



USING GENERATIVE AI FOR IMPROVING CUSTOMER EXPERIENCE



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A white paper written by humans for humans

What is Gen AI?

Generative AI or generative artificial intelligence – a type of AI – refers to the use of AI to create new content, like text, images, music, audio, and videos which appears to have been generated by a human.

Generative AI (Gen AI) is powered by the foundation of Large Language Models (LLMs) that can multi-task and perform operations out-of-the-box, including summarization, Q&A, classification, and more. Plus, with minimal training required, foundation models can be adapted for targeted use cases with very little example data.

How does Gen AI work?

Gen AI works by using neural network models to learn the patterns and relationships in a dataset of human-created content. It then uses the learned patterns to generate new content.

The content is generated from Large Language Models (LLMs) which are created from extremely large datasets with hundreds of billions of parameters in order to provide pre-trained models which are the basis of the generative content.

Leveraging a larger set of datasets than traditional intent-driven models or algorithms, LLMs offer the benefit of better generalizing trained models to new data.

LLMs extend and deepen automation capabilities

A Large Language Model (LLM) is a machine-learning neuro network trained through data input/output sets; frequently, the text is unlabeled or uncategorized, and the model is using self-supervised or semi-supervised learning methodology. Information is ingested, or content entered, into the LLM, and the output is what that algorithm predicts the next best answer will be. One example of LLMs is ChatGPT.

Leveraging a larger set of datasets than traditional intent-driven models or algorithms, LLMs offer the benefit of better generalizing trained models to new data. As LLMs are essentially pre-trained on a large dataset, they are able to provide greater accuracy in predictions and perform more complex tasks significantly faster.

The table below shows the differences between a traditional intent-driven approach with IVAs, versus Gen AI infused data with the assistance of LLMs.

	Traditional Intent-Driven	Generative with LLMs
When	Require fully deterministic responses, auditable step-by-step process, or strict data security / compliance	Allow some variance in responses to offer dynamic, broad question coverage, lower data security / compliance
How	Require manual intents, deterministic training phrases, defined routes, and conversation transitions	Allow IVAs (Intelligent Virtual Assistants) to scan content or describe an IVA task, Gen AI model designs conversation flow
What	Specific, high-volume intents with very specific business logic – longer build times	Broad unstructured data (website, documents, knowledge base), provides dynamic flows, and extends intent IVAs

LLMs are potentially biased based on the dataset they were trained on. If the training data contains biased information, then the model will inevitably learn and reproduce biased responses. As the use of LLMs continues to advance, it’s everyone’s responsibility to reduce bias. This is not only a technology provider responsibility, but an opportunity for any organization consuming this technology to use datasets that reflect fairness and equality.

Everyday Use of Gen AI in Customer Experience

For years organizations have used automation – be it IVR (Interactive Voice Response) or IVA (Intelligent Virtual Assistants) – to answer routine questions from customers. This not only reduced the number of inquiries into the contact center but also enabled staff to spend time with customers who needed their expertise the most.

In the past, when an IVA couldn't determine a customer's intent, it asked the customer to rephrase its question. If, after two prompts, the IVA still couldn't determine the customer's intent, it was escalated to a live agent, initially with limited, if any, context as to the customer's journey. Over time, contextual information gathered and delivered improved, and everyone became happier.

Now, with generative technology used in IVAs, information from multiple sources (both internal or external) can be located and presented without requiring creation of pre-defined set of canned responses, which are labor intensive to build and maintain and result in less-than-optimal outcomes.

IVAs can use generative responses as their primary information source. As a result, IVAs can be quickly created and deployed without having to manually create multiple canned responses that may not address the customer's questions.

One of the biggest advantages of generative AI technology is its ability to process large amounts of content, creating insights and answers via text, images, and other user-friendly formats (like blogs and written copy), that can be leveraged in a variety of use cases. For example, Gen AI can be used to:

- Improve customer interactions through enhanced chat experiences by providing personalization and context-aware responses
- Explore vast amounts of unstructured data through conversational interfaces and provide summarizations for quick references
- Assist with repetitive tasks like replying to digital interactions (emails, chat and messaging conversations),

localizing content in different supported languages, personalized and context-aware response, and more

- Provide cost-effective global coverage by providing multi-language support that handles queries automatically from a multiplicity of languages
- Prevent agent burnout by eliminating monotonous tasks and heavy workloads that lead to agent burnout, which in turn can have a negative impact on agent wellness and productivity. IVAs with Gen AI can help solving this issue by handling repetitive tasks, with a human-like personalization for more natural conversations and responses

Gen AI responses from YOUR content

Adding a Gen AI layer to automated conversations lets your IVA send more natural replies. This saves you from building dialogue flows for greetings, goodbyes, and other types of automated responses.

Instant responses powered by Gen AI analyze large volumes of data and provide human-like answers, expanding coverage with replies from your content.

You can start with as little as a domain name to create an out-of-the-box conversational experience. Gen AI responses are created by invoking LLMs for specific fulfillments or to match events by providing simple prompts in natural language.

Why add Gen AI capabilities to your IVA?

Many organizations resisted implementing automated solutions in the past, because their customers found the first-generation of IVA interactions frustrating. This was a legitimate concern with clunky, limited, rules-based first-generation responses. With continuous innovation provided by Gen AI, IVAs can now provide better user experiences.

Gen AI technology embedded into a broader automated Customer Experience can help organizations deliver faster and better use cases including:

With Generative Fallback, organizations can provide text prompts that instruct how the LLM should respond. Organizations can use a predefined set of text prompts or create their own ad hoc prompts.

- Improve response and brand consistency:
 - Ensure responses are on brand
 - Use published website content that is always kept up to date
- Enhance KPIs:
 - With more thorough responses, less inquiries elevate to human intervention
 - Boost staff efficiency
- Extend coverage at low cost with answers from your existing content:
 - Add questions that can be answered from organizational knowledge documents/website content, for which you have not built intents yet
 - Add a fallback in case existing intents cannot answer a user query
- Increase quality and reduce maintenance, replace certain intents with generative answers:
 - Replace existing intents that can be better responded to via the organizational knowledge base/website content
 - Replace intent route groups that were solely built to answer FAQs (e.g., route groups you may have built to answer FAQs that exist on your website)

Generative Fallback

With traditional IVAs, customer input cannot always be matched with pre-canned responses. Generative Fallback technology is used to access new external datasets through LLMs, enabling organizations with a large number of questions/topics and answer pairs – used for single-turn conversations - the ability to expand the number of possible responses.

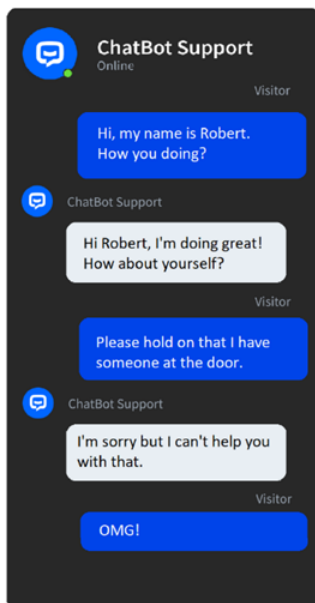
With Generative Fallback, organizations can provide text prompts that instruct how the LLM should respond. Organizations can use a predefined set of text prompts or create their own ad hoc prompts. With the predefined prompt, the IVA can now handle basic conversational situations such as:

- Greet and say goodbye to the user.
- Repeat what the agent said in case the customer did not understand.
- Hold the interaction (voice or digital) when the customer asks for it.
- Summarize the conversation and provide transcript to the customer.

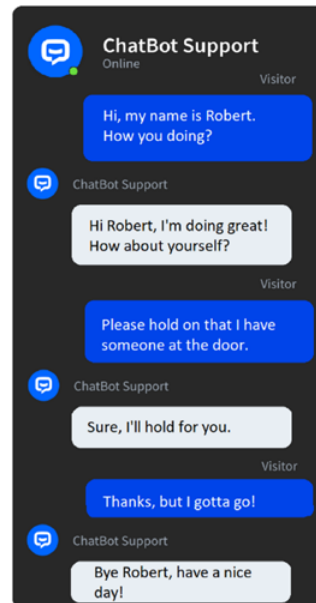
Avaya Experience Platform empowers businesses to build a dynamic and adaptable contact center ecosystem, incorporating AI. We've partnered with Google CCAI technology for its Gen AI implementation within Avaya Experience Platform.

Below is an example of how Generative Fallback can result in a more positive user experience in an automated chat conversation.

Without Generative Fallback



With Generative Fallback



As shown to the left, the LLM is able to improve the automated conversations with human-like responses by analyzing what the customer wrote and looking beyond what is available in the pre-configure dataset.

Gen AI solutions for Avaya Experience Platform

Avaya Experience Platform empowers businesses to build a dynamic and adaptable contact center ecosystem, incorporating AI. We've partnered with Google CCAI technology for its Gen AI implementation within Avaya Experience Platform. Organizations can subscribe to AI Virtual Agent to leverage this technology with Voice and Digital Channels and supercharge conversational AI experiences with Gen AI.

Google is a true pioneer in AI, and with the addition to Gen AI to its CX conversational self-service capabilities, you can extend and deepen your customers' journey by adding these new capabilities:

- Conversational voice/chat/messaging bots with LLMs used in speech model
- Integrated hand-offs to live agents
- Answers grounded in your content, supercharged with LLMs
- Combine intent and Generative flows with simple to build transaction bots, using natural language and drag and drop pre-built use cases

- Generative FAQ:
 - Generate a list of questions based on what customers asked in each conversation
 - Generate the answers to those questions from different sources (i.e. leveraging LLMs)
 - Generate questions/answers related metrics, such as trending questions, answer quality rating, agent answer similarity scores, etc.

Our focus is on achieving excellence in today's rapidly changing world. You can rely on our expertise, advanced technology, and partner ecosystem to meet the needs of your organization, regardless of its size or complexity. Avaya Experience Platform offers a diverse set of customizable capabilities, allowing you to tailor the customer experience to your desired outcomes. With Avaya, your previous investments remain protected, and we support you at every stage of your transformation journey, offering flexibility and our services to help you achieve your business goals.

Interested in learning how Gen AI can work in your organization?

Contact us: hello@avaya.com.

We'd love to hear from you.

About Avaya

Businesses are built by the experiences they provide, and every day, millions of those experiences are delivered by Avaya. Avaya is the global leader in customer experience (CX) solutions for large enterprises, providing organizations with the tools they need to drive customer and employee engagement and achieve better business outcomes.

The world's biggest brands trust Avaya's contact center and collaboration technology to deliver innovation without disruption, allowing organizations to add best-in-class technologies on top of their existing infrastructure. With the freedom to choose their journey to innovation, there's no limit to the experiences Avaya customers can create. Learn more at www.avaya.com.

