CAPSTONE PROJECT

Employee Attrition Analysis Report using Natural language processing

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Abstract

Among all employee related problems, employee attrition is one of the key problem in the today's scenario. Attrition is said to be gradual reduction in number of employees through resignation, death and retirement. When a well-trained and well-adapted employee leaves the organization for any of the reason, it creates an empty space in an organization . It creates a great difficulty for a Human resource personnel to fill the gap that has occurred. This study helps in knowing why attrition occurs, reasons for employee attrition, challenges faced by managers in retaining employees and also suggest some measures in retaining employees.

Problem Statement

1. How to reduce employee churn ?
2. Why are good employees leaving the company ?
3. Are employees burned out?
4. Can we predict the employees most likely to leave ?

System Architecture

MICROSOFT EXCEL

GOOGLE COLAB

TABLEAU

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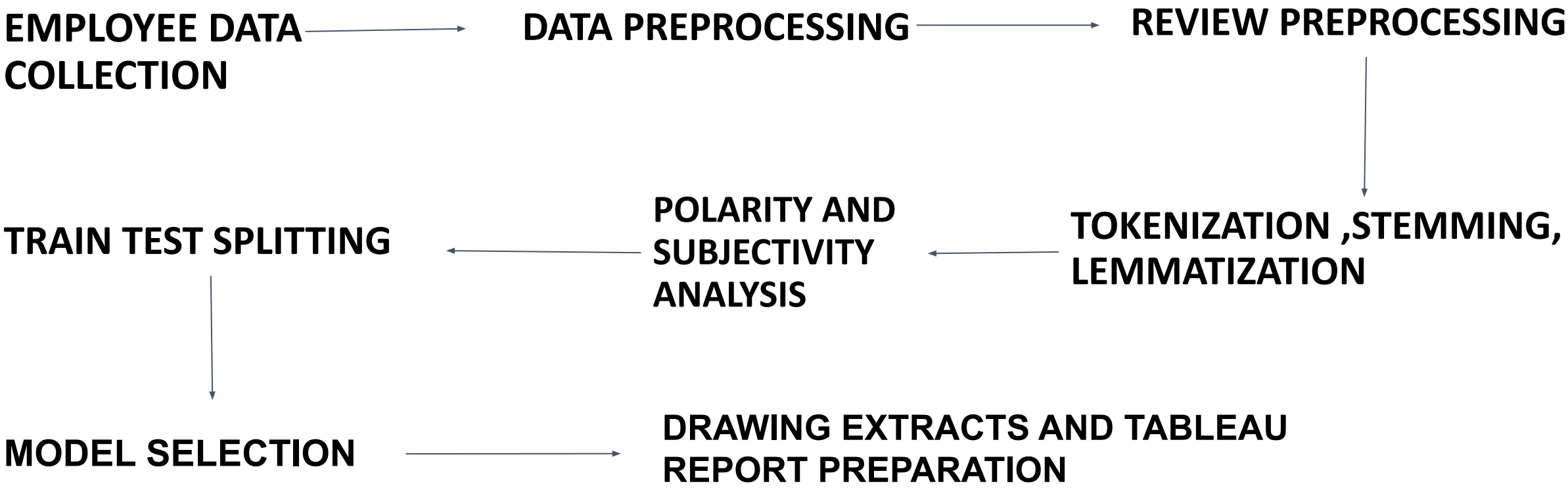
Sources of Data Set

- ★ For this project, the data is collected manually from online employee review sites such as **Ambition Box, Glassdoor, indeed**, etc.
- ★ The dataset contains records of **650 employees** of different companies. It comprises of 651 rows and 21 columns .
- ★ It has information about **employees attrition status**, company name, work department, job role, Employees review , **overtime status**, employees rating on some factors, **work timing satisfaction** and many more.

Ambitionbox

glassdoor®

WORKING FLOWCHART



Algorithms and tools

- Python as a programming language is used.
- Packages such as Numpy, Pandas, Matplotlib, Seaborn, Wordcloud ,NLTK(natural language processing toolkit), RE (Regular Expression), Textblob, Sklearn.
- Algorithms such as Logistic Regression, Random Forest classifier , Support Vector Machine (SVM) , XGBoost classifier, Gradient booster , LGBM Booster have been used for prediction.

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WORK LINKS

Uploaded dataset on Kaggle- DATASET
Tableau Report link - TABLEAU
Python Notebook link - .IPYNB File

Proposed Solution
(ACCORDING TO OUR ANALYSIS)

- learning and employee development opportunity
- Regularly solicit feedback
- Competitive pay package compared to other companies
- Conducting exit interviews
- Change of department according to calibre and need.

Conclusion

Attrition cannot be removed, but it can be reduced. If initiative is taken towards the factors responsible for the attrition , the attrition can be lowered, so that the expenditures towards hiring and training an new joiner which exceeds the cost of retaining an employee can be drastically brought down.

Future scope

- In future, Company will able to control attrition rate and retain valuable employees by giving them more satisfactory company policies and the work environment for employees.
- The organization will able to organize a plan of hiring the new candidates in advance depending upon the attrition rate.
- It will be helpful for companies profit and the scope of project extends to company of all industries.

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THANK YOU