How Can Generative AI Be Used to Improve Customer Service and Support?

Published 24 May 2023 - ID G00794241 - 3 min read

By Analyst(s): Pri Rathnayake

Initiatives: Customer Service and Support Technology

The advent of generative AI marks a dramatic leap forward in the realm of automation. Application leaders responsible for customer service should partner with customer service technology vendors to evaluate and adopt the generative AI product innovations that deliver the most value in the near term.

Quick Answer

How can generative AI be used to improve customer service and support?

- Customer service and support technology (CST) vendors are adding new, generative-AI-powered features to their solutions. This first wave of features using large language models (LLMs), a subset of generative AI, will improve:
  - Employee productivity by reducing average handle times (AHT)
  - The quality and accuracy of interactions by creating reusable knowledge content
  - Self-service containment rates through better conversational virtual agents
- To benefit from these capabilities safely and promptly, consult CST vendor roadmaps to identify and deploy their solution innovations that offer the best near-term value.

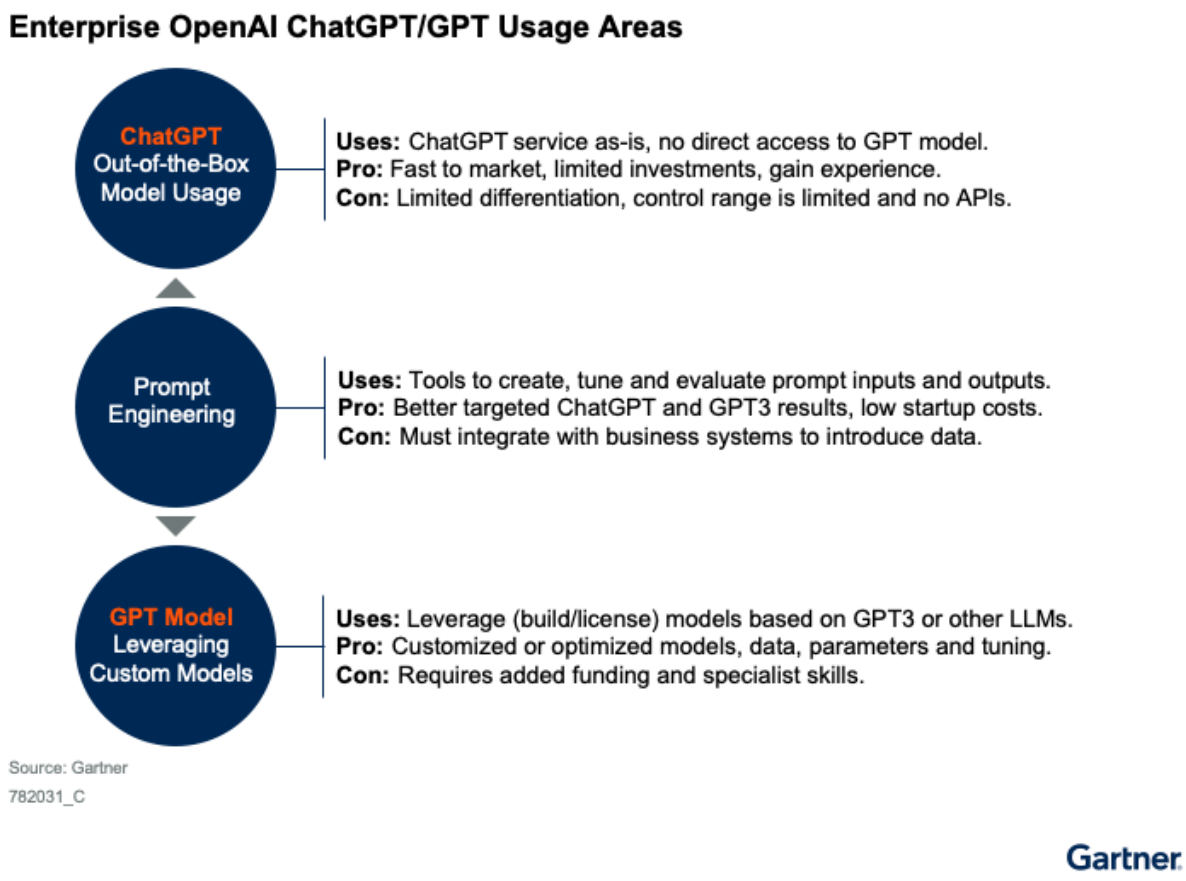
More Detail

As the first widely available generative-AI-based application, ChatGPT has raised immense interest about opportunities and risks in using the underlying technology of foundational LLMs for customer service use cases. Regardless of the hype surrounding ChatGPT, recent advances in LLM capabilities represent a turning point in CST applications. However, accessing LLM capabilities directly, by building generative-AI-powered enterprisegrade applications, will be a challenging task for most organizations. In practice, generative AI methods will be combined with existing AI methods, as well as with other software methods, to deliver complete solutions.

Leaders should assess the benefits, risks and costs of the deployment approaches for LLMs such as GPT- and LLM-based applications like ChatGPT.

Application leaders should consider three approaches to interacting with LLMs (see Figure 1).

Figure 1: Enterprise OpenAI ChatGPT/GPT Usage Areas



1. **Out-of-the-box model usage:** This is using ChatGPT service as-is, and does not involve directly accessing the underlying GPT-3.5/4 models. While this is a low-cost, fast-to-market approach, the very limited range of control over outputs and resulting risk of hallucinations make this an unacceptable approach for enterprise use in the near term.

2. **Prompt engineering:** This involves using purpose-built tools to create, tune and evaluate input and output prompts that interact with the LLM. It has the advantage of being able to generate better-targeted outputs and results that can be controlled and verified. But, it requires integration with business systems and knowledge bases to introduce organizational data. Also, there is a cost involved in acquiring an appropriate prompt engineering tool and onboarding prompt engineer(s).

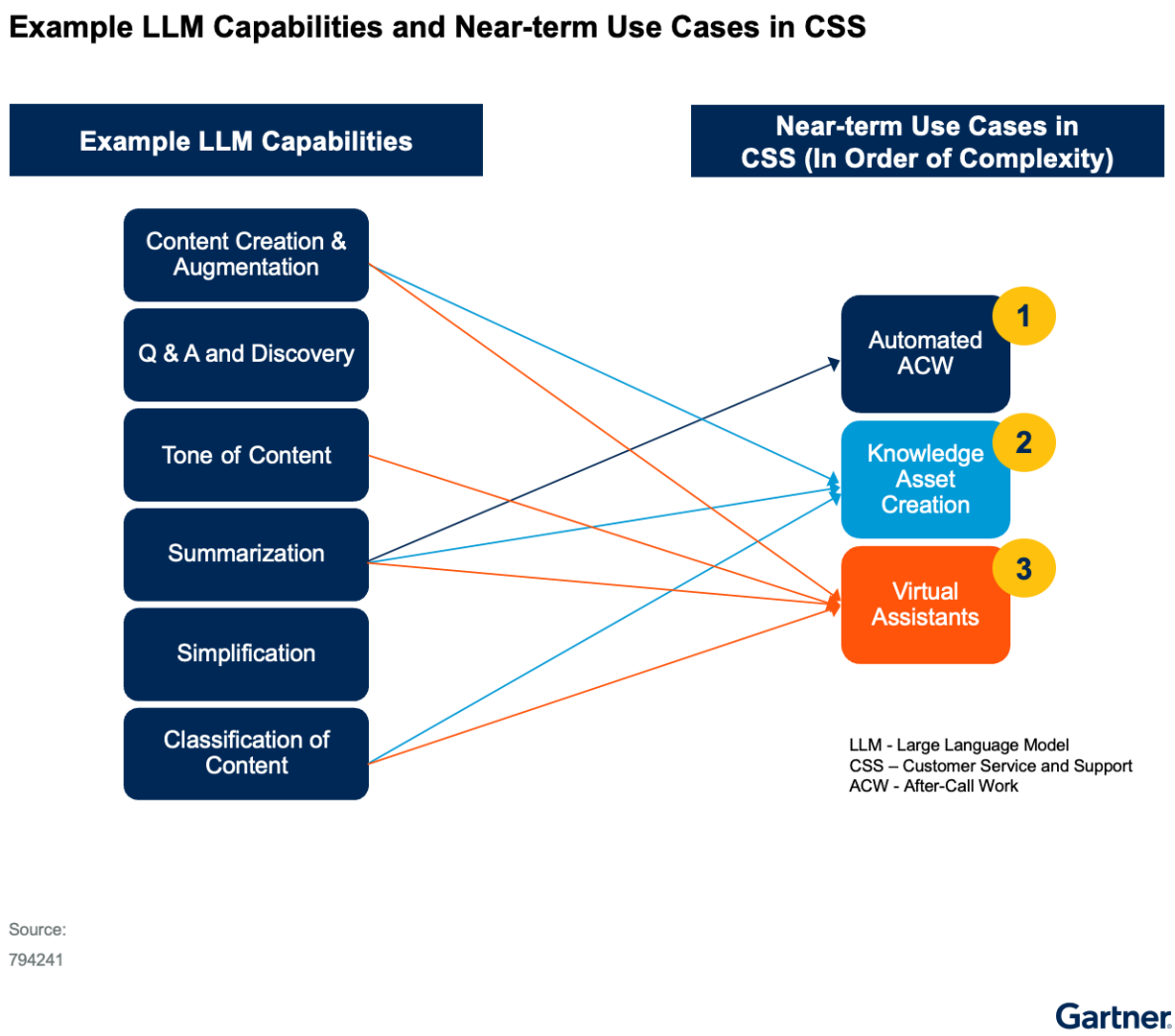
3. **Leveraging custom models:** This involves either building or licensing GPT or similar LLMs directly. It allows for customized or optimized models, data, parameters and tuning to all match exclusively to the enterprise's requirements. However, this approach requires significant investment and specialist skills, and is not a suitable option for most enterprise customer service environments.

All of the above approaches need the enterprise to set up experiments to determine which use cases to automate using LLM capabilities. Once completed, evaluate the results of the experiments before implementing solutions for production use in customer service and support operations.

However, to achieve quicker time to value, there is a fourth approach, which is to leverage partnerships with the existing CST vendors to evaluate and adopt product innovations they are offering to deliver near-term value.

CST vendors are adding new generative-AI-powered features to their existing solutions. Through these solutions, generative AI can deliver near-term business value in the following areas (see Figure 2).

Figure 2: Near-Term Use Cases of Generative AI in Customer Service and Support



- **Summarization:** Vendors are incorporating automated after-call work (ACW) functionality, enabling customer service reps (CSRs) to close out customer interactions and cases with only a few clicks. This reduces AHT and increases overall rep productivity. Summarization capability is also showing up in self-service to assisted-service transitions, where the application presents the CSR with a "story-so-far" summary of the interaction.
- **Knowledge asset creation:** This uses a combination of the content creation, summarization and classification capabilities of LLM-powered applications. Vendor solutions use unstructured textual data in call transcripts and case notes to identify new content. These content snippets then get presented to downstream knowledge management (KM) processes and systems for further curation before being added to the enterprise knowledge corpus.

- **Virtual assistants (VAs):** LLMs improve intent recognition and classification, which are important steps in answering end users' questions presented to VAs in natural language. Additional capabilities such as content augmentation, tone of content, summarization and content classification are combined to implement VAs capable of engaging in human-like conversational interactions.

In parallel to evaluating CST vendor innovations, application leaders responsible for customer service and support should collaborate with cross-functional leaders in data and analytics and corporate governance to develop governance frameworks and an enterprise use policy for LLM-based applications.

Recommended by the Authors

ChatGPT Research Highlights

Tool: Enterprise Use Cases for ChatGPT

Quick Answer: How Can You Manage Trust, Risk and Security for ChatGPT Usage in Your Enterprise?

Applying AI — A Framework for the Enterprise