



HKT Improves Customer Service Productivity with Generative AI

Introduction

HKT, a leading telecommunications company in Hong Kong, sought to transform its customer service operations by leveraging AI technology. In collaboration with Lynx Analytics, HKT embarked on a journey to enhance the productivity of its customer service agents through the implementation of a Generative AI chatbot. This use case outlines the challenges faced by HKT, their guiding principles for the project, the innovative solution developed by Lynx Analytics, and the remarkable outcomes and benefits achieved.

HKT, which offers a full array of communications services, was experiencing an ever-increasing volume of queries about its many offerings. Customer questions were coming in through

different channels: voice calls, messaging apps, email, etc., with agents on the other end relying on their experience and different sources of internal information to provide an accurate answer.



Business Challenge

The reliance on agents ensured that answers provided were accurate but created bottlenecks and delays in terms of response time. For example, a question coming in on a Tuesday afternoon could get an answer within minutes, but questions sent during the night or weekends might remain unanswered for hours, leading to an inconsistent or poor customer experience. The situation was particularly challenging when it involved mobile customers roaming in different time zones requiring immediate assistance.

HKT's primary objective was to improve timeliness of customer support without jeopardizing the quality of answers provided. The deployment of a "general purpose" chatbot based on Large Language Models (LLMs) such as ChatGPT could undermine the accuracy of answers. So-called hallucinations and catastrophic forgetting, which have been widely reported, could create risks for HKT ranging from negative customer experience to legal liabilities. Also, rules governing the multitude of offers HKT has available at any given time are complex and often have conditions that must be carefully evaluated for applicability. This is exactly the type of environment where experienced agents excel but where chatbots could easily err.

HKT's Guiding Principles

Aiming to retain a human-centric approach to customer service, HKT was interested in exploring LLM-based chatbots to improve agent efficiency instead of a robot-based customer service channel. In other words, the generative AI tool was to be an assistant to agents providing answers to customers, not a customer-facing solution itself.

Once this direction was clearly established, Lynx Analytics worked with the customer service team to define the key requirements for the desired solution:

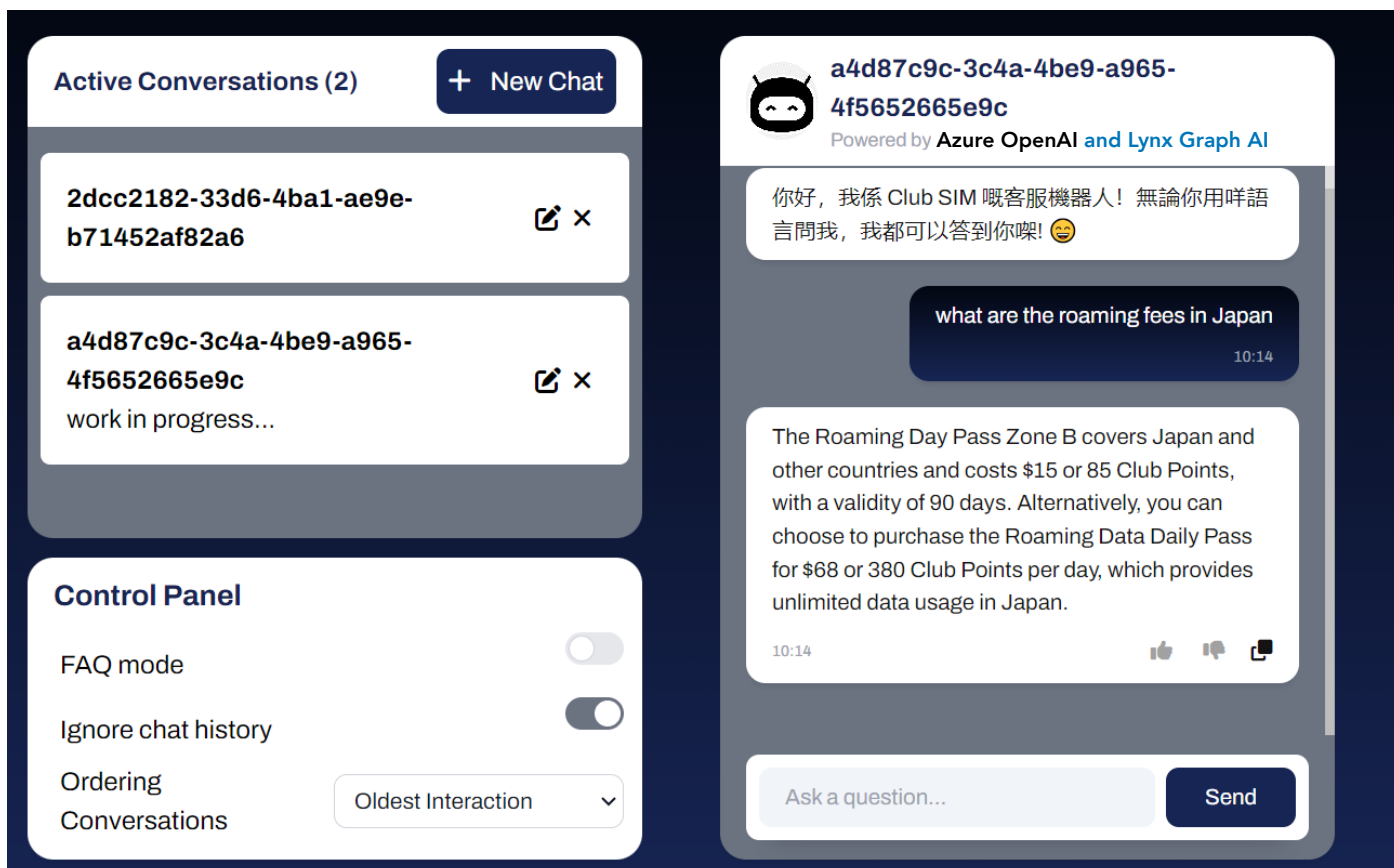
- The tool had to be well versed in the details, rules, and terms and conditions for all offers, packages, bundles, etc.
- Answers provided had to be as accurate as those from a well-trained agent.
- The tool had to be able to converse in a mix of English, Cantonese, and Mandarin.
- All personally identifiable information had to be kept hidden from any system external to HKT.
- The graphical user interface had to be integrated with the desktop application used by customer service agents.

The Lynx Analytics Solution

Developers at Lynx Analytics sought to create a specialized chatbot that merges the conversational abilities of LLMs with in-depth domain information about HKT's telecommunications offerings, organized in the form of knowledge graphs.

To build the chatbot's expertise, Lynx Analytics meticulously curated a comprehensive knowledge base using data from various sources provided by HKT, including web pages, PDFs, internal memos, and product notes. The use of knowledge graphs played a pivotal role in codifying vast amounts of information into a usable format, ensuring efficient and comprehensive responses.

Each chatbot response included links to the source of the information and a confidence score indicating the answer's accuracy relative to the user's query. This approach enhanced trust in the chatbot's capabilities and demonstrated a commitment to transparency and accountability in AI-driven interactions.



The chatbot was setup to continuously improve its responses through machine learning, leveraging past interactions to provide up-to-date, accurate support. This makes for a very scalable solution that can accommodate HKT's evolving services without major modifications.

Source of Information

Info: Confidence score: 99.1%

Source: As the confidence score is over 90%, the answer probably does not need any particular change.

Info: Questions and Answers from FAQ

Source: File summary:
No summary

Relevant content from the file:

客戶: How do I check each Service Packs validity period? || 客戶服務人員: You can check the validity period and details of each Service Pack via Club SIM app > Profile [...]

客戶: Can I choose the activation date of each service pack? || 客戶服務人員: The first service

Outcomes & Benefits

Following the deployment of the Lynx Analytics solution, HKT customer service agents were able to enter questions directly into the chatbot and obtain answers that were ready to be shared with the customer after a quick review for accuracy. This enabled them to handle a far greater number of queries than was previously possible, virtually eliminating any backlog and delays.

The solution advanced HKT's digital transformation agenda without introducing a new customer-facing service, thereby eliminating any

related risk. The use of technology for productivity enhancement rather than staff reduction also helped boost employee morale.

As a result of this innovative solution, several key benefits emerged:

Greater operational efficiency: The chatbot's ability to distill information into concise answers enabled faster response time and a more productive support team.

Improved customer experience: Agents were able to address more questions in less time, resulting in a shorter wait for customers.

Faster onboarding: As routine enquiries were handled by the chatbot, new agents were able to focus on more complex issues, thus accelerating their proficiency.

Customer insights: By gathering valuable data, the tool offered insights into customer preferences, frequently asked questions, and areas requiring additional attention.

Best practice: By making the system's internal logic explicit and ensuring responsible AI deployment, the project upheld ethical AI practices, contributing to the advancement of industry standards and HKT's fulfillment of its social and governance responsibilities.

Conclusion

In the fast-evolving landscape of customer service, HKT's partnership with Lynx Analytics shows that it is possible and even desirable to improve operational efficiency while maintaining a human-centric approach.

How might you harness the synergy between generative AI and human expertise to transform your operations?

We invite you to explore the possibilities by contacting us [here](#).

"Through the implementation of a generative AI solution from Lynx Analytics, HKT not only tackled the challenge of response timeliness but also elevated the overall customer experience. This collaborative effort has not only redefined customer service within the telecommunications industry but also exemplified responsible AI deployment, setting a standard for ethical and transparent AI-driven interactions."

*Chung NG, SVP, Technology,
Strategy and Development, HKT*