



# **Boosting Contract Management Efficiency**

**by AI and Azure Cognitive Services for  
Independent Bottling Company**

## Customer Scenario and Problem

Our client, a company owned by independent bottlers, is dedicated to enhancing organizational and operational efficiencies within the bottling systems across North America. Catering to both individual bottler owners and bottler-owned production cooperatives, our client offers a suite of services encompassing customer business solutions, HR support, customer care, finance, IT, and procurement assistance.

The client's legal team grapples with a substantial volume of contract agreements on a daily basis. The current process of manually sifting through documents to locate specific clauses and sections proves arduous and time-consuming. The client seeks to streamline this process by harnessing the power of AI to address various queries arising from these contract agreements. To tackle this challenge, we implemented an innovative solution leveraging Azure OpenAI's Large language model in conjunction with Azure AI search. This solution incorporates the robust capabilities of the RAG (Retrieval-Augmented Generation) framework, enabling semantic search functionality that delivers contextual responses tailored to user queries. Through this implementation, the client aims to significantly enhance the efficiency and effectiveness of their contract management processes.





## Solution

The solution harnesses a suite of Microsoft Azure services to construct a resilient and adaptable platform for contract analysis, specifically focusing on Retrieval Augmented Generation in AI Search. Initial steps involve retrieving contract documents from the contract management tool and storing them in Azure Blob Storage. Leveraging Azure Document Intelligence, particularly its pre-built layout functionality, facilitates the conversion of textual data from these documents into JSON files, handling tables and scanned images with impressive resolution. Subsequently, the processed documents are transformed into embeddings and integrated into a search index within Azure AI Search. This system employs a hybrid search methodology, combining vector and semantic search techniques, thereby enhancing search accuracy. Azure AI Search's scalability and efficiency enable seamless management of substantial data volumes. User queries are then processed, initiating search operations within the vector store. Top results from the AI search are transmitted to Large Language Models (LLM), which utilize natural language understanding and reasoning capabilities to generate responses. The custom application, developed on Azure, utilizes Python FASTAPI for backend development and Next.js for frontend development. Hosting is facilitated through Azure App Service plan's web app. Integration involves the custom application sending queries to the FASTAPI endpoint, with the input data being converted into embeddings and forwarded to Azure Open AI, which generates outputs based on custom prompts. Azure's monitoring and logging functionalities ensure comprehensive oversight, with Azure Web App monitoring deployed models' metrics such as request frequency and response time, while Azure Open AI monitors request status by model name and token-based usage. Azure's monitoring tools offer insights into the overall health and performance of the custom application and its underlying infrastructure. Scalability is achieved through Azure App Service's automated scaling based on incoming traffic, while Azure API Management facilitates traffic redirection to multiple Open AI deployments to mitigate potential errors. This holistic approach establishes a robust, scalable, and efficient framework for contract analysis within the Azure ecosystem.

### The solution leverages various Microsoft services as follows:



## Responsible AI Principles

The solution adheres to Responsible AI principles by prioritizing data privacy and customer safety. Azure's networking and security features, such as Virtual Networks (VNETs) and Microsoft Entra ID integration, provide robust security, identity management, and compliance. By implementing strict access controls and encryption mechanisms, the solution ensures that sensitive contract data is protected from unauthorized access and adheres to data privacy regulations such as GDPR and CCPA.

## Business Benefits & Impact

The implementation of the AI-driven contract analysis solution brings several tangible benefits and business impacts:



### Enhanced Operational Efficiency:

Automation of contract analysis reduces manual effort and accelerates the process of retrieving relevant information, saving time and resources.



### Improved Decision-Making:

Quick access to critical data points enables the legal team to make informed decisions promptly, leading to better outcomes and reduced risk.



### Cost Reduction:

By streamlining contract management processes, the solution potentially reduces operational costs associated with manual labor and inefficiencies.



### Competitive Advantage:

Efficient contract analysis and comparison across clauses contribute to the client's competitiveness in the bottling industry, enabling them to differentiate themselves from competitors.

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