalf of Amdocs, August 2017

Appendix C

ENDNOTES

¹ Source: "Drive Revenue With Great Customer Experience, 2017," Forrester Research, Inc., January 18, 2017.

² <https://forrester.sharepoint.com/sites/Research/editing/SitePages/Business%20Technographics%C2%AE%20Survey%20Names.aspx>

³ Source: "Rethink Customer Service To Build Emotional Engagement," Forrester Research, Inc., May 22, 2017.

⁴ Source: Forrester Data Consumer Technographics® North American Retail And Travel Customer Life Cycle Survey, Q1 2017 (US), Forrester Research, Inc.

⁵ Source: "Rethink Customer Service To Build Emotional Engagement," Forrester Research, Inc., May 22, 2017.

⁶ Source: "Q&A: Why Emerging Technologies Require Interaction Design," Forrester Research, Inc., August 3, 2017.



amdocs smartbot

Amdocs SmartBot is intelligence-driven, pre-integrated and uniquely designed for the communication and media industry.

Amdocs SmartBot leverages advanced artificial intelligence and machine learning and enables digital service providers (DSPs) to engage their customers in intuitive, personalized, contextual and Intelligent conversations.

Pre-trained on business processes and telecom-specific intents, it provides consumers with intelligence-enabled bot-to-human customer experiences to meet their precise and immediate needs, in their channel of choice.

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