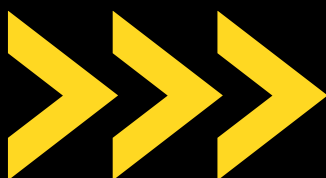


# Prompt Engineering

Database query with Generative AI  
embedded to MS Teams



# Client Overview

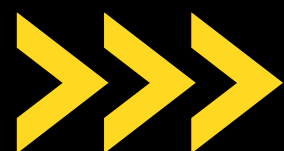
Our client is a NASDAQ listed – global analytics and digital solutions company serving industries including insurance, healthcare, banking and financial services, media, retail, and others.



# Problem & Challenges

Due to the reliance on complex tools and technical expertise, accessing and analyzing valuable data can be time-consuming and error-prone with limited accessibility. These lead to:

	<b>Increased complexities</b>	Users find the need to understand complex data schemas or write error prone queries
	<b>Lack of scalability</b>	Not accommodating the needs of a large, diverse user base with varying technical skillsets
	<b>Dependency for insights</b>	Non-technical users lack the necessary SQL knowledge leading to bottlenecks



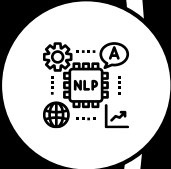
# 5-Step LLM-based solution framework



**User Input**  
Users can ask their questions in natural language directly in a chat or channel within Teams.



**Preprocessing**  
Initial preprocessing is performed to identify and resolve any short forms or aliases used in the query.



**Natural Language to SQL Conversion**  
The processed natural language query is then sent to Azure OpenAI, a powerful AI service, for conversion into an optimized SQL query



**Query Execution and Result Display**  
The generated SQL query is executed against the target database. The results are displayed directly within Teams in a user-friendly format



**Intelligent Visualization**  
For queries requesting insight into trends or relationships, it can automatically generate a relevant plot (e.g., a trend chart) instead of simply presenting the raw data, based on the input provided.

# Solution Stack & Process

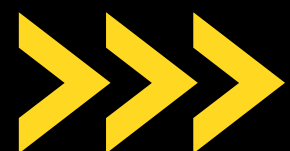
## Tech Stack



## Key Outputs

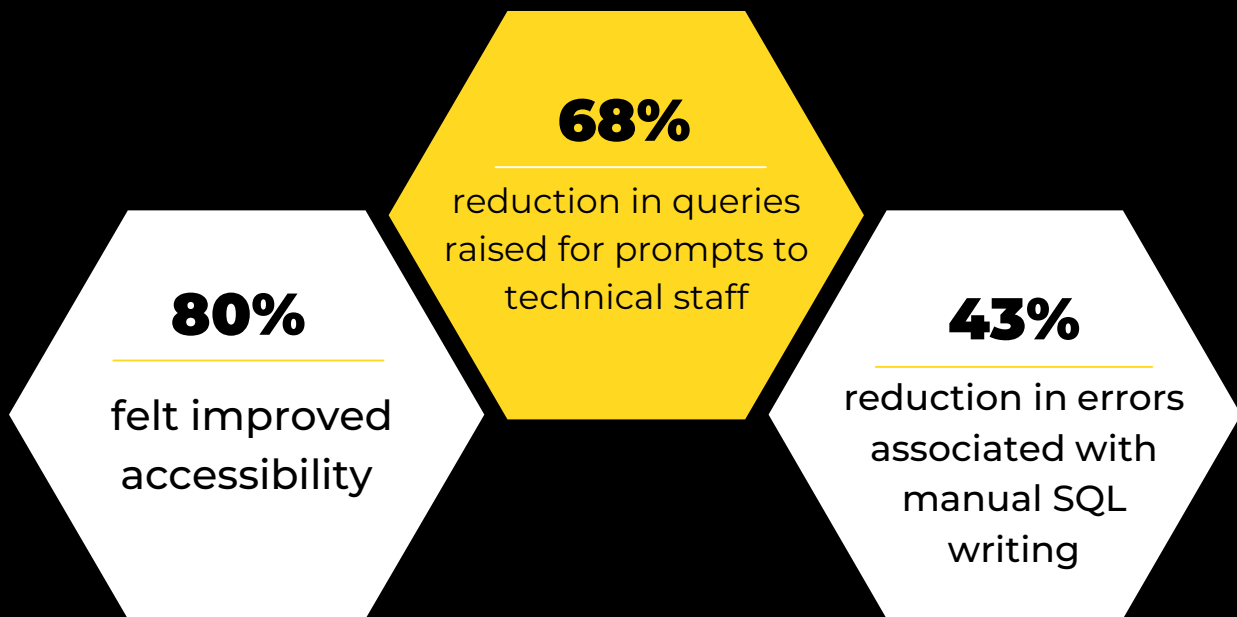
With the help of our LLM-based chatbot, users were able to access, read, and understand data easily. Some of the key outcomes from the chatbot include gathering and understanding data from:

- **SQL Data warehouse**
- **Documents (PDF/ Doc)**
- **API (with relevant authentication token key, id & passwords, secrets etc. )**



# Business Impact

Our solution enabled our clients to effortlessly obtain information from the database by posing natural language questions, reducing time and effort to access and interpret data, empowering a broader range of users, and promoting efficient decision-making. Some of the benefits include:



## About Polestar Solutions

Featured in the first [PeMa Quadrant for the Top Generative AI](#) & vendors as seasoned vendors, our AI and analytics team helps bring out the most sophisticated insights from our customer data in a value-oriented manner.

From analytics foundation to analytics innovation initiatives, we offer a comprehensive range of services that help businesses succeed with data.

