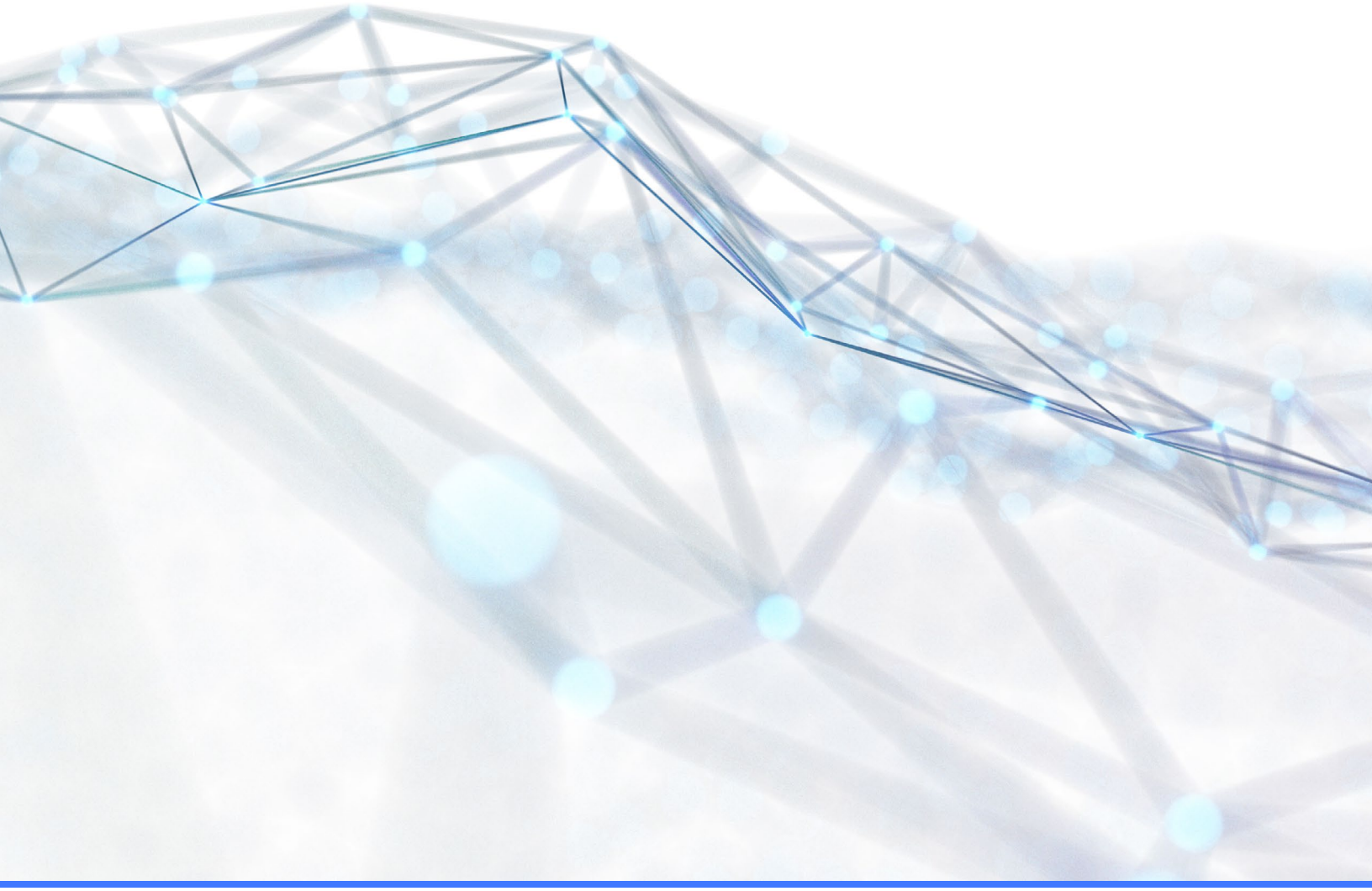

A Beginner's Guide to **Conversational AI**

AMELIA®

A Beginner's Guide to Conversational AI

Much has been written about how AI redefines business processes through the automation of physical, transactional and increasingly cognitive tasks. Specifically, AI is enabling a new type of user interface (UI) which allows humans to interact with digital systems through the medium most natural to them — conversation. While humans have long "conversed" with computers, those interactions had to follow strict structured rules that computers were pre-programmed to anticipate.

A bourgeoning generation of Conversational AI solutions are able to discern a wide spectrum of user inputs, including ones they are not specifically trained to anticipate. These systems translate user requests into specific actions. These engagements are particularly powerful when paired with autonomic back-ends, which allow users to access processes and automations just by requesting them. This opens up a number of exciting possibilities that will impact businesses, employees and customers in years to come.

In recent years, conversational technology has matured into various all-purpose "digital assistants" aimed at the general public (e.g. Siri, Alexa, the Google Assistant). A survey from Pew found that 46% of Americans regularly use these digital assistants, with the most popular reason (83%) being the ability to "use a device without my hands."

However, the bridge between a conversational digital assistant and enterprise-grade Conversational AI is quite extensive. Businesses require high levels of intent recognition, flexible dialog handling and self-directed transactional capabilities that many pure-play digital assistants often lack. In addition, low-level scripted chatbots (available on many enterprise web sites) mostly lack these abilities, and certainly cannot complete transactions and tasks without some level of human intervention.

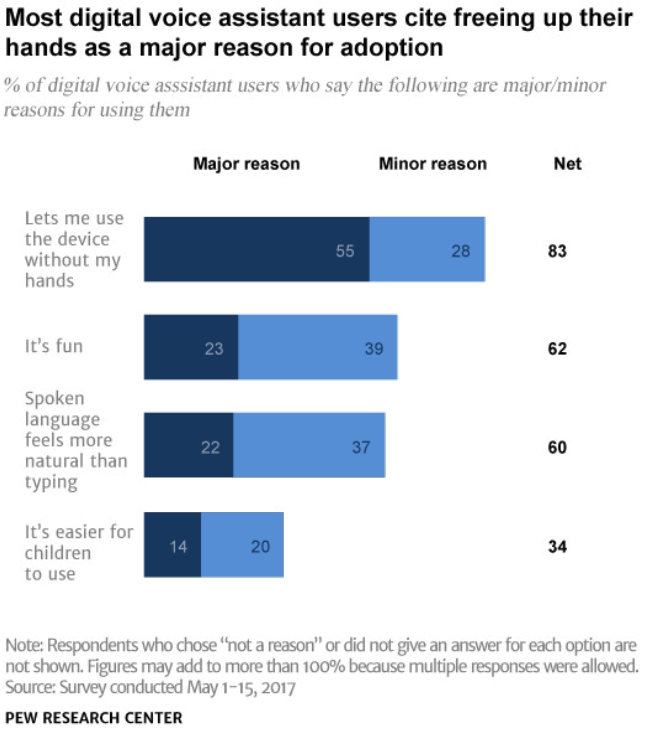

FIGURE 1: USE OF DIGITAL ASSISTANTS

Crossing this bridge requires, at the very least, a fuller understanding of Conversational AI, how it works and differs from other technology types, and its potential business value. In this white paper, we'll explore these subjects as a way to provide points of consideration for companies pursuing a near or long-term technology strategy that includes the use of Conversational AI.

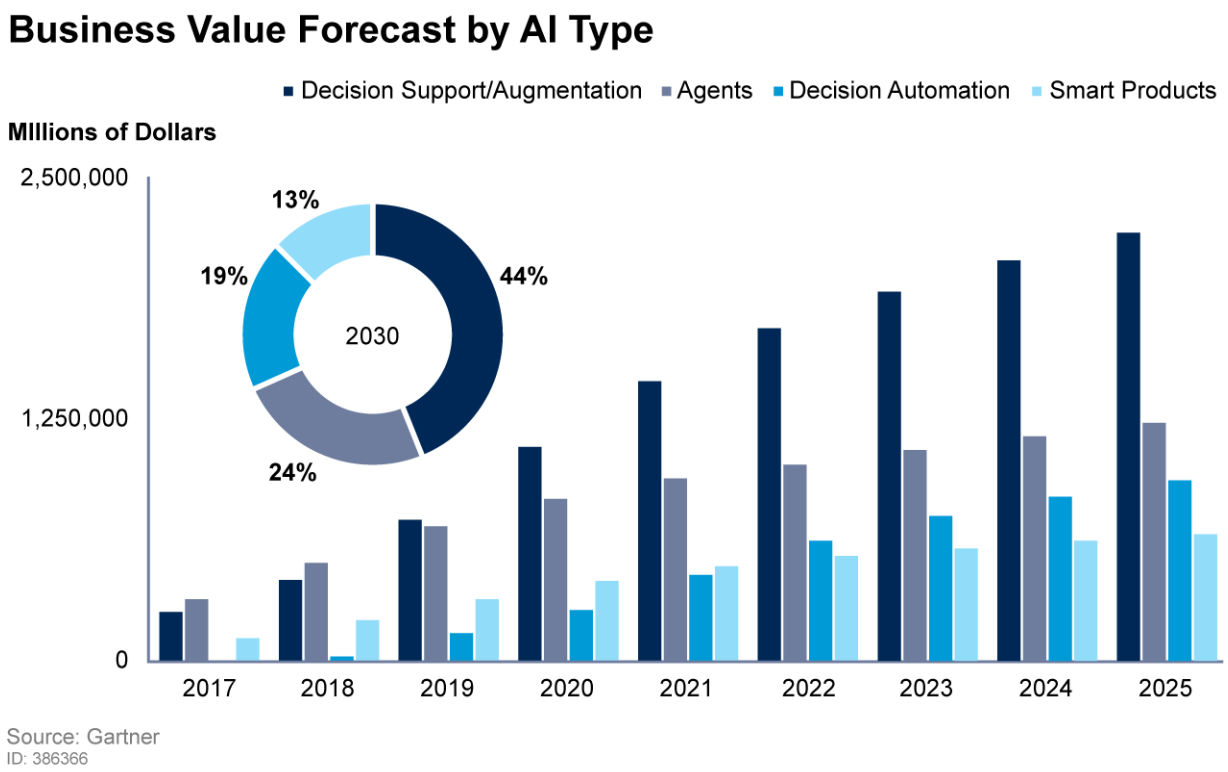

FIGURE 2: BUSINESS VALUE FORECAST BY AI TYPE

Distinguishing True Conversational AI from Other Solutions

Let's begin by briefly acknowledging what many already consider a truism: AI technologies' potential impact on the current and future business world will be profound. For example, AI technologies could deliver as much as $2.9 trillion in business value through 2025, according to Gartner, with AI usage for decision support and augmentation in customer experiences providing the greatest potential value.

With those kinds of forecasts, it's easy to see why many companies are looking at ways to deploy Conversational AI for the delivery of products and services – and why it's equally important to delineate true Conversational AI from alternatives.

Let's consider what it means for technology to be "conversational." Unless you're a human being, understanding natural language and holding a conversation is considerably difficult.

This is one reason why lower level chatbots, which are bi-directional and scripted, often fail to handle tasks easily completed by Conversational AI. Although chatbots engage with users, they do not understand them to any great extent, cannot engage in free-flowing and multi-turn dialogue and ultimately are not able to lead a conversation to a resolution point.

True Conversational AI is far more versatile than the rudimentary chatbots that have been available in the market for years. While low-level conversational solutions react to simple keywords or specific phrasing, advanced Conversational AI agents are capable of discerning user intent from a wide spectrum of human utterances. This flexibility is particularly important when engaging with a large and varied customer base which unsurprisingly will have multiple ways of communicating the same request.

The entry point into a dialogue with Conversational AI is through what is called a user utterance. That user utterance can be delivered on a variety of channels, such as via a chat box on a website, a voice call either through a mobile phone or a home assistant such as Amazon Echo, within a chat app such as Facebook Messenger, or wherever a company would like customers to interact with AI.

Before Conversational AI ever speaks to a customer, conversational designers and cognitive engineers will use Business Process Modeling and backend integrations to ensure that Conversational AI does exactly what the company wants it to do in any given customer-facing situation.

Unlike generative AI technologies, such as OpenAI's ChatGPT chatbot which pulls scores of data from the internet to generate statements based on logic and probability, Conversational AI doesn't provide answers or act on requests without being instructed to do so based on business processes. This is critical for the enterprise world, as companies cannot risk providing inaccurate answers and making mistakes.

Therefore, if a customer loses their credit card, asks to close an account or wants to open a new account, Conversational AI will have learned and mastered the company's business processes and core applications before ever fielding these queries.

True Conversational AI uses advanced Natural Language Processing (NLP) and Understanding (NLU) to understand context and speak in coherent and human-like sentences. This allows it to sort through users' sentences to find meaningful terms and phrases that it will use to prepare its response. If one were to say, "I bought a car yesterday," Conversational AI would sort out that "car" is the noun, and "bought" is the verb.

Another key difference between Conversational AI and chatbots is in multi-level intent recognition capabilities. Conversational AI uses multiple deep neural network algorithms as well as domain specific ontologies to detect intent more accurately than keyword matching or single algorithmic models. If a customer says, "I lost my credit card yesterday," Conversational AI will remember its training for credit card replacements. It will know that in the case of a lost credit card, the customer's intent is typically to deactivate the missing card, get a new card issued and resolve any disputed charges. It takes basic data (who, what and when) and determines that the customer lost their Gold Card in New York City last night. It will see that a charge was processed this morning in Connecticut and immediately recognize this charge as suspicious because it understands the business process that human agents use.

But what happens when a user enters an interaction with multiple intentions? For a typical chatbot that isn't armed with cognitive intelligence, multiple intentions cause confusion. Conversational AI, on the other hand, registers multiple intentions and triages them to ensure the most important processes are handled first.

One key difference between Conversational AI and chatbots is in multi-level intent recognition capabilities.

For example: If someone calls a bank and says, "I would like to go paperless, but I lost my credit card yesterday in New Jersey, and I think there might be fraudulent charges on my account," Conversational AI will not handle those requests in order. It will triage and determine that fraudulent charges are the most important element of the conversation, reissuing a new card is the second-most important element and going paperless is the least important element.

There is no limit to the number of tasks Conversational AI can triage. It can track and remain

aware of context. It can also switch context with a person and be aware of the previous context for later in the conversation, or for future conversations. A chatbot might be equipped to handle one of the customer's issues, but not all of them in the most important sequence; more than likely a chatbot would need to immediately transfer the multi-part request to a human agent.

Furthermore, unlike chatbots, Conversational AI agents are equipped with sentiment analysis capabilities, which enable them to understand human emotions, moods and personalities. Considering that most people contact companies for issue resolutions, this capability is vital for creating **extraordinary customer experiences** (which we'll talk more about later on). For example, if a user has lost their credit card and believes they have incurred fraudulent charges, a chatbot wouldn't be able to provide the human-like response that the user expects. Whereas chatbots are often scripted to respond to all inquiries with generic responses like "great!" and "thank you!", Conversational AI agents understand when users are stressed or upset and form empathetic and appropriate responses in return.

More importantly, unlike simple chatbots that are trained to speak off a script and follow decision-trees, Conversational AI can handle variance in dialogue without explicit programming. For example: If a chatbot is handling a credit card replacement, and in the middle of the conversation the customer realizes he was discussing the wrong credit card, a chatbot would get confused and need to go back to the beginning of the script to restart the process, or escalate the call to a human employee – an inefficient process that wastes time for both the customer and the company.

Conversational AI can handle dialogue variance with no issues; it will only need to go back to the point in the conversation at which it confirmed which card was being used, redo that interaction, and continue the process without having lost any of the information it retrieved during the tangent.

Remember Business Process Modeling? With this capability, Conversational AI is also trained to handle a process while accounting for human variance. If the customer goes off script and asks a question that has nothing to do with business processes, Conversational AI can adapt.

For example, if a Conversational AI agent asks, "Would you like me to mail you a new credit card?" and a customer responds, "Is it going to cost me anything?" the Conversational AI is able to take into account the context of the interaction, determine that "it" is shipping a new card, know that no cost is associated with that service and inform the customer accordingly.

Conversational AI and Business Value

So why should businesses care about the differences between chatbots and true Conversational AI? To answer this question, consider this: today's customers are no longer satisfied with scripted support from FAQ chatbots. Yes, people still want instant digital service at their fingertips, but they also want the support to be personalized, empathetic, actionable and complete. In other words, **customers want extraordinary experiences**, and they aren't afraid to walk away from companies that fail to deliver on this expectation.

Therefore, when choosing an AI system, companies should investigate solutions that are skilled enough to execute tasks based on expert, data-based decision-making, while also delivering service in a human-like and personalized manner. With a Conversational AI solution in place, you can provide informed insight about customers' questions and concerns based on how they have interacted with the system in the past. The solution can research consumers' history, access market data and,

most importantly, inquire about the customers' own preferences and needs to render educated recommendations and resolutions to their requests.

Chatbots can only usher users through highly templated interactions. A chatbot will probably be able to handle some of your basic customer questions, but it will still require constant human employee support due to the technology's inability to decipher idiomatic questions, quickly learn new products or handle multi-context requests.

If a customer asks for feedback or help making a decision, a chatbot will escalate the request to a human worker unless that exact question has been programmed for a response. This is an extremely inefficient result for both the company and its customers. When a customer asks the chatbot a simple question, such as, "Should I apply for the loyalty program?" the chatbot will send that person right back to where the customer would have gone before the chatbot was deployed — a human customer service agent. This is not exactly an ideal scenario for ROI for a chatbot investment.

Here's a prime example: Customers do not speak in precise banking terminology, which makes Conversational AI even more valuable in end-user interactions. If a customer says, "Can I lump my loans together?" or "I have too many loans and I hate paying them off separately is there any way I can make one single payment?" a chatbot would be unable to discern that the customer wants to consolidate loans.

A Conversational AI solution can use its customer knowledge (the customer makes loan payments on time every month) and sophisticated dialogue comprehension ("lump loans together" means "consolidate") to at the very least ask the customer, "Are you referring to loan consolidation?" Conversational AI can distill customers' words and intents for actionable results. This allows the customer to complete a transaction or reach a resolution more quickly – creating an extraordinary experience that drives higher customer satisfaction and, in the long run, greater customer loyalty.

In some cases, however, a user will ask a question that is outside Conversational AI's purview. When this happens, Conversational AI immediately escalates conversations to their human colleagues for resolution. Here is where Conversational AI differs from chatbots. Chatbots may be equipped with the ability to escalate cases to human agents; however, once transferred, chatbots relinquish their responsibility to the resolution.

In comparison, Conversational AI agents provide human agents with all the information gathered up until the point of escalation, and they remain on the case as 'whisper agents' to support human agents with real-time suggestions and customer information. This collaboration creates positive customer experiences, empowers employees with more time to focus on delivering superior service and allows the Conversational AI to observe and learn how to successfully resolve new requests.

No-Code Conversational AI

Unfortunately, not every business has the technical resources to create Conversational AI Digital Employees using traditional implementation models. In fact, 47% of businesses say that difficulty integrating cognitive AI projects with existing systems and processes is their biggest hurdle to AI initiatives, according to the Harvard Business Review. Companies also cannot seem to find the talent required to integrate and deploy AI systems on their own. The same report revealed that fewer than half of businesses (45%) have a high level of skill around integrating AI technology into their existing business applications. And the reality is that the AI talent shortage isn't going to end anytime soon – according to research from McKinsey, a majority of surveyed organizations say that hiring for AI roles "has been difficult in the past year and hasn't become easier over time."

That said, while there are technical aspects to Conversational AI implementations, such as integrating the solution with enterprise systems,

deploying this technology does not necessarily require a team of AI specialists. Plus, recent advancements in no-code AI systems have made it even easier for companies and subject matter experts with limited technology skills to develop their own customizable Digital Employees.

These new systems incorporate conversational wizard-assisted design processes, APIs and RPAs, allowing less technical users to build sophisticated and advanced Digital Employees by simply responding to the AI system's suggestions and guidance either through chat or voice-based conversations. Today's no-code AI systems also can ingest multi-turn call or chat transcripts to build complete use cases, drastically reducing the time it takes to create value-driving Digital Employees

> **No-code AI systems have made it easier for companies and subject matter experts with limited technology skills to develop their own customizable Digital Employees.**

The flexibility of no-code systems allows businesses to experiment with use cases that they may not have been able to deploy and adapt quickly enough using traditional AI implementation processes. This allows for a higher number of proof-of-concepts to drive increased adoption.

Plus, successful use case processes can be replicated for additional use cases in the future. Those that require adjustments or even wholesale changes can be adapted without many expended resources, and the information learned from these projects can be used to optimize further use cases.

Not an Average Build-a-Bot

No-code AI systems should not be compared to the drag-and-drop chatbots that have been around for the past several years. While decision-tree based rudimentary chatbots are easy to build, they do not allow the same level of human-like interactions as their Conversational AI counterparts. With true Conversational AI, users benefit from advanced capabilities, such as context switching, multi-intent recognition, interruptions, digressions and more.

Additionally, no-code systems learn and improve over time. These systems feature embedded analytics engines that drive improvements for intent recognition rates, lower abandonment rates and reduced escalation rates. Based on this information, the Digital Employee will make recommendations and suggestions to improve the user experience, and it will dictate to a human employee the processes needed to adopt these changes on the back end.

With no-code systems in place, organizations benefit from accelerated time-to-value, simple AI onboarding, reduced operating costs than with traditional systems, as well as improved customer and employee experiences. These benefits are not delivered at the expense of functionality or usability but combine the best possible features with the smoothest possible user experience, for more engaging and valuable Digital Employees.

Choosing a Conversational AI Use Case

When implementing Conversational AI, companies should focus on use cases that help customers accomplish their goals when interacting with their

business, instead of going after cost saving use cases.

Every bank, for example, wants to save money by automating basic customer-employee interactions, and that in and of itself is a worthy aim. No executive wants their contact center fielding thousand of calls on ATM locations.

However, if your main goal is to use AI solely to automate FAQs, you could end up with an unsophisticated product that no one wants to use and ultimately spend more money in the long run.

Here's why: Humans don't follow scripts. When they reach out to companies for help, it is often in search of answers and resolutions that they can't find by simply typing in a search bar. When a chatbot receives multi-intent, complex questions, it fields those requests in the only way it knows how – by escalating them to human operators.

In the end, users have poor experiences, human intervention is still required, and customers are likely to turn back to human contact methods in the future, rather than rely on an ineffective bot. When selecting use cases, focus on how to create extraordinary experiences instead of solely cost reduction. Both are important, but by focusing on improving customer service in your initial use cases, they will be future-proof while simultaneously reducing overall costs in the long-term.

Recommendations for Successful Conversational AI Deployments

Once your organization establishes a service-first mindset for your deployment, the next step is to determine which use cases will help you create extraordinary experiences.

First and foremost, your Conversational AI agent should not simply replicate your website through dialog. To drive valuable experiences for your end-users, select use cases that address high-volume, time-consuming requests and ensure your Conversational AI can fully resolve them from end-to-end.

Which takes us to our second recommendation for building high-value use cases. To ensure your solution is more than just an FAQ bot, use backend integrations to enable personalized and complete resolutions of user requests. As we mentioned earlier, people seek organizations' help when they have questions that can't be answered by a simple website search. This is often because they need answers that are tailored to their specific needs.

Finally, there is no need to boil the ocean on your first use case. Conversational AI deployments are a journey, not a destination, and as increasingly more users converse with your AI solution, your organization will uncover new ways for Conversational AI to be utilized. Conversational AI automatically learns from every user conversation, from every case escalated to a human and from organizations' 'digital exhaust' to continuously improve and expand its abilities.

Built-In Intelligence

Conversational AI is equipped with built-in intelligence, such as ontology-driven intent recognition. This means that Conversational AI solutions have out-of-the-box contextual understanding to respond to common industry-specific requests and dialog acts, without needing to be built as part of the overall use-case.

For example, Conversational AI can leverage its established banking knowledge to understand and execute common financial processes such as changing a credit card. In addition to industry-specific built-in intelligence, Conversational AI understands how to respond appropriately to statements like "hold on a minute." Of course, all organizations have unique business processes that Conversational AI needs to learn. However, the technology's built-in intelligence drastically reduces the development stage of successful Conversational AI deployments.

Conversational AI Success Stories

Many global companies across various industries have already invested in Conversational AI and are seeing results that deliver extraordinary customer experiences and increased operational efficiencies. We explore several remarkable AI success stories in the section below.

Conversational AI as a Virtual Specialist for Patient Services

Visionworks of America (Visionworks) is a leading provider of eye care services in the United States. At the height of the COVID-19 pandemic, the company faced staffing shortages and spikes in customer calls, resulting in a strained customer experience operation. Visionworks decided to deploy Conversational AI as a Virtual Specialist to improve customer satisfaction, reduce costs and alleviate staffing challenges.

Conversational AI now handles all incoming calls for a majority of Visionworks' retail stores with a 93% intent recognition rate. Patients and customers can speak with the Conversational AI by calling stores directly or via the "Store Chat Link" on Visionworks' website.

By handling a high volume of incoming requests, including scheduling an average of 1,000 optometrist appointments every day, the Conversational AI has helped reclaim more than 14,000 hours of productivity for Visionworks' retail employees. The Virtual Specialist therefore not only improves the customer experience, but the employee experience, as well.

Virtual Specialist

93%

Conversational AI answers customer requests with a **93% intent recognition rate**

1,000

The agent schedules **1,000 optometrist appointments** per day

14,000+

Employees reclaimed more than **14,000 hours of productivity**, thanks to Conversational AI

Conversational AI as a Digital Concierge

Resorts World Las Vegas is the first integrated resort to be built on the Las Vegas Strip in more than 10 years. Since its inception, the resort wanted to integrate an intelligent virtual assistant into its architecture and deployed a Conversational AI-powered Digital Concierge for both guest and employee services.

Guests and employees can speak with the Digital Concierge 24/7 via phone calls, chat and social media. For guests, the Conversational AI assists with a wide range of requests, including making dinner reservations, purchasing show tickets, ordering room service, setting wake-up calls, check in and check out, and more.

Employees can speak with the Digital Concierge to inquire about PTO balances, shift schedules and booking time-off, as well as for help with IT-related queries.

Digital Concierge

24/7

Conversational AI provides **round-the-clock support** for resort guests and employees

Multi-Channel

Guests and employees can speak to the Digital Concierge over **phone, chat and social media**

Conversational AI as an Internal Service Desk Agent

Aveanna Healthcare is a Pediatric and Adult Home Health provider in the United States. The provider employs more than 40,000 staff members, including 6,000 support staff and more than 30,000 caregivers, depending on the month.

Aveanna deployed Conversational AI to handle time-consuming, repetitive employee requests. Conversational AI now manages nearly 600 conversations every day. Employees can quickly and quietly chat with the AI agent through Workday or the company's two mobile apps to reset passwords, authenticate user IDs and for answers regarding general employee inquiries.

The Conversational AI agent fully resolves 97% of employees' requests through Aveanna's Workday chat, with limited need to escalate to human colleagues for assistance. As a result, support staff have more time to focus on higher-value HR and training tasks.

Internal Service Desk Agent

600

Conversational AI handles nearly **600 employee-facing conversations** per day

97%

The AI agent fully resolves **97% of employees' requests**

Conversational AI as a Contact Center Agent

Sterling National Bank is a leader in financial services and solutions for small to mid-size businesses and consumers. The bank wanted to increase customer engagement in its contact centers while also alleviating pressures on contact center staff. To do so, Sterling hired Conversational AI as a Contact Center Agent to provide customers with human-like service and empower employees with a collaborative digital colleague.

The Conversational AI agent now engages 100% of all incoming calls to Sterling's contact center. Since deployment, the AI agent has automated self-service for more than 2 million customer calls, handling questions regarding account balances and recent transactions, as well as troubleshooting online banking issues, debit card claims and declined card transactions.

Conversational AI automates approx. 100,000 calls per month from end-to-end. When needed, the Conversational AI escalates requests to either the company's IVR or the appropriate human agent.

Contact Center Agent

100%

Conversational AI engages **100% of Sterling's incoming calls**

100,000

The AI agent resolves **100,000 incoming calls** from end-to-end

2 million

Conversational AI has automated self-service for more than **2 million customer calls** since deployment

Conversational AI as a Voice-Based Service

Telefónica is a Spanish multinational telecommunications company headquartered in Madrid, with a presence in 15 countries across Europe and Latin America. The company implemented Conversational AI as a voice-based customer service agent for its Peruvian contact centers to handle all calls received to its hotlines, which addressed roughly 72 million calls, (38 million handled by humans) in 2018. This was due, in part, to the failure of its IVR system in keeping up with customer inquiries. As a result, the company developed 28 specific skills it wanted Conversational AI to master, including 18 end-to-end automated skills, and 10 skills that would require Conversational AI to route a call to an appropriate human agent.

After a four-month ramp up, Conversational AI now handles 100% of mobile call volume, replacing the IVR system. The solution recognizes customer intent correctly on 90.2% of calls, and customer abandonment rates on Conversational AI-led calls decreased 44% from the initial week of deployment. In addition, customer satisfaction in calls managed by Conversational AI is higher than those handled by human representatives.

Voice-Based Service

72 million

72 million calls fielded by hotlines

90.2%

90.2% intent recognition on calls

44%

Customer abandonment on Conversational AI-led calls **decreased 44%**

Believe in the Power of Conversation

Conversation, while a uniquely human ability, is being transferred to the digital realm as AI technologies continue their expansion into the lives of consumers and business users.

On the enterprise front, Conversational AI does more than sound human when it interacts with end users; it understands human emotion, provides personalized service, fully resolves users' requests, and continuously learns and improves. Essentially, Conversational AI creates truly extraordinary experiences. And in today's climate – in which customers demand top-tier service and staff expect superior employee experiences – companies should consider the implementation of Conversational AI as a vital function to any future investment roadmap.

Contact Us

Amelia is the enterprise leader in Trusted AI, with a proven track record of innovation in automation and Conversational AI. Amelia's platform captures the rapid innovation of AI ecosystems and transforms these innovations into enterprise grade products ready for customer consumption.

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