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Make Technology Work

Data Visualization using Power BI on Azure for a Data Insights Service Provider

Digital Services

Success Story

Client

The client helps companies and governmental entities create value by capturing, analyzing, and applying data insights to drive policy formation, business process improvement, and game-changing innovation.

Overview

The client, working with high volumes of call-center data, commissioned Indium to apply its expertise in Cognitive Analytics and Visualization to analyze each conversation with the goal of objectively and accurately measuring and improving customer service. In addition to performing sentiment analysis, ratings representatives' performance, lowering ticket times etc., Indium's analytical models and insightful visualizations also assisted in administrative tasks such as matching calls to the most ideal representative, distributing representatives across time and in performance evaluations.

Status Quo

The client helps companies and governmental entities create value by capturing, analyzing, and applying data insights to drive policy formation, business process improvement, and game-changing innovation.

As a part of their engagement, the client was working with call-center data dealing with high volumes. The calls containing customer-agent conversations were getting recorded and stored in a file. Client wanted to glean insights from the call recordings as to how the agents are performing and whether customers are having a satisfactory experience in the call.

Our Solution

- Transcribed audio recordings to JSON text using Speech to Text API.

- Fetched the call details (timestamp (call start/end), agent name) for a call and merged it with the call transcript.
- Found a sentiment score from the transcript using Azure sentiment score API. This score determined whether the customer had a positive experience or not.
- Sentiment scores were calculated separately for customers and agents so that both could be adjudged for positive and negative sentiment.
- Found keyword phrases from the call transcripts using Keyword Phrase extractor API from Azure.
- Wrote the table with all these data points to Azure Storage Explorer.
- Developed a Power BI dashboard to show the insights from the call details - how sentiment scores changed with time, how agents performed and scored them.

Business
Data Visualization

Domain
Data Insights Service Provider

Tools
Python, Power BI, Azure Blob Storage, Azure Storage Explorer, Azure Cognitive Services APIs
- Speech to Text API
- Sentiment Score API
- Keyword Phrase Detection API

Key Highlights
- Improved the customer satisfaction rates significantly by training the underperforming agents to improve the sentiment score
- Efficient allocation of representatives and effective call volume handling led to improved employee satisfaction and reduced operational overheads

Business Impact

- Improved the customer satisfaction rates significantly by training the underperforming agents to improve the sentiment score.
- Better demand/ supply match of agent deployment over time. Deployed more agent when the customer call frequency is very high.
- Quality control leader could filter the calls by call duration, sentiment score (proxy for call quality), calls involving particular keywords etc.
- The ticket resolution times improved.

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