Case Study Report

Data Analytics with power BI

“ONLINE DELIVERY APPS”

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ABSTRACT

The purpose of this thesis is to build an online ordering application. Our research also includes the “satisfaction of consumers by using online services”. It will deal with consumer behaviour & helps to analyse their perceptions & will also help us to understand consumer equilibrium. Through these platforms, sharing one’s experience with others has become so easy, in the form of reviews, be it regarding a product brought or any kind of service availed.

INTRODUCTION

With the rapid development of mobile technology, mobile application is connecting every field all together. Therefore, online industry is using this technology in connecting with vast public through online ordering. Online ordering may be a process that delivers products from local company and other co-operatives through a mobile application or an internet site. This type of delivery is gaining popularity with more and more people especially the younger generation turning to mobile ordering apps, thereby changing the way is delivered and picked up. Customers prefer using the ordering app as they will generate an order without having to elucidate it to a special person and have the products delivered at his doorstep. Moreover, online payment makes this process easier and faster. Some popular online ordering companies are “Swiggy, Zomato, Amazon, Flipkart, Meesho”.

Popular machine learning algorithms like Decision Tree were applied over a dataset of lakhs of records. For the customer, this application provides a view of product information like category, name, image, price, description etc. on the application. For the administrator in any particular industry, this application offers a series of operations to add, update, delete and query the information of product, product order, customer and employees. The

typical mechanism behind online delivery is as follows: the user on the product delivery application chooses to order product from, checks the list, select product to order and proceed to payment. This also increases employability as a platform is provided to deliver products to the houses. The basic features that are needed by the customers in an application are making order, review, order history, profile, profile setting, order status, and track order.

Some Different Delivery Apps

S.No	Delivery Services	Year of foundation	Country of origin
1	Swiggy	2014	Bangalore
2	Zomato	2008	Delhi
3	Amazon	1994	Washington
4	Flipkart	2007	Bangalore
5	Meesho	2015	Bangalore
6	Myntra	2007	Bangalore

OBJECTIVE

The main objective of the paper is to provide an online delivery app which can serve the society with an added advantage by ordering from two or more places if in the same route or within 5-6 km range, and the customer can only register once using Aadhar verification and secure log-in, it makes the web portal safe for transactions. The purpose of this invention is to provide profit in terms of Stakeholders, easy in terms of the app user, diverse options for ordering products, improvising in Delivery mechanism to solve the hectic situation created by single place, single order criteria. The app is very much easy to use as all it requires is an internet connection, just log in to the web portal/app and the user can order from multiple locations and can also order for more than one location in one time. With the services, responsibilities come hand-in-hand, it is very important to know the satisfaction of the customers in terms of using the services, timely delivery, their intention to use the app again. So, our paper includes "the satisfaction of customers" which also makes the business profitable as customer satisfaction is directly proportional to the recommendation a cmpany gets every time a customer checks the reviews. It is very important to satisfy the customers to make one's name in the market.

TECHNOLOGY USED

In a online ordering mobile application different algorithm are used for different purposes. All the data related to the customers, products, list of companies are processed using machine learning algorithms. With help of AI and machine learning: Gradient Boosting Decision Trees, the sequence in which the notification of the orders sent to the delivery person is improved. The decision tree algorithm and the random forest algorithms helps by classifying the company into different groups based on the reviews obtained by the customers on the basis of the services provided. AI & ML implementation can foster Real-time, micro-optimization of dynamic demand-supply, millions of times every day which can result in grow in online delivery business in order value by 200%. Some AI-driven kiosks apps use Facial recognition to give a personalized experience to customers, speeds up selection and ordering process and decreases wait time.

Machine learning is used in 3 main areas on the food delivery business:

1. Route planning for deliveries
2. Sales forecasts
3. Product suggestion

• **Route Planning's** ML applications goal is to achieve reduced delivery times and costs.
Usually, neural networks that work with past data as input and suggest best fit scenarios for new routes.

• **Sales forecasts** ML applications goal is to reduce costs and inefficiencies in the supply chain level. It uses as input sell-in and sell-out information, price, price elasticity, market demand data proxies to generate production and stock quantity suggestions to maximize sell-out while reducing cost.

• **Product suggestion** ML applications goal is, well, to suggest food that you might like to order based on preferences, on-site navigation, previously ordered items and more.

The final goal of these applications of course is to sell more. Cloud computing can also play vital role in food industry in areas like Customer Relationship Management, Customer Service and Supply Chain Management.

By using cloud computing, the online service providers ensure the delivery of the right product in the right place at the right time as it connects people and companies in real-time and for making online service provider's work easier.

Programming language	Objective C Java Swift
Frameworks	PhoneGap jQuery Mobile Ajax
Web development	HTML5 CSS3 Javascript
Data scripting	PHP MySQL
IDE	Xcode Android studio
Database	Mongo DB Redis
Email	Gmail AWS
Data encryption	MD5 SSL

Tools and Software used

Tools:

PowerBI: The main tool for this project is PowerBI, which will be used to create
interactive dashboards for real-time data visualization.
Power Query: This is a data connection technology that enables you to discover, connect, combine, and refine data across a wide variety of sources.

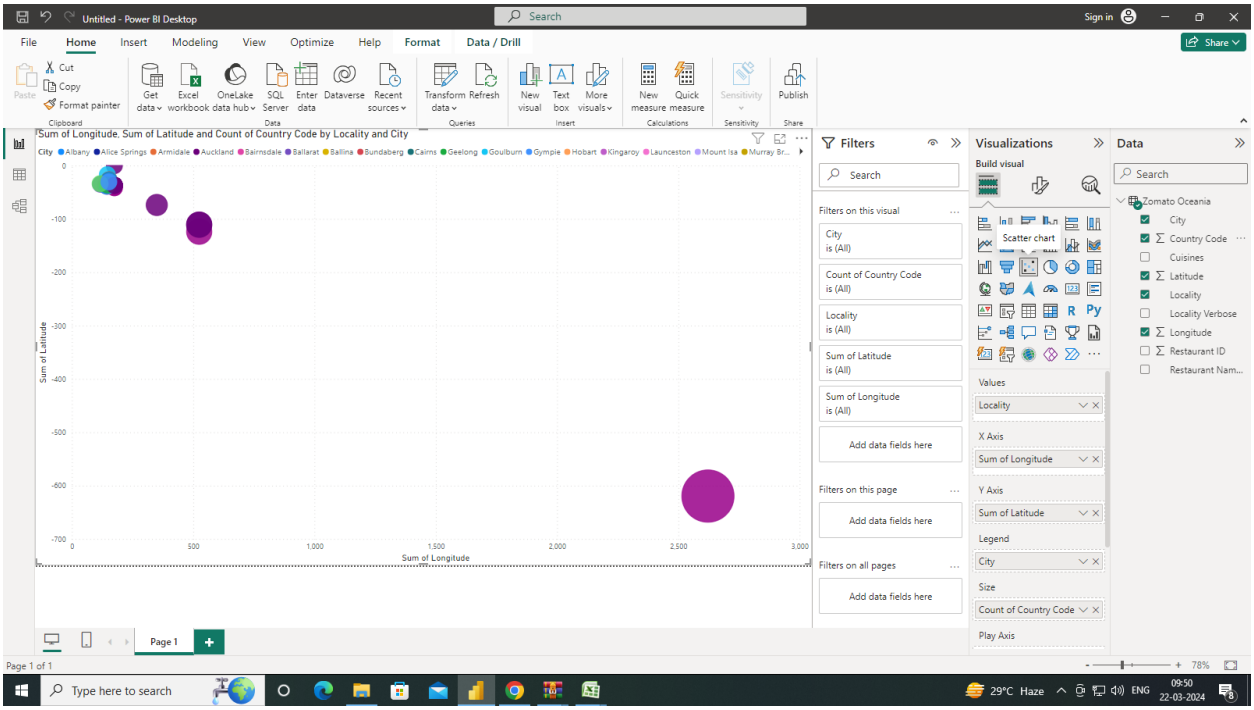
Software Requirements:

PowerBI Desktop: This is a Windows application that you can use to create reports and publish them to PowerBI.
PowerBI Service: This is an online SaaS (Software as a Service) service that you use to publish reports, create new dashboards, and share insights.
PowerBI Mobile: This is a mobile application that you can use to access your reports and dashboards on the go.

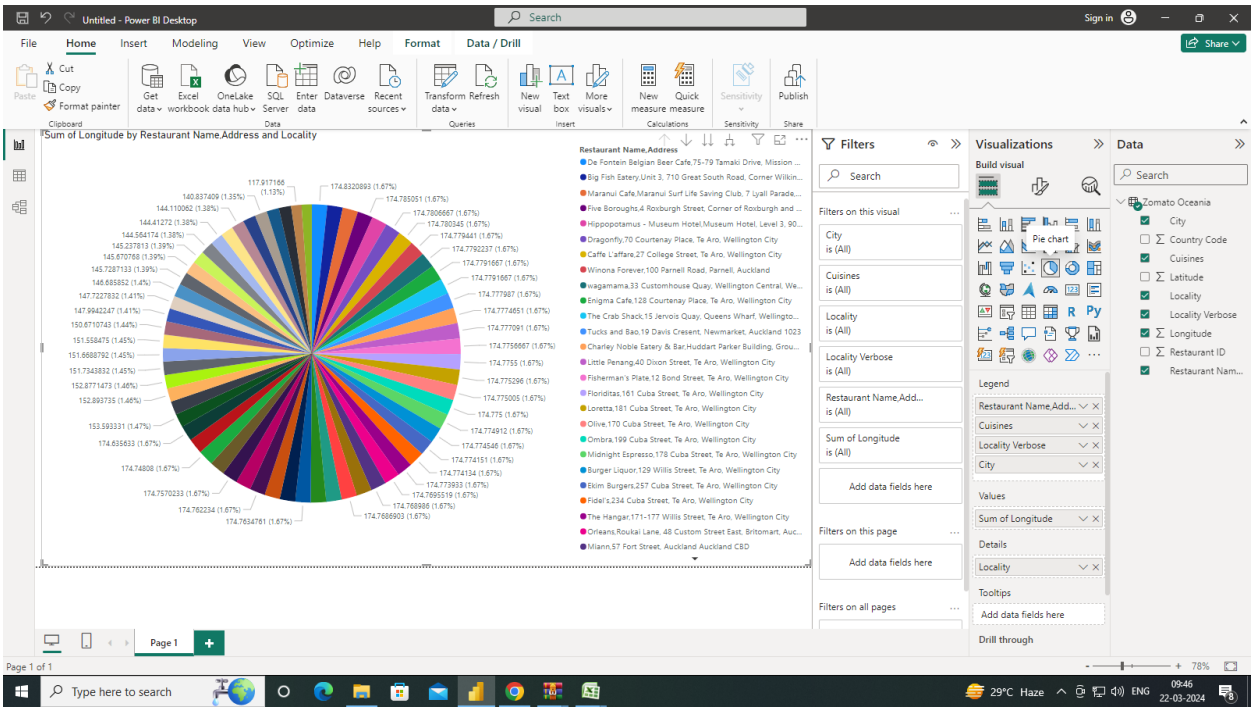
Advantages

- Opened 24/7
- Save time and money
- Reduce costs
- Hits the target market
- Online delivery mechanism
- Food can be ordered from multiple sources
- Paper wastage is reduced
- Route optimization is attained
- Multiple payment methods- cash on delivery, credit/debit cards, google pay
- Helps in building up a social community for new food joints
- Live tracking available
- A win-win situation for all stakeholders

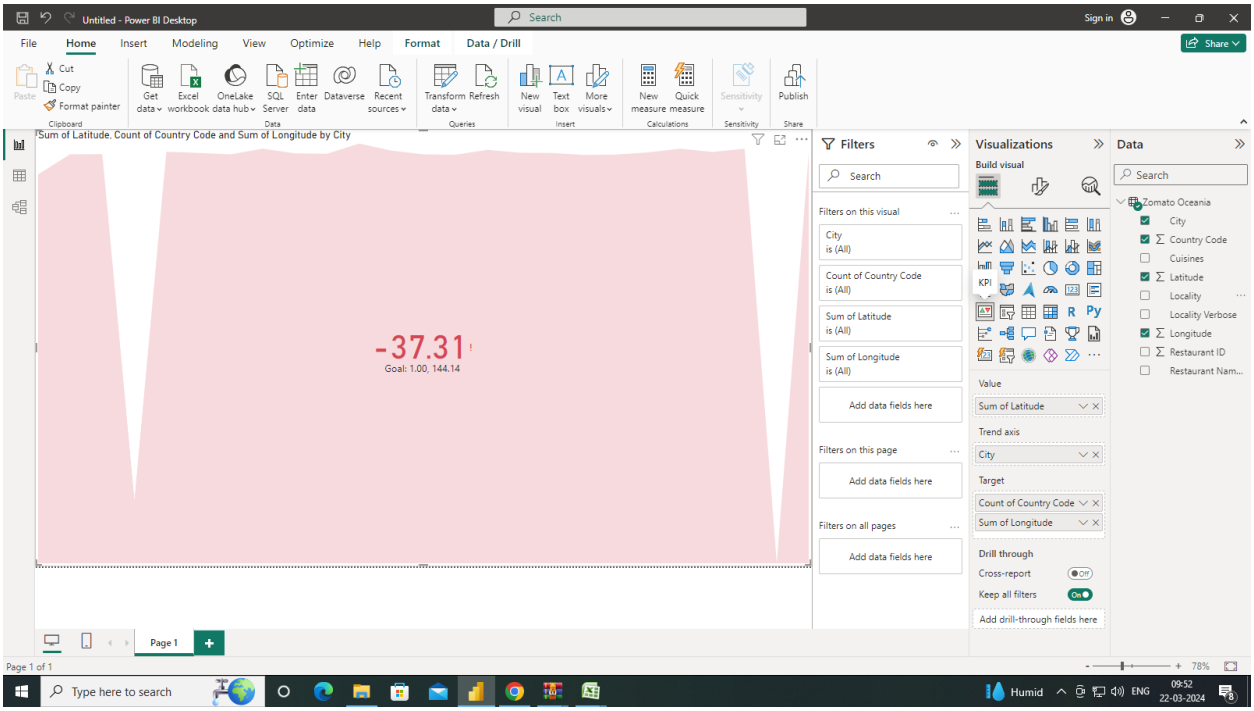
MODELING AND RESULT



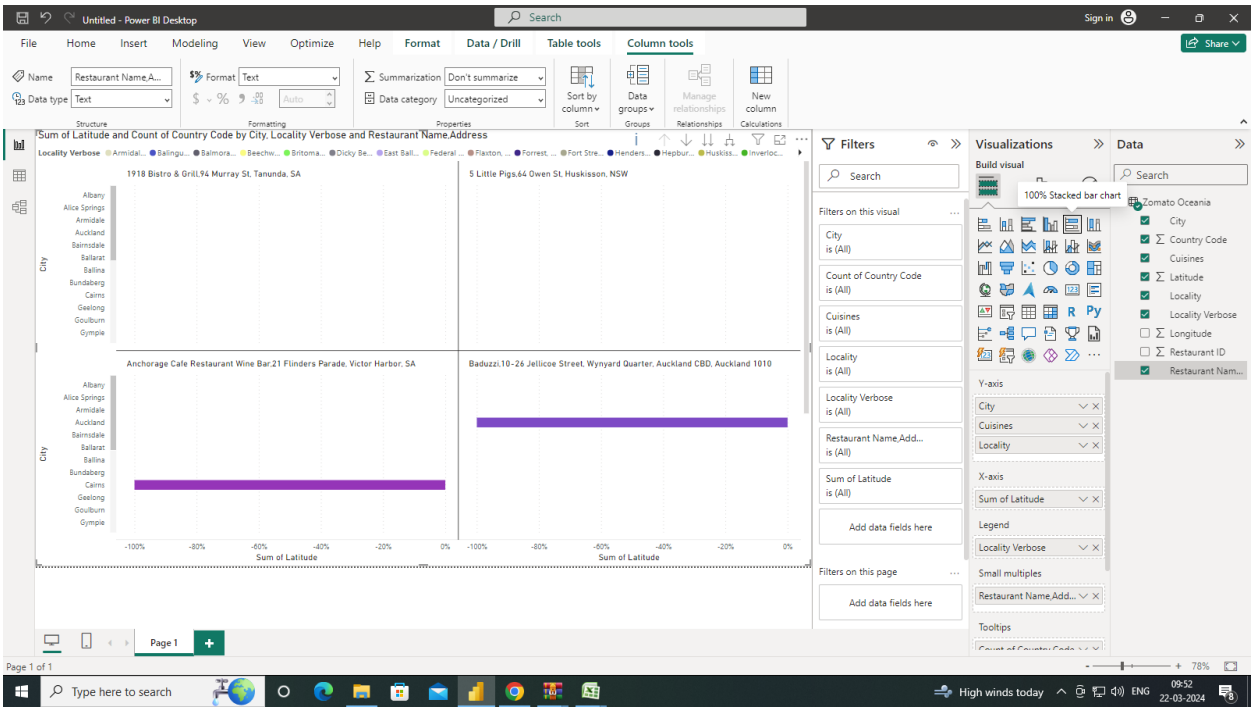
This is scatter chart of having sum of longitudes,sum of latitudes and country code by locality and city.



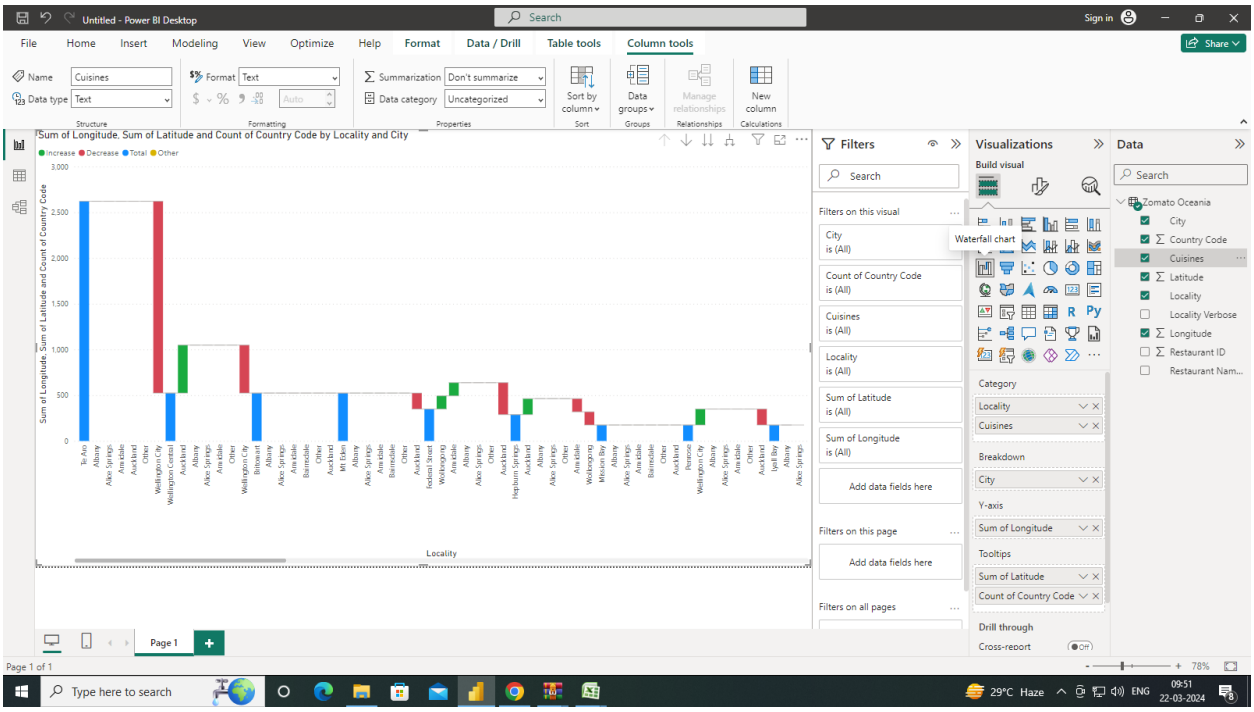
This is pie chart of having sum og longitudes by Restaurant name, locality and address.



This is KPI of sum of latitudes, count of country and sum of longitudes by city.



This is 100% stacked bar chart of sum of latitudes and count of country code by city. Locality verbose Restaurant name, address.



This is waterfall chart of having sum of longitudes,sum of latitudes and country code by locality and city.

CONCLUSION

An online ordering system is developed where the customers can make an order for the products and avoid the hassles of waiting for the order to be taken by the waiter. Using the application, the end users register online, read the E-menu card and select the products from the e-menu card to order online. Once the customer selects the required food item the chef will be able to see the results on the screen and start processing the products. This application nullifies the need of a waiter or reduces the workload of the waiter. The advantage is that in a crowded there will be chances that the waiters are overloaded with orders and they are unable to meet the requirements of the customer in a satisfactory manner. Therefore by using this application, the users can directly place the order for products to the online. This project can later be expanded on a larger scale. The system also enables the to know the items available in real time and make changes to their food and beverage inventory based on the orders placed and the orders completed.

REFERENCE

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