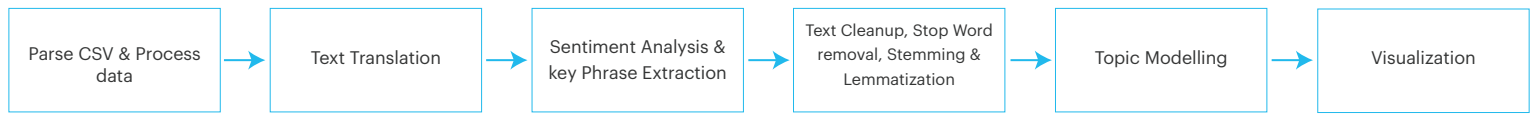# HR Analytics

Business Challenge

Our client, a leading Call Center, was looking to understand the concerns and likelihood of churn amid the covid lockdowns and work from home of their employees. They wanted to know the most preferred - 'work from home' or 'work from office'

Through this, the client wanted to reduce the employee churn. Their challenge was to know how their employees felt in this case by analyzing their preferences.

Approach and Solution

The company had collected data via survey feedback that focused on knowing about their aspirations, experience and so on from employees belonging to different locations with varying tenures in the organization.The data had standard multiple choice results and multilingual open text feedback.The solution was built in Microsoft Azure.

The key steps in the process are:

Parse CSV & Process data	→	Text Translation	→	Sentiment Analysis & key Phrase Extraction	→	Text Cleanup, Stop Word removal, Stemming & Lemmatization	→	Topic Modelling	→	Visualization

- The CSV file was ingested into Azure blob storage

- All text was translated to English using Azure Translate

- Sentiment scores were obtained using Azure Text Analytics API

- Topic Modeling was done using Spacy & Bertopic libraries

- The results are pushed to a SQL DB and visualized in Power BI

The text Analysis included segregating feedback based on sentiment scores and identifying meaningful topics from positive and negative sentiment groups which could be termed as strengths and concerns respectively.

Architecture

NLP

Azure Translate   Azure Text Analytics   spaCy

CSV → Azure Blob Storage → jupyter → Azure SQL DB → Power BI
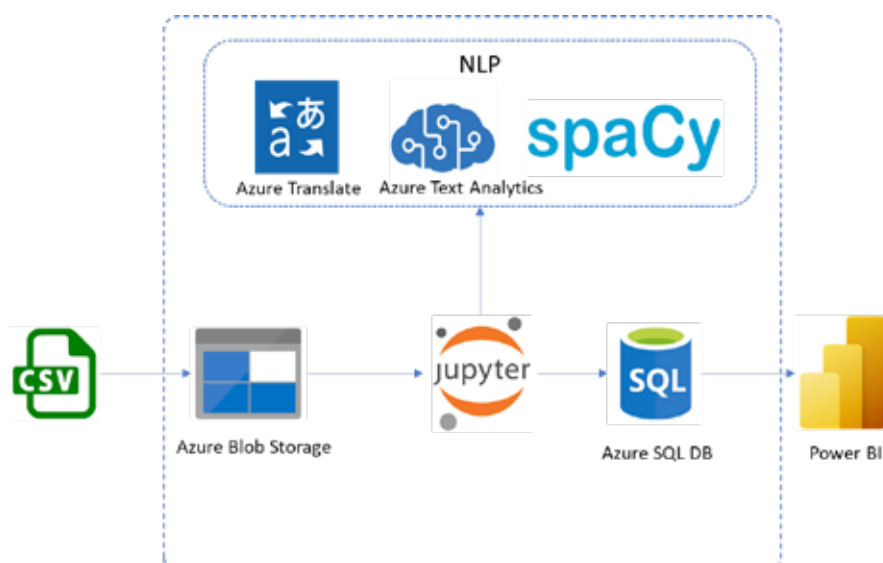
Results

- The sentiment scores on Open text feedback indicate how employees feel about the organization. This varies largely across countries.

- The keywords in the topics indicate the strengths and weaknesses based on the sentiment scores. Together with the topics and sentiments, the organization can understand where and what action needs to be taken.

Benefits

- Topic Modelling, Keyphrase extraction, and Sentiment Analysis were done together providing insights about large text data that otherwise require human reading and understanding. This saves time and eliminates human bias.