Case Study

Daiichi-Sankyo

Daiichi Sankyo develops and implements in-house AI system with Avanade

Custom generative AI platform leveraging Microsoft Azure OpenAI service made accessible to employees in just one month

Do what matters

Inspiring change

Daiichi Sankyo Co., Ltd. has outlined four growth drivers in its fifth mid-term management plan, targeting FY2025. Among these, "Advanced Digital Technology" stands out as a pivotal foundation to propel the company's growth. Spearheading this initiative is the Advanced Digital Technology team within the company-wide Transformation Promotion Group, DX Planning Department.

Mr. Yusuke Asoh, the company's associate director, has consistently led a series of organization-wide transformation projects centered around advanced digital technology. He expresses the company's purpose as such: "To contribute to the enrichment of quality of life around the world, we wholeheartedly embrace DX at an organizational level. Our goal is to drive transformation across the entire company, fully utilizing data and digital technology to position ourselves as a global pharmaceutical innovator."

Aligned with its 2030 vision to become an innovative global healthcare company contributing to the sustainable development of society, the organization places significant emphasis on harnessing data and digital technology. Notably, the impact across Daiichi Sankyo when OpenAI released ChatGPT in November 2022 was profound.

"While interest in the business applications of generative AI has surged within the company, there are challenges to address when deploying it for business purposes," Mr. Asoh points out. "These include safeguarding confidential information and personal data from leaks." Moreover, generative AI presents several unique considerations, such as risks related to copyright infringement, misleading outputs due to hallucinations (where AI produces incorrect results) and misunderstandings and over-reliance on generative AI itself.

Therefore, the team initially established usage guidelines for online services, including ChatGPT, ensuring that the entire organization was well-informed. Subsequently, in order to fundamentally address the challenges associated with generative AI and actively promote its business utilization, they concluded that developing a distinctive generative AI system was essential.

Company Name: Daiichi Sankyo Co., Ltd.

Country: Japan

Industry: Health, Life Sciences

Solution: Generative AI, Microsoft Azure OpenAI

Driving innovation

In May 2023, the process of selecting a development partner for Daiichi Sankyo's generative AI project commenced. "We compiled a list for potential partners and narrowed it down through research," reflects Mr. Asoh. "Ultimately, Avanade emerged as the chosen company from the candidates we interviewed."

The first meeting with Avanade took place around June 2023, with a primary focus on discussing the company's critical need to effectively deploy generative AI within a short timeframe for its operations.

"While more companies are venturing into generative AI, many of these efforts remain at PoC (proof-of-concept) level," shares Tatsuma Mihata, Director at Avanade. "Few cases involve deploying generative AI for large-scale production environments with up to ten thousand users. Given our track record of building internal generative AI systems, we made a proposal by leveraging that experience as existing assets, with effective adjustments to address their urgent business needs."

"Avanade tackled our technically challenging implementation requests with unwavering commitment. Their proactive approach to finding solutions and consistently meeting our expectations showcases their remarkable proposal skills and technical expertise."

**– Mr. Yusuke Asoh, Associate Director,
Company-Wide Transformation Promotion Group,
DX Planning Department, Daiichi Sankyo**

Mr. Asoh highlights the key factors that led to selecting Avanade as Daiichi Sankyo's partner: "Their proposal aligned with the timeline requirement for our full-scale release."

In addition to the challenge of a tight development schedule, Mr. Asoh says the company's limited experience and knowledge in utilizing Microsoft Azure as an Infrastructure-as-a-Service (IaaS). Describing their approach to safely harness OpenAI's generative AI technology, he says: "We considered it optimal to utilize the Azure OpenAI Service within our private network on the Azure platform. Given Avanade's expertise and skills in all things Azure, entrusting them was a confident choice."

The development project is divided into two main phases. Phase one targeted a September 2023 release, with phase two covering post-release enhancements.

"Phase one, which commenced in August 2023, witnessed a remarkable achievement in a mere month: the production release of our in-house generative AI system, DS-GAI, targeting approximately 9,300 employees across our domestic group companies," says Mr. Asoh.

Following this milestone, the team continued their iterative enhancements, focusing on an agile-driven minimum viable product (MVP). This approach involved user interface improvements and additional functionality to enhance user convenience.

Phase two started in October 2023, during which the team progressively implemented functional enhancements related to GPT-4 compatibility, image generation capabilities, file analysis functionality, internal dataset analysis, Code Interpreter functionality and management features.

As a focal point of the project, Mihata reflects on the challenges encountered during phase one. His team worked hard to align intricate functional requirements specific to the industry. "Thanks to the generous support from Daiichi Sankyo's team, we swiftly escalated issues and engaged in continuous communication regarding our proposal," he says. "This collaborative effort facilitated rapid decision-making and successful development."

Concurrently with development, the team actively promoted the internal adoption of DS-GAI through user education and awareness initiatives. "We consistently organized internal lectures, inviting experts from both within and outside the organization, and conducted idea-generation workshops," says Ms. Junka Kaneda, Associate Director at Daiichi Sankyo. To enhance understanding of DS-GAI usage, the team distributed short videos to raise awareness. Furthermore, they have established and maintained a dedicated internal website that aggregates information related to DS-GAI, including internal use cases and prompt techniques.

Achieving what matters

"Since the full-scale release across the organization just two months ago, our generative AI has gained exceptionally rapid traction, with an average of approximately 500 users per day," shares Mr. Asoh.

The use cases span a wide spectrum, including idea generation, coding assistance, content creation, learning and data analysis. During a company-wide seminar in February 2024, seven DS-GAI users from various departments shared their success stories. "By incorporating DS-GAI into our workflow, we've witnessed remarkable use cases that go beyond our initial expectations," reflects Ms. Kaneda. "An employee without programming knowledge was able to customize applications and even create simple illustrations – a task that was previously outsourced."

Furthermore, inquiries from other departments requesting DS-GAI education in their own teams were inspired by the successful use cases observed elsewhere. The positive impact extended beyond efficiency gains and improved output quality; it has also contributed to shaping the overall organizational culture and fostering a positive environment, far exceeding initial expectations.

"The improvements in work efficiency and output quality brought about by the generative AI were not only direct effects, but also contributed to shaping the company's culture and atmosphere, which exceeded our initial expectations."

– Ms. Junka Kaneda, Associate Director, Company-wide Transformation Promotion Group, DX Planning Department, Daiichi Sankyo

Mr. Asoh shares his thoughts on Avanade's support during and after the implementation process, saying: "Despite the fact that this was our first collaboration, I realized Avanade's remarkable proposal skills and technical expertise throughout the project. Even when faced with our technically challenging implementation requests, Avanade consistently approached them with a positive mindset, diligently considering the technical solutions to meet our expectations. Working toward ambitious goals, we had a spirit of mutual challenge together and unwavering support, even when facing tough situations, always striving until the very end."

In terms of technical expertise, he highlights that Avanade successfully implemented critical features essential for Daiichi Sankyo's generative AI within a short period, and the post-release system has operated smoothly without significant issues.

The company envisions the development of generative AI across the following three key layers:

- Foundational model implementation: Panning to make various large-scale language models accessible using Azure AI Studio.

- Leveraging internal data as the language understanding engine (enhancing functional capabilities such as file analysis, internal dataset exploration, etc.): Aiming to enhance the usability of the internal dataset analysis feature.

- Optimization for individual operations (fine-tuning, operation-specific user interface (UI), integrating with internal business systems, etc.): Actively working to drive the overall company-wide acceleration of DX.

Mr. Asoh concludes by emphasizing the advantage of Avanade's joint venture status with Accenture and Microsoft. He looks forward to Avanade giving more proposals and assistance in cutting-edge technologies in the field of generative AI.

About Daiichi Sankyo

Daiichi Sankyo is an innovative global healthcare company contributing to the sustainable development of society that discovers, develops and delivers new standards of care to enrich the quality of life around the world. With more than 120 years of experience, Daiichi Sankyo leverages its world-class science and technology to create new modalities and innovative medicines for people with cancer, cardiovascular and other diseases with high unmet medical need. For more information, please visit www.daiichisankyo.com.

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About Avanade
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