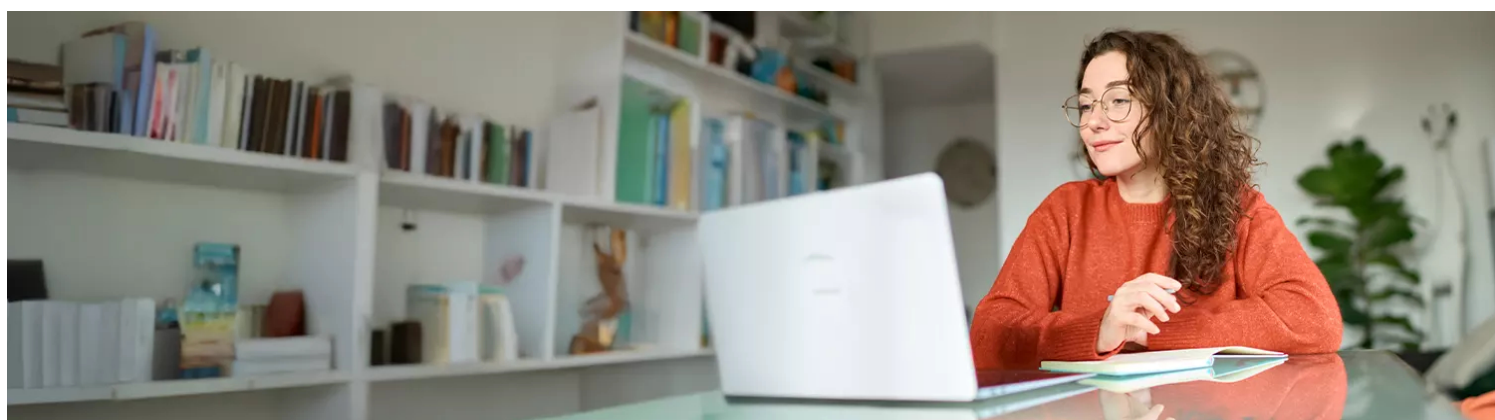![cognizant]

EdTech giant leverages Azure OpenAI to enable student success

By creating a secure infrastructure, the company transformed generative AI's potential into practical tools—from personalized math tutoring to automated course prep and process improvement.

At a glance

Industry
Education

Location
North America

Challenge
Implement a secure generative AI platform that streamlines business processes and delivers contextualized, engaging experiences for students and instructors.

Success Highlights

- Improved student engagement and outcomes
- 85% bot accuracy
- 80% gain in HR process efficiency

The challenge

When online education surged during the global pandemic, a leading US edtech company saw its customer base—and competition—grow exponentially.

To stand out in a crowded market, the company sought to capitalize on ChatGPT's popularity and implement generative AI for more personalized, engaging, and effective educational experiences.

Among the company's top priorities was a secure platform on which employees could try out an environment similar to ChatGPT. Leaders sought to create an environment to experiment with large language models (LLMs) and build and test bots and agents—all while keeping company data private. In addition, it wanted to explore the operational efficiencies that could be gained through the intelligent automation of routine tasks.

The company chose Cognizant for the project based on several factors, including our 10-year partnership, understanding of the company's business and technology landscape, and relevant capabilities in generative AI.

Our approach

The engagement kicked off with an AI-native lighthouse to guide the project. This phase ensured that the project's rapid prototyping and swift deployment of innovative AI solutions remained focused on customer value and the client's business goals.

Next, Cognizant collaborated with the client to develop a custom agentic AI framework. The framework provides a wealth of tools and training. Importantly, it also includes enterprise architecture patterns for agentic architectures and retrieval-augmented generation (RAG) architectures, which combine the strengths of LLMs with the ability to access and incorporate external knowledge during generation.

Powered by the client's proprietary content and Cognizant's expertise in RAG architectures, the framework formed the foundation of the client's private GPT platform. The platform uses employees' conversational inputs to enable contextual search results, including references, document summarization, and prompt-driven guidance.

Gen AI MVPs to address the core business

In addition to the platform, we developed several gen AI use cases for the company to release as minimum viable products (MVPs) and gauge market acceptance. The MVPs address the company's core business of education.

The first was a math tutor bot. The client had emphasized that, rather than solving problems, the math bot's objective was to guide students through the steps involved in arriving at a solution and thus gain a deeper understanding of the subject. Students enrolled in an algebra class, for example, could use the bot to better understand how to solve equations.

Our team brought that vision to life with a bot that serves as a conversational assistant for students, providing personalized guidance and 24x7 support. The client integrated the math tutor bot into an existing product, and it was piloted with 5,000 students.

In addition, we created a bot to summarize content for students. Learners can interact with the student assistant bot to gain a deeper understanding of content. The bot also generates complementary short form content such as flashcards and study guides.

For instructors, we created an innovative bot that automates course preparation and quiz generation. The instructor assistant bot evaluates whether a textbook's content aligns with the course syllabus, and it enables instructors to generate quizzes based on the content.

Gen AI's ability to amplify human potential across the business

In addition to applying gen AI to the client's core business, we demonstrated the technology's flexibility across all business functions with a pilot for human resources. In just four weeks, we implemented AI agents to tackle one of the HR team's most time-consuming tasks: resume review and interview questions. The agents created automated resume analysis and generation of interview questions, allowing the 50-person staff to accomplish in just 200 hours what had typically taken them 1,000 hours annually—an 80-percent increase in efficiency.

The gen AI-powered solutions and rapid prototyping helped drive business value for the company, enhancing customer satisfaction and positioning the company as a leader in the edtech industry.

Business outcomes

This project established a solid foundation for the company to explore generative AI. Using Azure OpenAI, the project delivered MVPs for conversational bots that address the company's core educational business and resulted in significant time savings for instructors and students. It also proved the technology's potential for improving process efficiency across the organization.

- 90% of students rated the math tutor bot as highly accurate: Surveyed students gave the bot an 85% accuracy rating. The bot improved student engagement and outcomes through adaptive, individualized learning experiences.
- The instructor assistant bot enables teachers to more quickly create high quality training materials.
- 80% gain in HR process efficiency: AI agents make HR more productive in executing daily tasks.
- 300% faster development: The private GPT platform Cognizant created included boilerplate templates that enabled employees to build bots more quickly.

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