

CASE STUDY REPORT

DATA ANALYTICS WITH POWER BI

"360-Degree Business Analysis of Online Delivery Apps using
Power BI"

COLLEGE NAME : RANI ANNA GOVERNMENT COLLEGE FOR
WOMEN

NM ID	NAME
7D4AFB5DC0A987F8E984D94AC4FF69FD	DHIBHISHA THANGAM S.

Trainer Name: R UMAMAHEAWARI

Master Trainer: R UMAMAHESWARI

ABSTRACT

As one of the fast-growing developments in the e-commerce space. The advent of digital tools has bestowed a different outlook on the food industry. Consumers today have the privilege to choose from a variety of cuisines, anywhere, anytime from a range of food providers listed in the e-commerce space. Added attractions like no minimum order value and the multitude of payment options like net banking, digital wallets, and cash on delivery all have increased the consumer convenience. Shrinking urban-rural divide with easy access to smartphones has hastened the growth and acceptance of online food delivery systems. Companies have remodelled their business strategies on a modern day digital preferences. In this paper, we particularly examine the growth and relevance of digital apps in the food delivery systems run by the food providers particularly fast food companies in India and a few strategies which could be adopted by them for sustainable business in the days to come.

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CHAPTER 1

INTRODUCTION

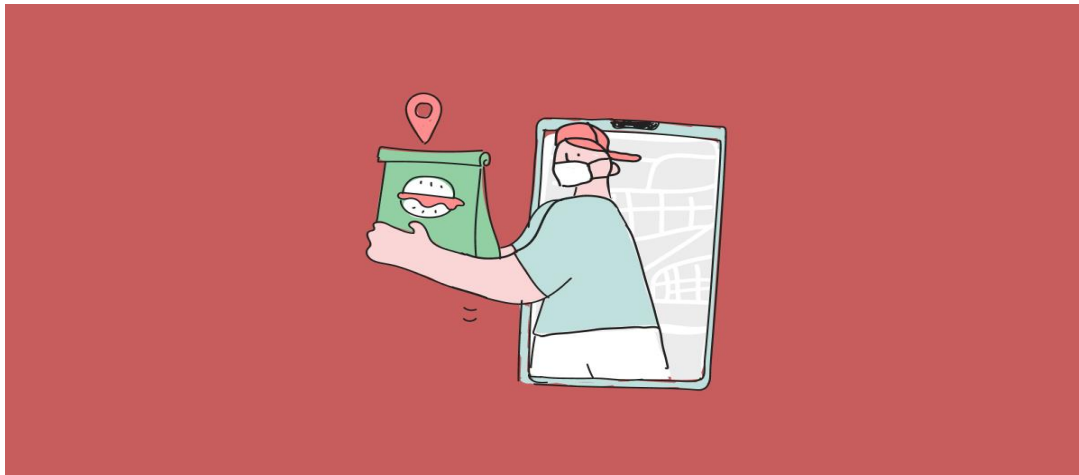
1.1 Problem Statement

It is known fact that in today's work-from home world, people prefer ordering food that can be delivered at the comfort of their home. So most of the times people end up ordering food from restaurants that have delivery services. The objective of this problem statement is to come up with a solution for people to order food online and get prompt delivery.

1.2 Problem Solving

Problem solving for the above problem that can be solving by the restaurants to increase the manual power for preparing food and using GPS find the location of the customer.

1.3 Features



1. INTUITIVE MENU DISPLAY:

This makes it easier for users to navigate to find what they are looking for.

2. SECURE PAYMENT OPTION:

To protect customers sensitive data and deliver a safe environment for online ordering, integrate reputable payment gateways and mobile wallet app services that offer top-notch security.

Popular examples include PayPal, Google Pay, Stripe, and Apple Pay.

3. REAL TIME ORDER TRACKING:

Hungry customers want their meals delivered fast. As such, integrating delivery order tracking into your online food ordering app is the must.

1.4 Advantages

- Making payment easier.
- Customer-friendly online ordering system for restaurant.
- Free and cheap marketing.
- Improve customer loyalty.
- An online menu is simple to manage.

1.5 Scope

The collection will be clear cut and logical in a relatively short period of time. It will assist someone in fully understanding the management of the previous year. Additionally, it suppose all ongoing initiatives is involving the online food ordering system. The management and collection process will be efficient, and the cost of

collection will be decreased. Our project aims at business process automation, so we have made an effort to computerized several Online Food Ordering System activities.

Chapter 2

SERVICES AND TOOLS REQUIRED

2.1 Services

Offline Food Delivery Service

Offline food delivery service works offline. It means work without an internet connection. Alright, let's see a concise definition. If a restaurant owner or restaurant manager accepts a food order over the phone call or without an internet connection and delivers it to the customer location by a delivery person.

- Offline order is suitable where an internet connection is not available, such as a village, far distance from the city area.
- There is a chance to get an offline order by conversation over the phone call. In that case, there is less chance of miscommunication about the food ordering system.
- Many food delivery platforms offer more charges to deliver the food. In that case, an offline food delivery system has lower transaction costs.

Online Food Delivery Service

If any audience puts an order through a website or a mobile app, the restaurant owner receives it and sends it to the customer's location. This process is called an online meal delivery service. Online food delivery is more popular. It is the easiest process.

- Audiences can make orders from anywhere else.
- The online delivery service saves time from the customer side.
- Customers require no cost to make an order through a website or app.
- Restaurants can collect better customer data.

- Most restaurants offer online **food delivery 24 hours**. That's why customers can make **late night food delivery orders**.

2.2 Tools and Software used

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

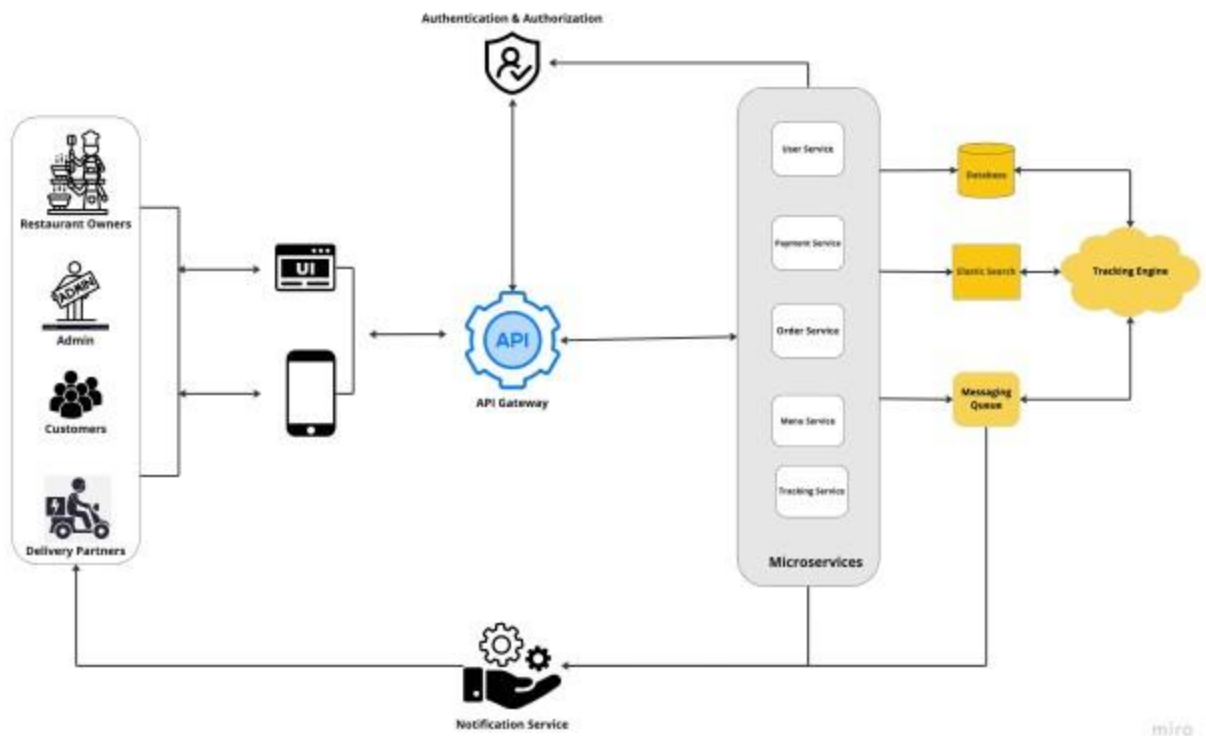
Software Requirements:

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

CHAPTER 3

PROJECT ARCHITECTURE

3.1 Architecture



1. **Front-end web or mobile application:** This is the interface customers use to generate menus, browse menus, place orders, and track delivery status.
2. **Backend server or Services:** This component handles requests from the front end, communicates with the database, and coordinates with delivery partners.
3. **Database:** This stores information about menus, orders, customers, and delivery partners.
4. **API Gateway:** This is responsible for request routing, composition, and protocol translation, among other things, between an application and a set of microservices.
5. **Messaging Queue:** An asynchronous communication between systems that allows multiple systems to send and receive messages reliably and efficiently without needing to be constantly connected.

6. **Notification Service:** To send notifications to users, typically through email or push notifications.
7. **Tracking Engine:** This will constantly watch for changes in the DB, update the elastic search index, and notify the messaging queue.

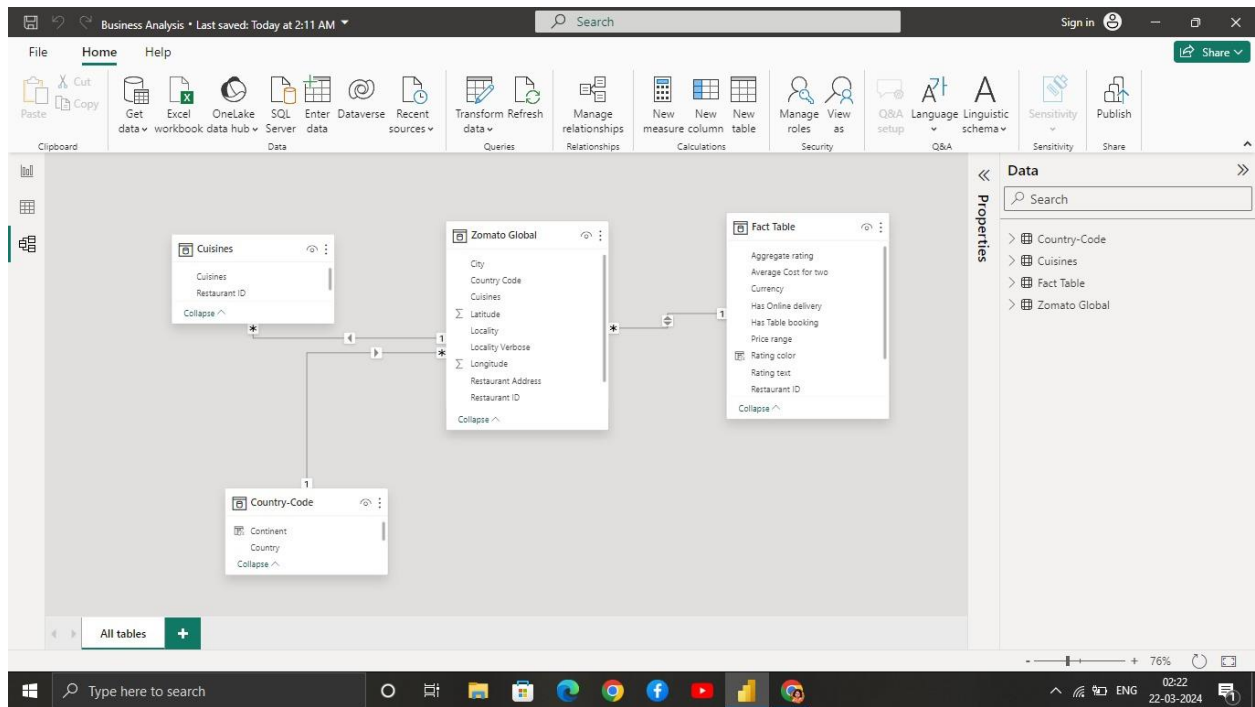
The front-end web or mobile application will communicate with the backend servers over REST API; the server will process the request and query the database based on the request; it will perform a task, emit events, respond to the request, and many more.

CHAPTER 4

MODELING AND RESULT

Manage relationship

Before starting an online food delivery business, you should invest a good deal of time in conducting the market analysis. It is of utmost importance to make well-informed decisions at the early stages of starting a business. To offer additional value to your customers, you must be aware of the processes adopted by the current market leaders. To help you build a better understanding of the work-flow involved in the integrated food delivery business model, we are explaining the delivery process through the functions performed by various stakeholders in managing the food delivery.



Continent wise Country Code

USING FORMULAS

```
5 minutes(make a note)
Country-code:(column)
-----
Continent = SWITCH('Country-Code'[Country
Code],189,"Africa",215,"Europe",37,"NAM",216,"NAM",30,"SAM",14,"Oceania",148,"Oceania","Asia")

Cuisines:(measure)
-----
Cuisines Count = DISTINCT(Cuisines[Cuisines])

Fact table:(measure)
-----
Average Count = AVERAGE('Fact Table'[Average Cost for two])
Average Rating = AVERAGE('Fact Table'[Aggregate rating])

(column)->Rating Color = IF('Fact Table'[Aggregate rating]=0,"Not Rated", IF('Fact Table'[Aggregate
rating]<=2.9,"Red",IF('Fact Table'[Aggregate rating]<=3.4,"Orange",IF('Fact Table'[Aggregate
rating]=3.9,"Yellow",IF('Fact Table'[Aggregate rating]<=4.4,"Green",IF('Fact Table'[Aggregate
rating]<=5,"Dark Green","Others"))))))))

Zomato global:(measure)
-----
Restuarant Count = COUNT('zomato global'[Restaurant ID])
```

AGGREGATE RATING USING FACT TABLE:

The screenshot shows the Microsoft Power BI Desktop interface. The main area displays a table with the following columns: Restaurant ID, Rating color, Average Cost for two, Currency, Has Table booking, Has Online delivery, Price range, Aggregate rating, Rating text, Votes, and Rating color. The table is filtered by Rating color, showing only rows where the rating is 'Not Rated' or 'Not Rated'.

Restaurant ID	Rating color	Average Cost for two	Currency	Has Table booking	Has Online delivery	Price range	Aggregate rating	Rating text	Votes	Rating color
18433855	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18463871	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18471268	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18472429	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18471296	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18465420	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18464807	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18464631	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18433879	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18480389	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18464628	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18464682	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18471244	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18424179	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18294253	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18471308	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18471320	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18398816	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18481299	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18462605	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18481989	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated
18463992	Not Rated	300	Indian Rupee(Rs.)	No	No	1	0	Not rated	0	Not Rated

DASHBOARD

This Power BI dashboard designed to provide insights into 360-degree Business Analysis of Zomato Delivery App. It leverages a dataset containing information about Zomato aggregating Restaurant's around the globe, including details related to the Continents, Countries, Cities, Restaurant's Ratings and Cuisines etc.

Our Customers:

- Total Restaurant by Country and country.
- Total Restaurant by Cuisines.
- Total Restaurant by Rating Color.
- Online Delivery.
- Table Booking.

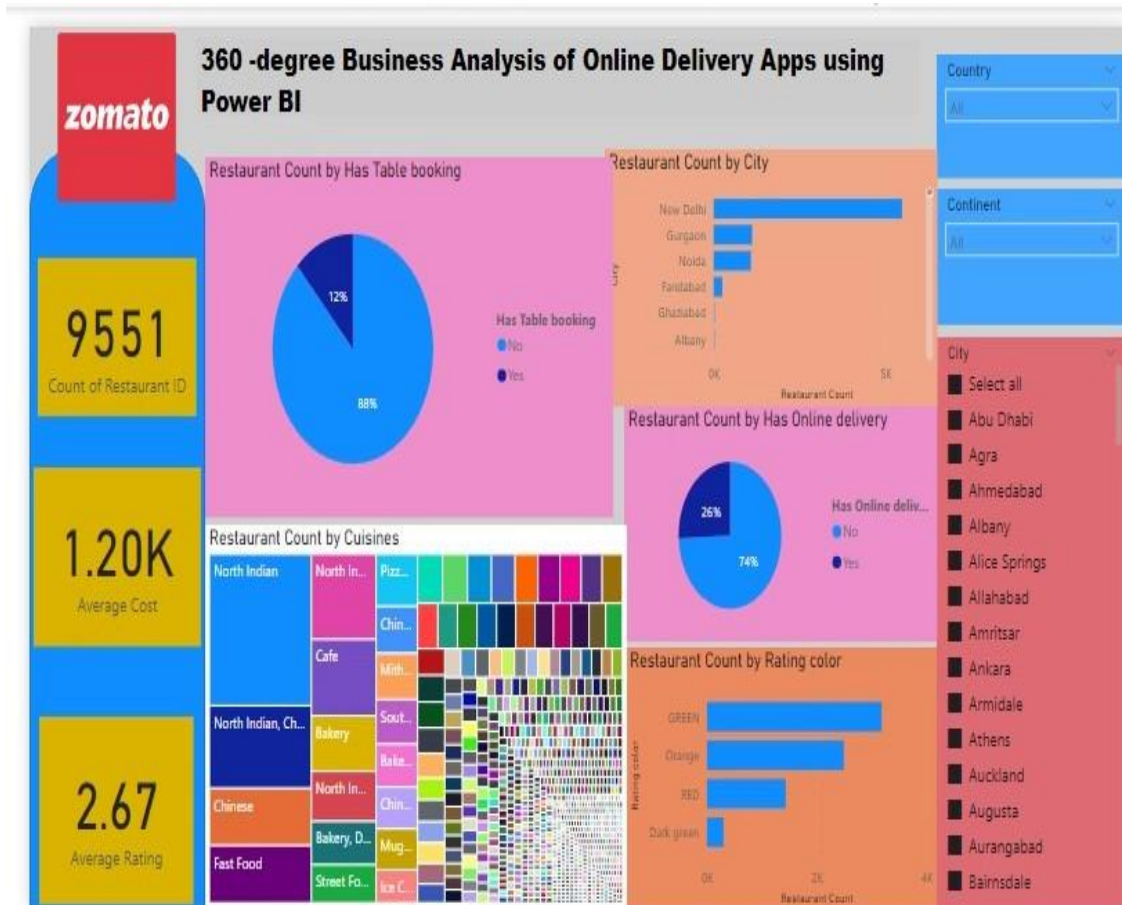
Slicer:

- Country
- Continent
- City

Cards:

- ✓ Restaurant Count

- ✓ Average Cost
- ✓ Count of Cuisines



The project “360-degree Business Analysis of Online Delivery Apps” using Power BI has successfully demonstrated the potential of data analytics in the online deliver system. The 360-degree business analysis of online delivery apps has provided valuable insights into customer behavior, preferences, and trends, thereby facilitating informed decision-making. The interactive dashboards and reports have offered a comprehensive view of customers data, enabling the identification of patterns and correlations. This has not only improved the efficiency of data analysis but also enhanced the online apps ability to provide personalized services to its customers. The project has also highlighted the importance of data visualization in making complex data more understandable and accessible. The use of Power BI has made it possible to present data in a visually appealing and easy-to-understand format, thereby aiding in better decision-making.

FUTURE SCOPE

The future scope of this project is vast. With the advent of advanced analytics and machine learning, Power BI can be leveraged to predict future trends based on historical data. Integrating these predictive analytics into the project could enable the online apps to anticipate customer needs and food products. Furthermore, Power BI’s capability to integrate with various data sources opens up the possibility of incorporating more diverse datasets for a more holistic view of customers.

REFERENCES

https://www.researchgate.net/publication/348880563_An_Analysis_of_Online_Food_Home_Delivery_and_its_impact_on_restaurants_in_India#:~:text=The%20research%20concluded%20that%20due,features%20of%20online%20websites%20success.