

# It Still Takes a Village

# Enhancing Artificial Intelligence with Human Insight



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**AI success in customer experience requires the proper balance between technology and human capabilities, drawing upon the knowledge and skills of employees whose jobs are to serve customers. In this paper, Opus Research details real-world use cases that illustrate how to build on the strengths of AI that support automated virtual assistants and let customers control the way they interact with enterprises.**

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**Dan Miller**, Lead Analyst & Founder, Opus Research

**Opus Research, Inc.**  
**893 Hague Ave.**  
**Saint Paul, MN 55104**

[www.opusresearch.net](http://www.opusresearch.net)

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## How Companies Make the Most Out of Conversational AI Investments

Opus Research estimates that enterprises around the world are spending roughly \$2 billion to bring elements of artificial intelligence (AI) into their customer care fabric, usually in the form of Conversational Intelligent Assistants. We expect that spending to double over the next five years, but recognize that global estimates for spending on “Conversational AI” from other respected research houses are expected to reach \$16 billion by the mid-2020s.

AI adoption in the coming decade will be driven by business objectives, such as increasing sales, reducing costs, improving customer satisfaction, increasing customer retention and loyalty.

### The Human Element of AI

AI success will require the proper balance between technology and human capabilities. Natural Language Understanding and Machine Learning are the core technologies that enable Conversational AI to create value by rapidly recognizing and predicting intent and shortening the time it takes for individuals to accomplish their personal objectives.

However, drawing upon the knowledge and skills of employees whose jobs are to serve customers is equally important. Customer care personnel provide the conversations from which the AI can answer questions, or otherwise understand and assist customers or prospects in accomplishing their goals. Moreover, these employees can deliver the empathy and insights that customers and prospects have come to expect during difficult or exceptional circumstances. Put simply, they provide the human touch that can complement or enhance automated assistants.

### The First Point of Contact

Today, most bots perform a “concierge” role as the first touchpoint for customer care. A chatbot or speech-enabled IVR greets customers or prospects, prompts them to describe their problem or issue “in their own words” and then ascertains the customer intent (or purpose of the call). The goal of the bot as a concierge is to accelerate each person’s path toward a satisfactory resolution by accomplishing a myriad of sub-tasks, which include:

- **Authentication:** AI enables a brand to take the originating phone number, device in use, location, past activity and other factors - including biometric factors like voice, face and fingerprints - into account when validating and authenticating the identity of a prospect or customer.
- **Intent Understanding:** Conversational AI uses predictive analytics, cognitive processing and natural language processing to recognize an individual’s intent quickly and accurately.
- **Guided Conversation:** Engage the customer in a conversation to gather any details required to answer the question, provide the information requested, process the transaction, or otherwise handle the intent.

When the virtual assistant reaches a sticking point in the conversation, the contact is transferred to a human agent. The agent should have fewer tasks to perform, thus lowering handle time, due to the steps completed by the bot (such as authentication and intent understanding). However, in a simple concierge role, the hand-off from the bot is "one-time" and "one-way": the human agent is not involved before the transfer, and the bot is not involved afterwards. A more collaborative approach between AI and human agents - working in tandem - can provide additional benefits over the pure concierge model, enabling the bot and human to contribute whenever their skills are best utilized at any point in the conversation.

## **Is it Human or is it AI? The Correct Answer is: "Both"**

Orchestrating interactions that involve AI and live agents is no longer an "either/or" proposition. It now means blending the best of both in ways that take advantage of what each does best. AI supports predictive understanding and the ability to offer consistently correct answers or actions at large scale. Live agents bring the personal touch: intuition, empathy and experience that AI-based systems can only emulate. Customers or prospects can now engage with automated virtual agents that are initially trained on human input and, over time, are monitored and corrected by subject matter experts.

Chatbots or automated virtual assistants must be treated as the branded voice or persona of a company. Customer conversations take place over time and embrace every channel or modality that an individual is comfortable using. Most start with search (meaning Google) and proceed through consultation with affinity groups, which are often the people who leave recommendations on shopping sites. Then comes the "Moment of Truth", the point where a prospect or customer opts to reach out directly to the brand with specific questions, concerns or objectives.

That is when an automated assistant can really shine, especially if it is aware of that individual's previous history and is using the power of predictive analytics, natural language processing, machine learning and cognition to give right answers rapidly and under the customer's control. The strengths of AI are made manifest as a chatbot or automated virtual agent engages individuals in a conversation that elicits intent and expedites their request. They can match those intents to correct answers in a company's knowledge base or can return results from user forums or other resources that benefit from the so-called "wisdom of crowds."

Meanwhile contact center agents, technical support personnel and customer advocates have vital roles to play, even though customers are initially engaged with, and may even believe they are best served, by an automated virtual agent. As an example, humans can categorize confusing customer input. Machine Learning (ML) models for intent recognition are trained on examples of customer utterances and messages. They determine the likely intents by recognizing the pattern of words and expressions that an individual has input. When those probabilities enter a gray area, humans can step in to move things forward based on their best understanding of what has been said or typed in.

## **Where Human Agents or Advisors Prove Their Worth**

Humans can also be called into the conversation when an individual raises a new topic or category, one that the AI has not yet been trained to recognize. It may be a corner case, meaning one that occurs infrequently or

may never occur again. Or it may signal the start of a groundswell of input that a company must be concerned about, as when a product flaw manifests itself on the day after Christmas. Whatever the root cause, there are many use cases that benefit from early intervention and input from human agents or support personnel.

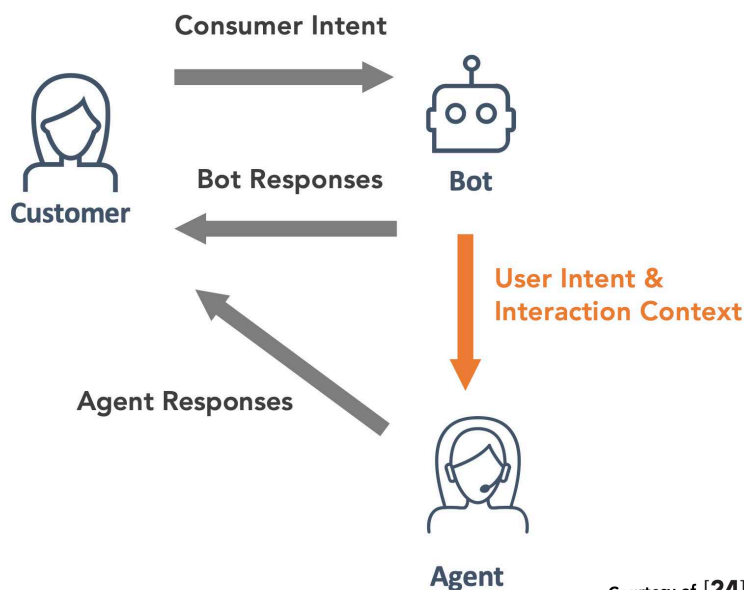
Humans also prove their worth when solutions to the underlying problem have not yet been automated. With legacy systems, enterprises may have many transactions that have yet to be automated, despite the availability of Robotic Process Automation (RPA). When an automated assistant encounters one of these transactions, customers are best served when a live agent steps in to resolve open issues and complete a process.

Yet the biggest call-out for involving human agents in a conversation with customers or prospects arise in the high-stakes world of highly-emotional interactions. Conversational IAs are very good at detecting when an individual is becoming emotional and may require an intervention. They are also tuned to recognize the identity of customers that deserve the sort of special attention or hand-holding that a well-trained professional, consultant or advisor can provide, recognizing the full context of the purpose of the contact.

## Use Cases Illustrate the AI + HI ideal

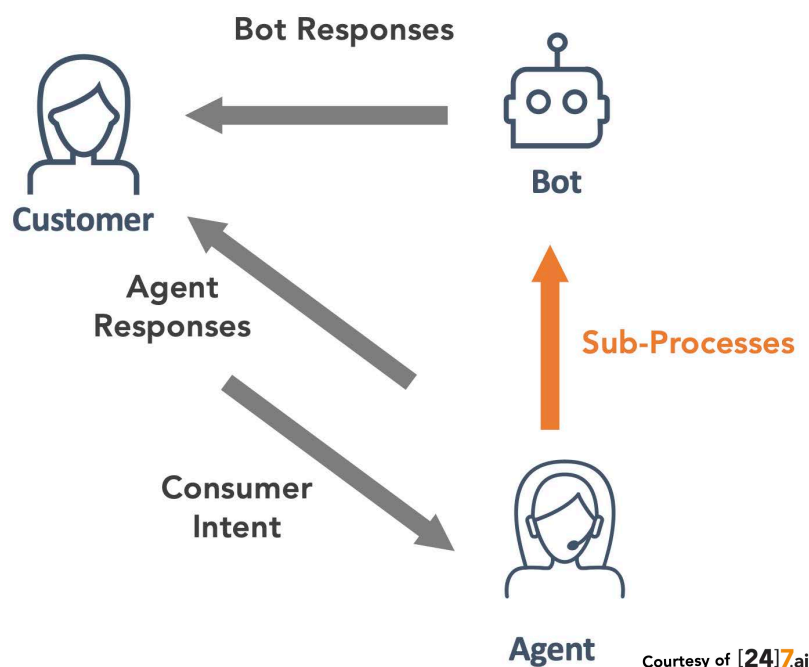
Adoption of approaches that combine artificial with human intelligence will be use case-driven. A compelling number of high-impact use cases are already emerging and well-understood by executives in charge of customer care contact centers and digital commerce. Here are some examples:

**Figure 1: Intelligent Transfer - The Nose Under the Tent**

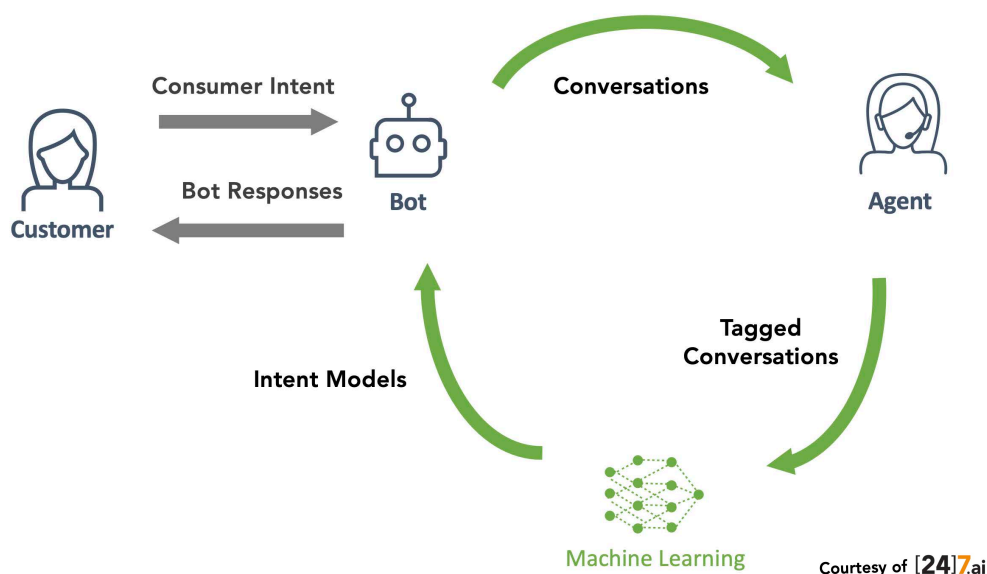


Courtesy of [24]7.ai

This is the simplest instance of bots cooperating with human agents. A conversation starts with the intelligent virtual assistant responding to customer queries up to the point at which it captures an unfamiliar intent and determines that a live agent should be involved. At that point it transfers the conversation to a human agent along with history and “context” that will assist the agent in providing a quick, accurate response.

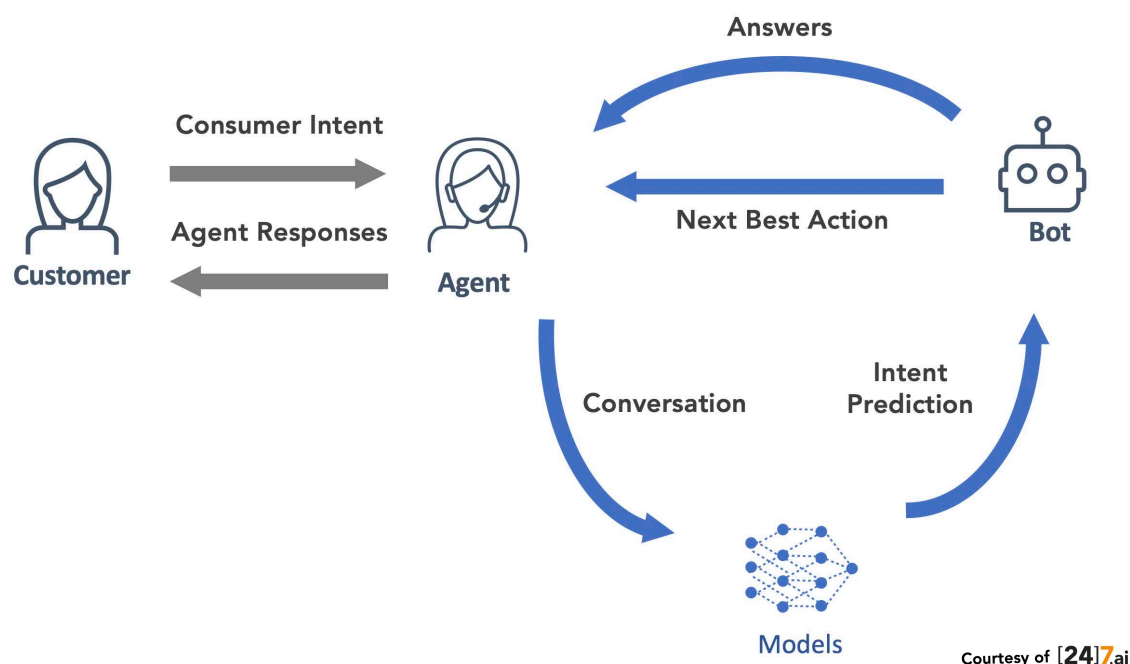
**Figure 2: Delegation - Agents Delegate Routine Tasks to the Bot**

According to this use case, the agent identifies a simple task that a “botlet” can handle. The agent selects the botlet from a list of pre-configured bots and allows the bot to continue the journey while supervising the interaction. Upon completion, the botlet hands the interaction back to the agent, or triggers another botlet to close the conversation, initiate a satisfaction survey, or other action. This approach reduces agent handle time (AHT) and has the potential to increase agent satisfaction by freeing them up to handle more complex tasks.

**Figure 3: Learning Loop - Agents Train IAs, Oversee Machine Learning**

The agent console is embedded with tools that enable SMEs or agents to review conversations (imported historical conversations or recent conversations inside the platform) and tag intents, which allows the AI to automatically fill the wrap-up disposition in future conversations, saving agents time, and the tagged intents feed into the ML process, helping to improve intent models over time to contain bot interactions.

**Figure 4: "Whisper Bot" - Using IA to Suggest Best Actions**

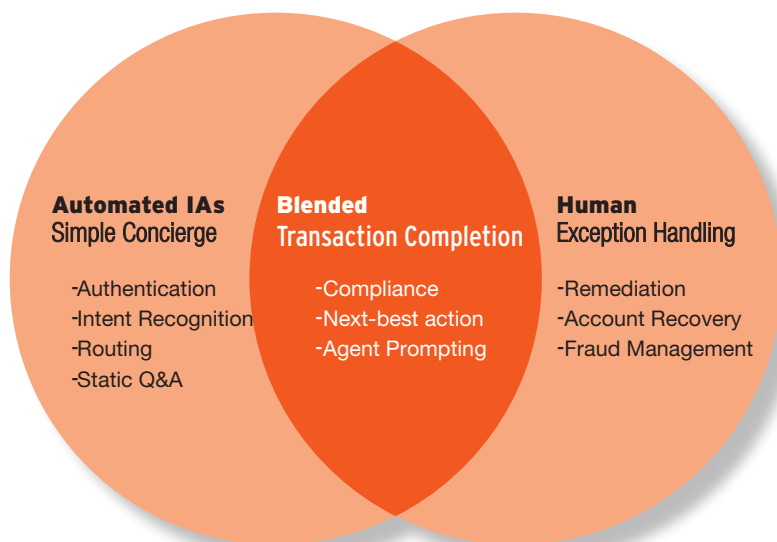


The whisper bot monitors a conversation and enables agents to leverage the AI engine and pull responses from the Knowledge Base based on the identified intent or conversational context. This reduces agent handling times and improves CSAT with faster resolution times. For example, an online shopper asks the agent about the TV they are considering. The whisper bot, already aware of the specific product the consumer is considering presents the agent with several pieces of product information relevant to the consumers question, and the agent can simply push a button to send the chosen response.

## Digital Transformation Balances IAs and Humans

Solutions that put Intelligent Assistants (IAs) in the basic concierge role cannot be sustained because, whether they say so explicitly or not, implementers expect to replace humans with less expensive automated resources. When it comes time to justify investment in Conversational AI, the primary factor is cost-savings. Thus, from the outset, humans have been pitted against machines in a battle for survival.

**Figure 5: Today's Approach to Adding Conversational AI**



The tasks performed by automated IAs in this model are well-defined, repetitive and limited in function. Yet, they are justified by the fact that they reduce the need for human agents and, in the long run, will allow companies to save money by reducing the payroll associated with agent handling of routine calls. Some experts on “The Future of Work” say that machines are doing the work that live agents don’t want to and provide them with time and ability to tackle more challenging and gratifying undertakings. Still, the business plans

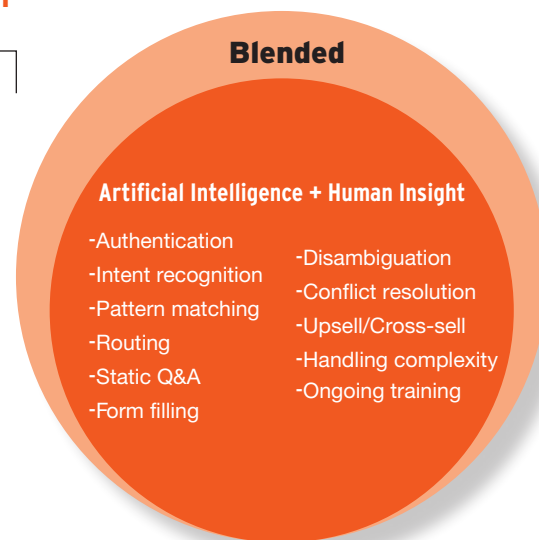
for Conversational AI implementations are most often justified by cost reductions resulting from staff reductions.

This does not have to be so. Solutions, like the use cases for [24]7.ai’s described above, demonstrate how a well-designed blend of Conversational AI justify investment on factors that go beyond pure cost savings. In concert AI and Humans can respond to natural language input from prospects, customers and employees to collectively complete a fast-growing list of tasks.

**Figure 6: Blended AI and Human Insights Benefits All**

## Artificial Intelligence + Human Insight

One common denominator is human control of AI-infused resources. Customers or prospects enter instructions or ask questions in their own words. Subject matter experts (SMEs) among contact center reps or support staff train the automated Intelligent Assistants. Humans stay “in the loop” over time to help identify best answers and help the IA learn. Another is that Intelligent Assistants exist to shorten the time it takes for humans to complete their given tasks. The “whisper bot” suggesting an agent’s next-best action or providing exact wording to complete a transaction exemplifies this benefit. Another example is a botlet that an agent can launch to complete routine tasks such as credit card capture, appointment scheduling, or survey feedback.



## AI+HI Benefits All Departments

Today's implementations of Conversational AI in Contact Centers and Help Desks expedite resolution of repetitive issues while minimizing human input. Experienced implementers are learning that there is a much greater potential for use cases that encourage a more balanced flow both to and from automated Intelligent Assistants. Collectively, they have uncovered new, high-impact use cases with potential to greatly improve departmental workflows with enterprise-wide impact.

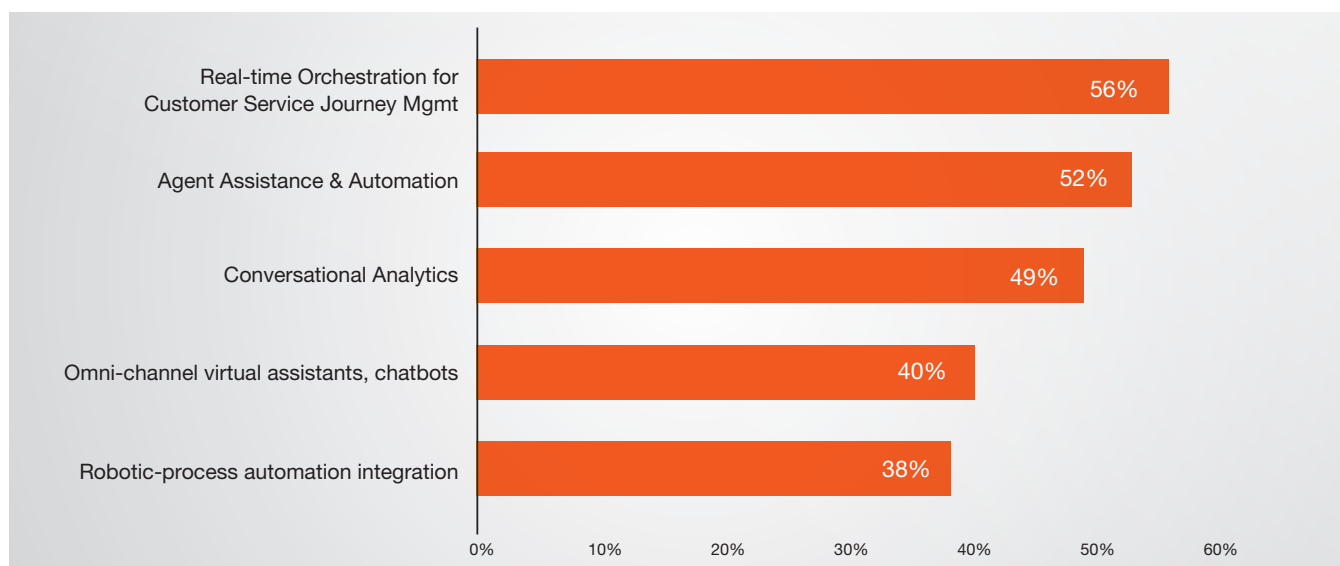
For example, digital retailers have found great value in using predictive analytics as an aid in determining which advertising placements or selected keywords are having immediate impact on sales. These analytics, especially when linked with high-velocity advertising marketplaces can help tailor marketing programs and boost sales.

Still, the highest value comes from putting customers in control of the way that they interact with their selected brands over time. They can use the device that is most convenient for them at any given time. They can pick up a search or conversation with a chat agent at their own convenience as well. This is where an automated agent powered by Conversational AI can be available 24 hours a day, seven days a week, they can keep track of the context of a conversation and bring a live agent or technical assistant into the conversation at the time of highest impact.

In a recent global survey, Opus Research asked 400 contact center decision-makers what features and functionality they were formally considering for improving contact center efficiency.

**Figure 7: Blended AI and Human Insights Benefits All**

Q: Which of the following has your firm formally considered for improving contact center efficiency?



SOURCE: Opus Research, Global Survey (2019)

Decision-makers who responded to an Opus Research survey reflected relatively high-awareness and interest in technologies that are discussed in this paper and integrate AI into the agent-customer conversation. More than half are already looking for technologies that help orchestrate omnichannel customer journeys, presumably by rapidly recognizing (indeed predicting) the purpose of each contact.

A slightly lower percentage, yet still over half show interest in employing technologies to provide agent assistance or full-on automation of customer activities. Conversational Analytics ranks only slightly lower than the top two, reflecting a recognition that analytic technologies and AI are perceived as most important when deployed to improve the performance of a mix of humans and bots.

The use cases depicted in this paper illustrate how [24]7.ai's HI+AI approach is designed to strike the human-bot balance in the context of helping both customers and agents achieve their objectives in real time. Indeed, it takes the effort of an entire village, spanning agents, supervisors and their robot counterparts to improve the quality of interactions among each of the community members and promote collective objectives.

## About Opus Research

Opus Research is a diversified advisory and analysis firm providing critical insight on software and services that support multimodal customer care. Opus Research is focused on “Conversational Commerce,” the merging of intelligent assistant technologies, conversational intelligence, intelligent authentication, enterprise collaboration and digital commerce.

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