BUSINESS ANALYTICS AND PREDICTION
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Abstract: As we know a business's success depends totally on its customers. The report emphasized the role and the importance of customer analysis, segmentation and sales prediction. This project was implemented to analyze the customers, their behaviour, and their spending pattern.

Keywords: Customer Analysis, Customer Segmentation, Churn Prediction, Sales Prediction, Customer Behaviour

1. INTRODUCTION

It is evident from the success stories of almost all big companies that for any business, the customers are the most important key and understanding the customers is crucial as they can create a competitive edge against their competitor in this competitive environment. Understanding the behaviour of the customers will not only help the companies to attract new customers but also help the companies to retain the old ones and hence expanding the customer base. The behaviour of every customer is not the same and it is difficult to understand the behaviour manually so this is where this project can come to the rescue as this will allow us to do the segmentation into various groups and will let us know when they will come again. This will also help the companies to manage their resources and make more profit out of it.

2. MATERIALS AND METHODS

2.1 REQUIREMENTS

I have used python 3 with Jupyter Notebook for this project. This project is not at all resource-intensive so this project can run on almost all the computers even with the lowest configurations. This makes it easier for a small business or a startup to analyze their customers from the start as they grow.

2.2 WORKING

I have analyzed and plotted the graphs as graphs are better understandable for humans than raw data making it more intuitive for business to easily understand the data.
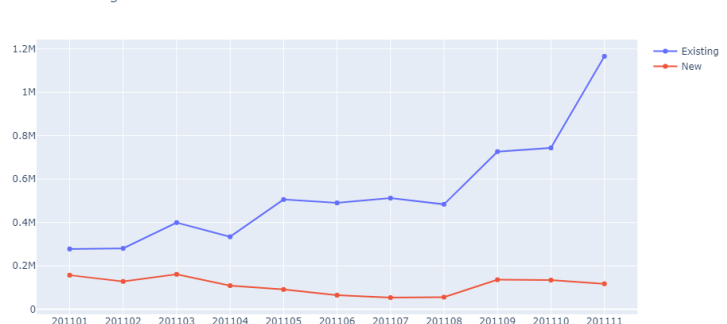
2.2.1 CUSTOMER ANALYSIS

I have analyzed the data here for Revenue, Growth rate, Active Customers, Total Number of orders, New vs Existing Users, Onboarding Channel, Retention rate, Churn rate, etc. These are all extremely important parameters for a business to analyze.
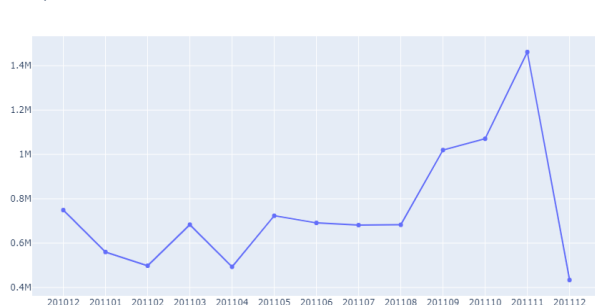
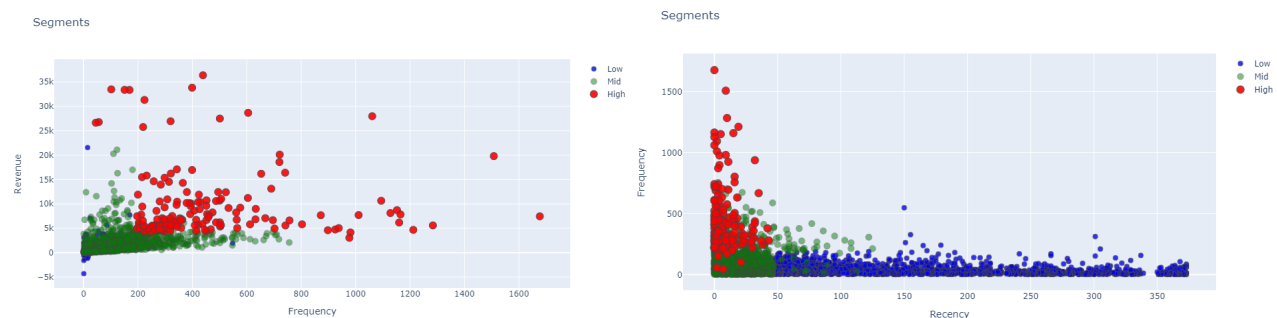## 2.2.2 CUSTOMER SEGMENTATION

I have analyzed and segmented the data into different groups like the most profitable customers, the most visited customers, etc. Through this, we can make a profile of each and every customer and can manage them easily by giving them personalized coupons, etc.

2.2.3 SALES PREDICTION

I have used the Long Short Term Memory(LSTM) algorithm which is capable of learning long term dependencies in data and forget the not so useless data. Using this model I got 92% Accuracy. This module will help us to manage the stocks and human resources efficiently.
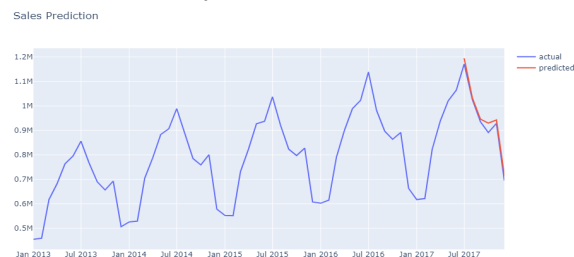
CONCLUSION

In conclusion, the project reveals that to keep the customer for a longer period of time we have to understand them well and use these techniques to improve their experience. It is also recommended that the company should improve its feedback system, implement staff training as well as conduct regular advertising campaigns to attract new customers and also keep updated old customers with all events and sales.

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