ONLINE FOOD DELIVERY

Rishubh Gusain
THE NORTHCAP UNIVERSITY

ABSTRACT

India is a country of Diversity. And confidently the same could be said about its food. The food of this Country is so Diverse that people just can't get enough of everything. Now, there could be many reasons why this is. But the scope of our research here was one of the most common reason that fits in our argument. And that reason is ACCESSEBLITY. How accessible and convenient is it to get our hands on tasty food? And while my research was not primarily about accessibility of food. But to analyze the trends and various parameters which made the food delivery industry sky rocket.

1. INTRODUCTION

This research is focused on understanding many aspects related directly and indirectly to food delivery. It helps in getting a broader perspective as to why consumers choose a specific method of accessing food. This research can be utilized for commercial purposes. Food delivery companies such as Zomato, swiggy etc. can get vital information and then create customer-oriented offers or target a niche of people that can be the potential consumer of their services. They can deploy various marketing strategies to woo their current or potential customers by analyzing this data.

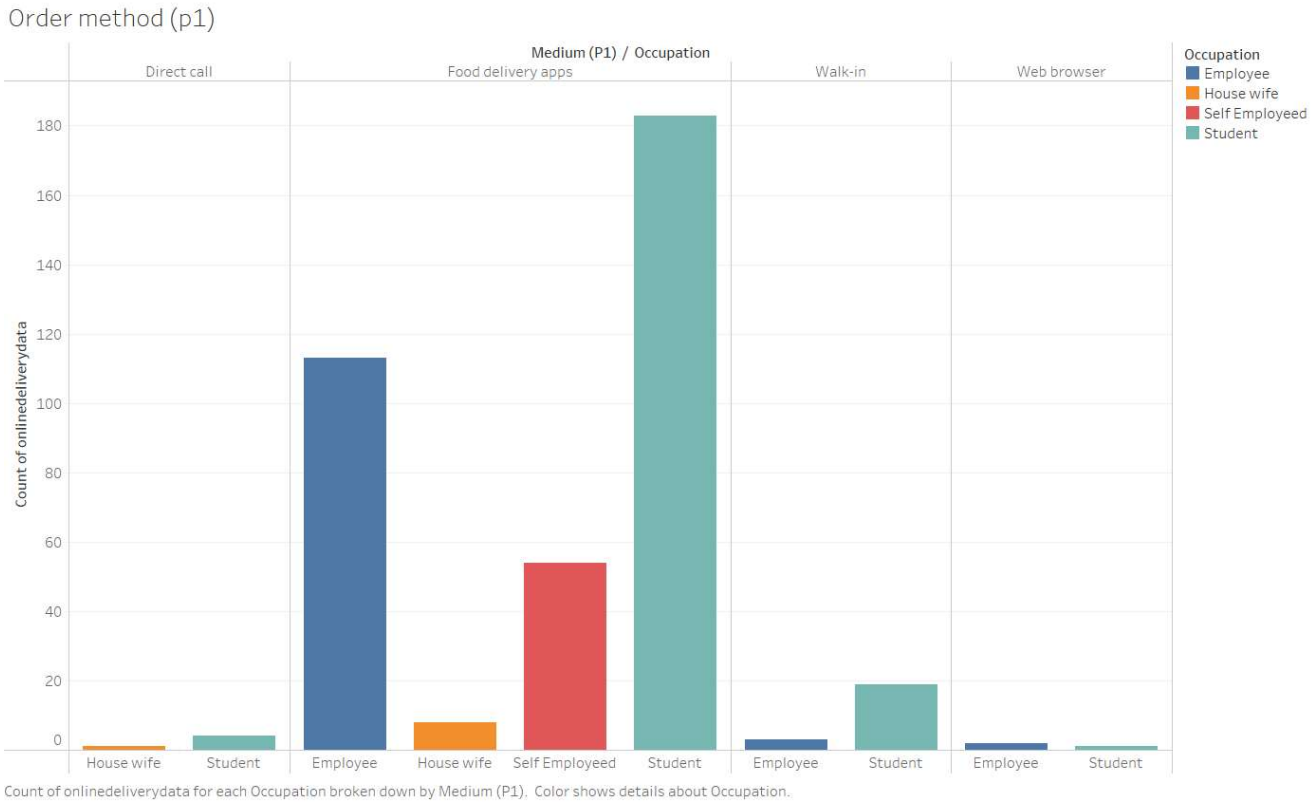


Figure 1: This graph represents consumer ordering food more via online delivery services.

2. RESEARCH OBJECTIVES

- Analyze factors that influences choice of consumers.
- Get a better understanding about this booming trend of food delivery
- Find commercial opportunities and methods to capitalize in this industry.

3. RESEARCH METHADOLOGY

To get my research work into motion, I explored multiple trending topics of interest and relevance. After doing extensive initial research about various topics, I chose a very relevant trend of online delivery and created a workflow for getting things done.

The workflow is explained briefly in my paper for the reader below.

3.1. FLOW CHART

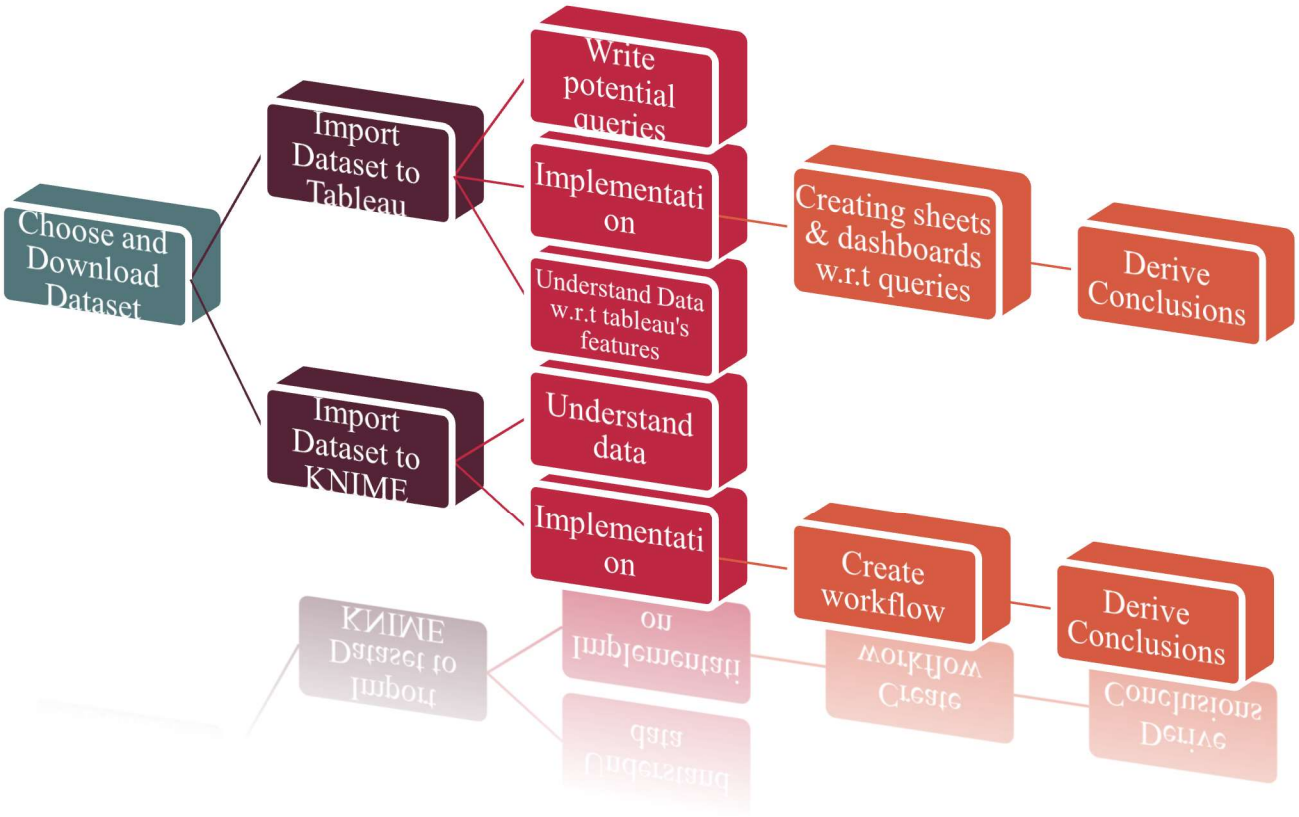
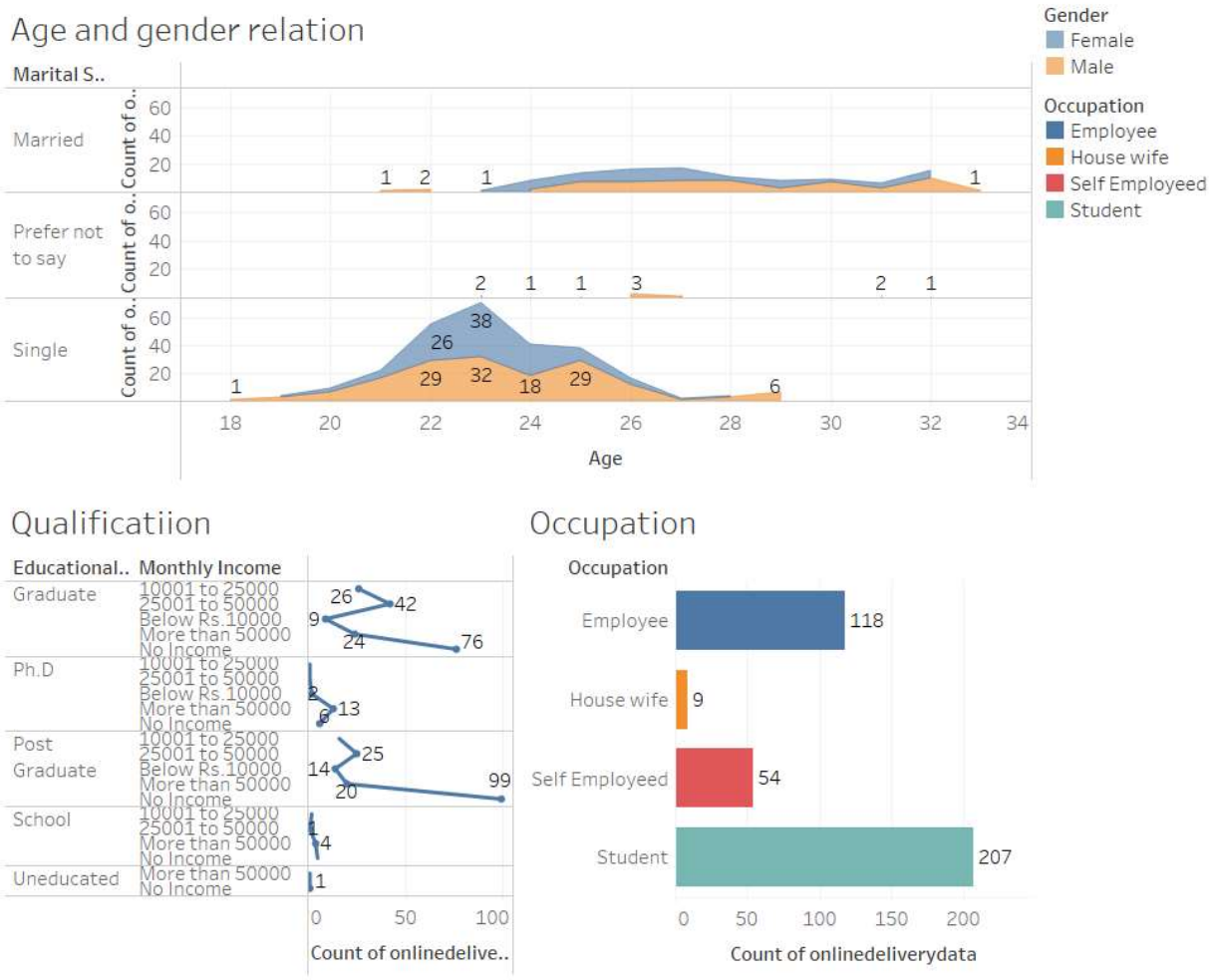


Figure 2: The figure above displays a flow chart that helped me organize my research.

After finalizing my topic, I searched for relevant datasets online and came across this dataset on **Kaggle**.
To analyze this dataset I worked on two tools.

- **Tableau 2021.2** : It is a data analysis and visualization software which helped me in visualizing my data and deriving conclusions from it for the scope of my research.
- **KNIME Analytics Platform**: I used KNIME for the purpose of TEXT ANALYSIS. I implemented Text analysis for curating reviews left by consumers.

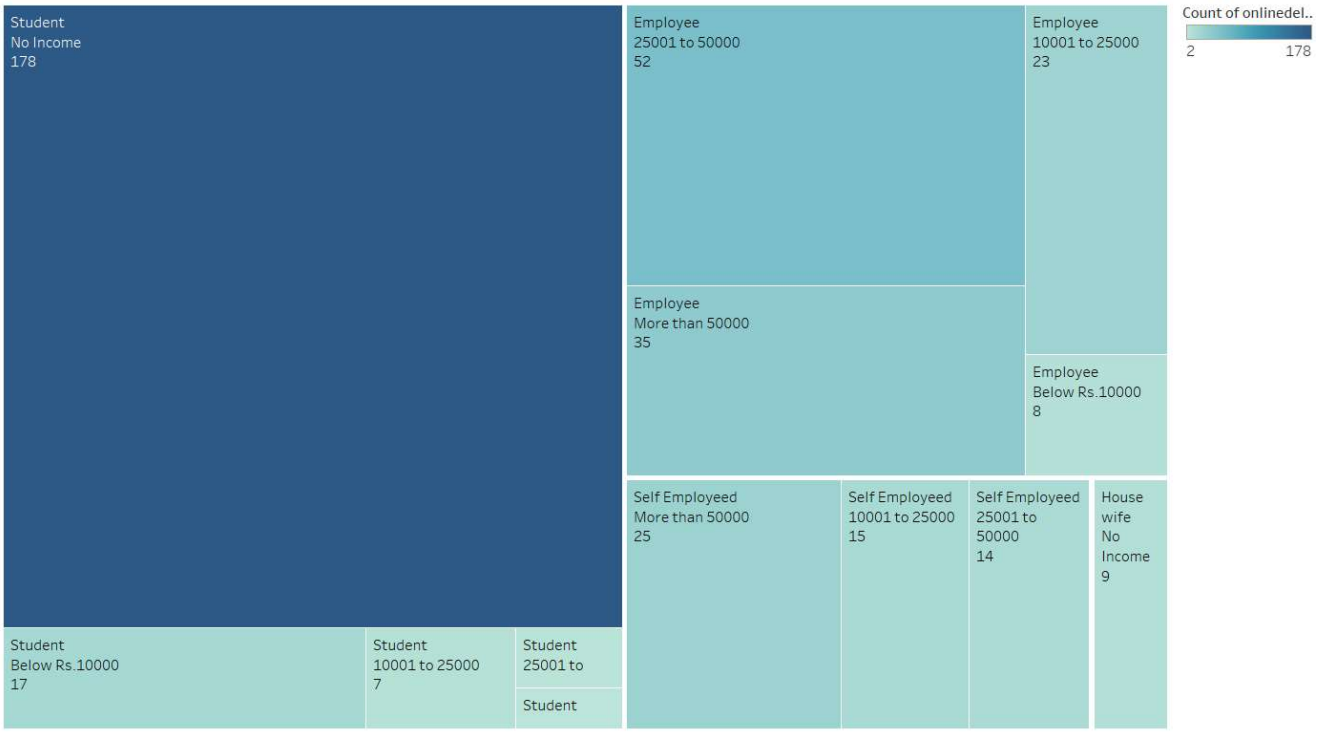
4. DATA ANALYSIS AND INTERPRETATION



DASHBOARD 1

Dashboard 1 *helps in visualizing basic information such as what major category does the customer fall in. Further analysis shows that students create the majority of the base for consuming non -home-made food. We can also find out that Marital status plays a great role in this as single people tend to order more food as compared to married couples. We can also deduce that there is a steady increase in food ordering by consumers from the approx. age of 20 years and then a steady decline to the age of approx. 26 years. The qualification graph shows that uneducated people consume the least food via online delivery platforms and in the students category, school students are very less likely to order food which can have many reasons like parental concerns.*

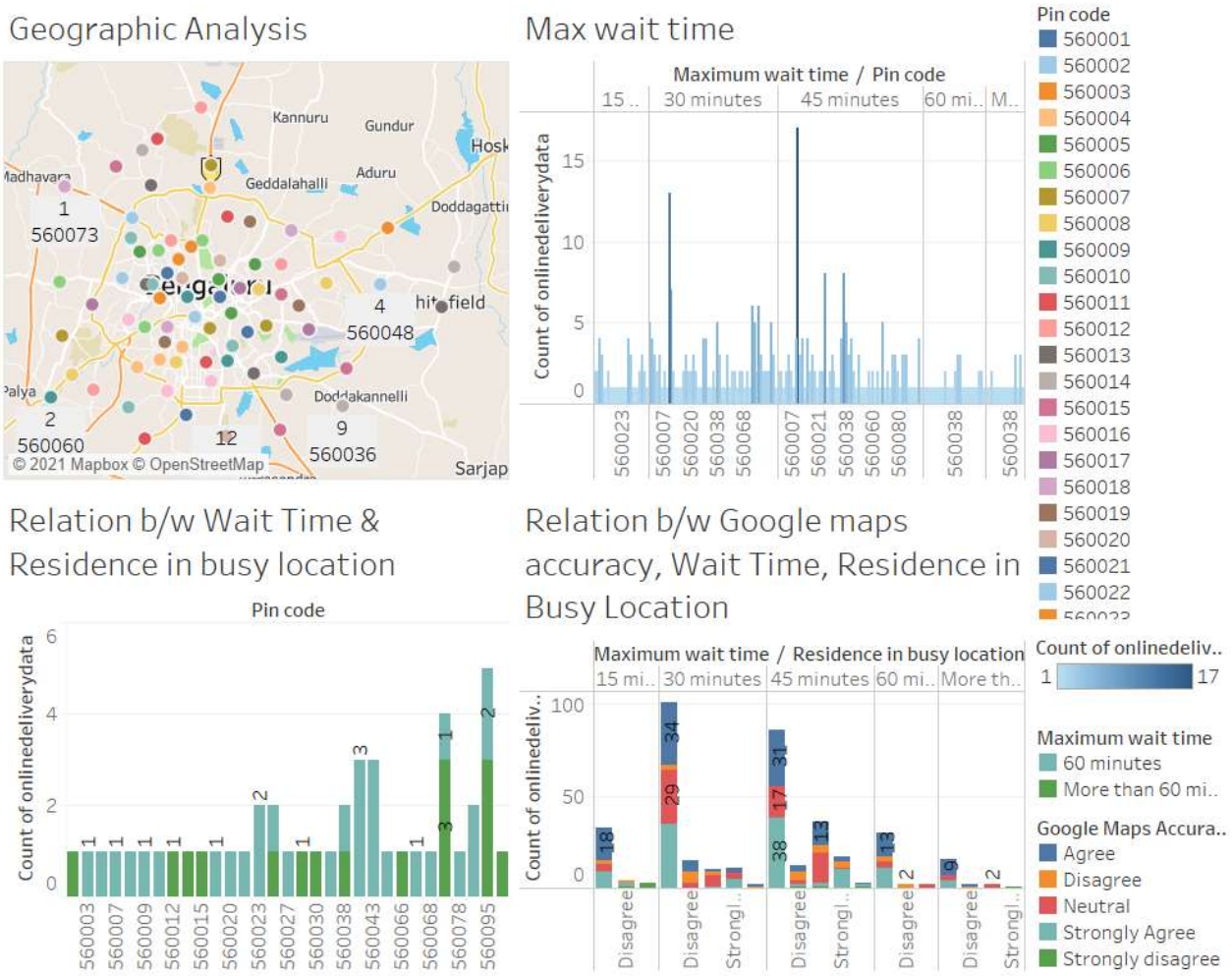
Classification



Occupation, Monthly Income and count of onlinedeliverydata. Color shows count of onlinedeliverydata. Size shows count of onlinedeliverydata. The marks are labeled by Occupation, Monthly Income and count of onlinedeliverydata.

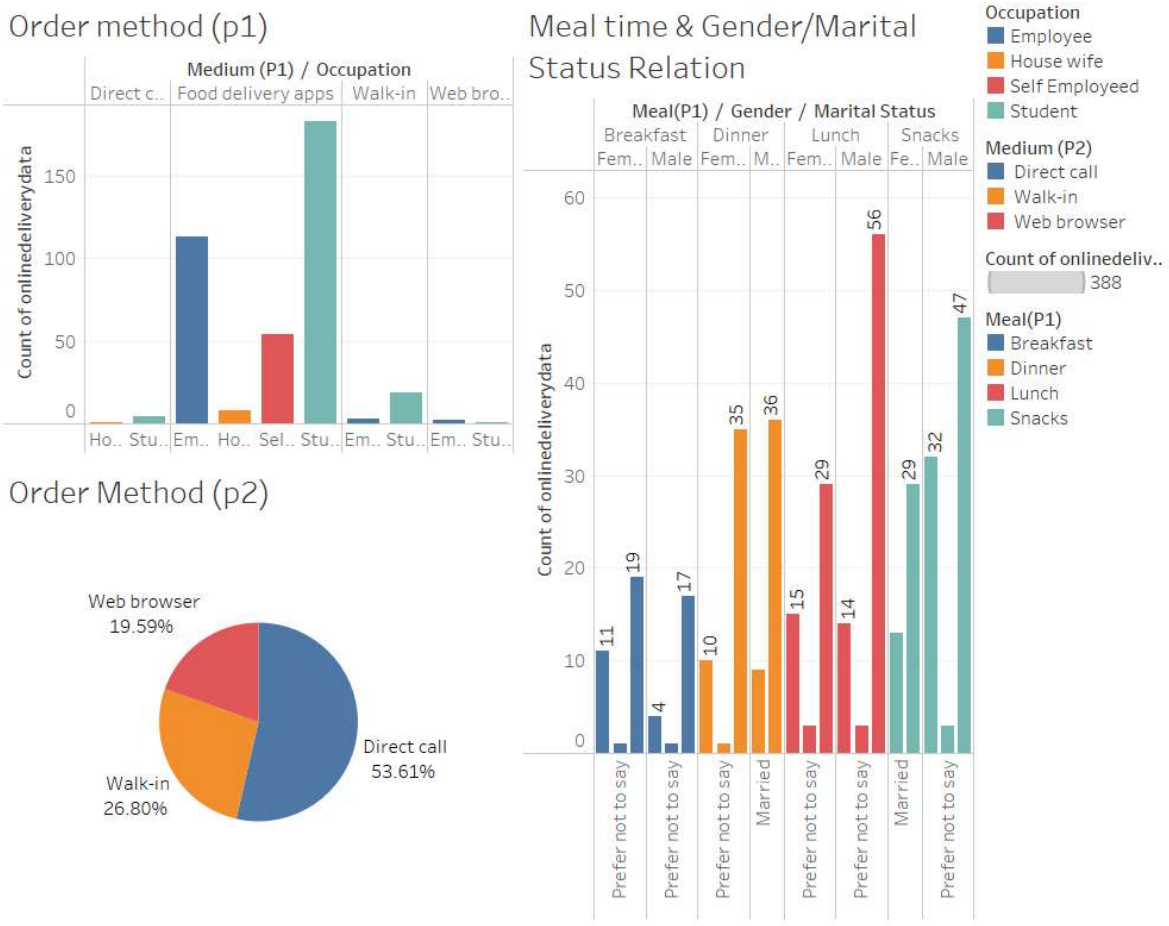
CLASSIFICATION

The figure above represents a better overview displaying which consumer demographic orders more food and which income group do they fall under while at the same time making it easy to draw comparisons between other consumer demographics. This visualization can be used to target individual groups and niches and learn more about the reasons related to it.



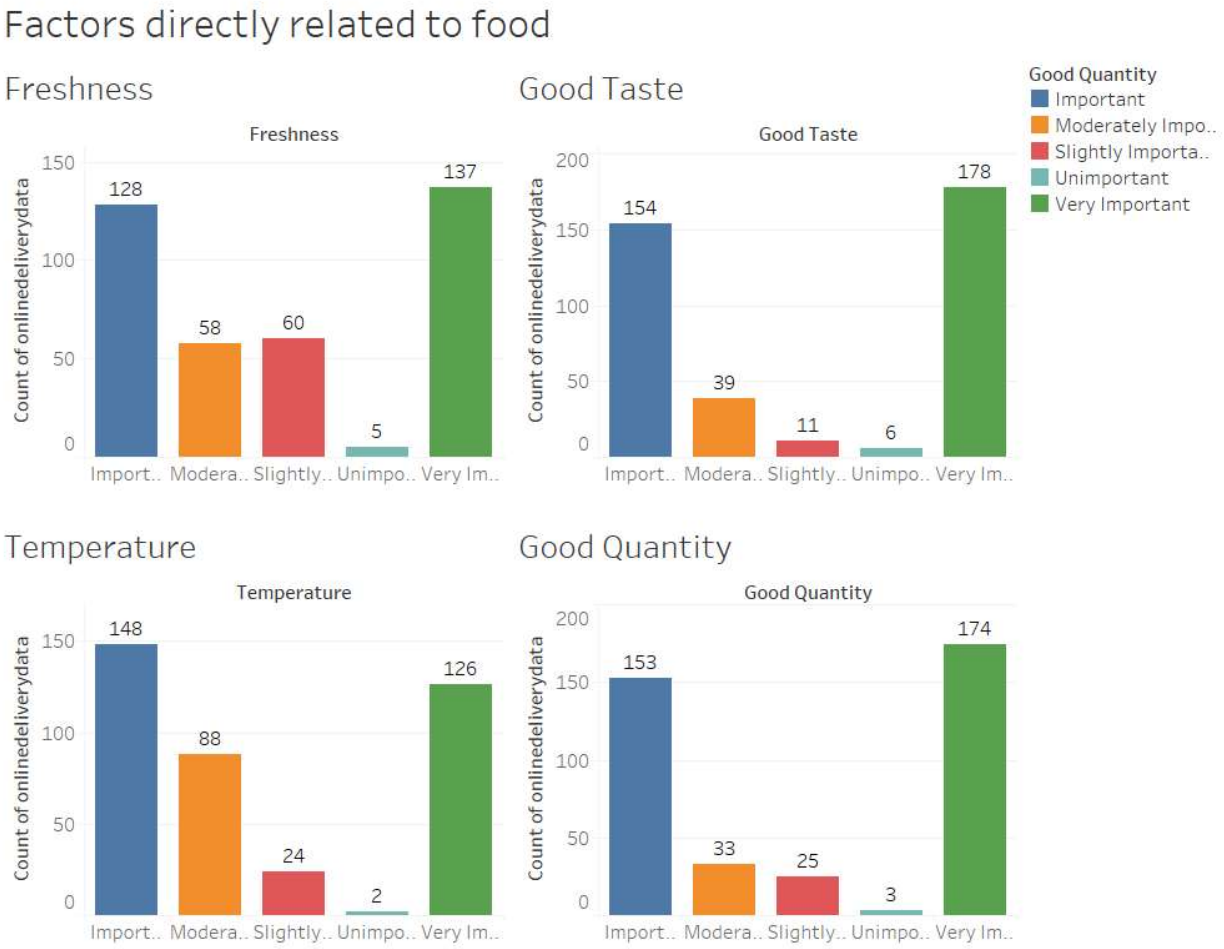
DASHBOARD 2

Dashboard 2 *shows a detailed geo-spatial analysis along with factors related to the geographical conditions of the customer. It also helps to pinpoint areas that are highly affected because of the customer being in either a densely populated area which minimizes location accuracy or their delivery address being in a busy location. The max wait time graph represents that the average time taken to deliver order's is 30-45 minutes. The bottom left graph can be very useful to filter pincodes that take 60 minutes or more and those pincodes can be further looked on to the map as created in the top left corner to figure out optimal routes or deploy better solutions to make delivery faster in those areas.*



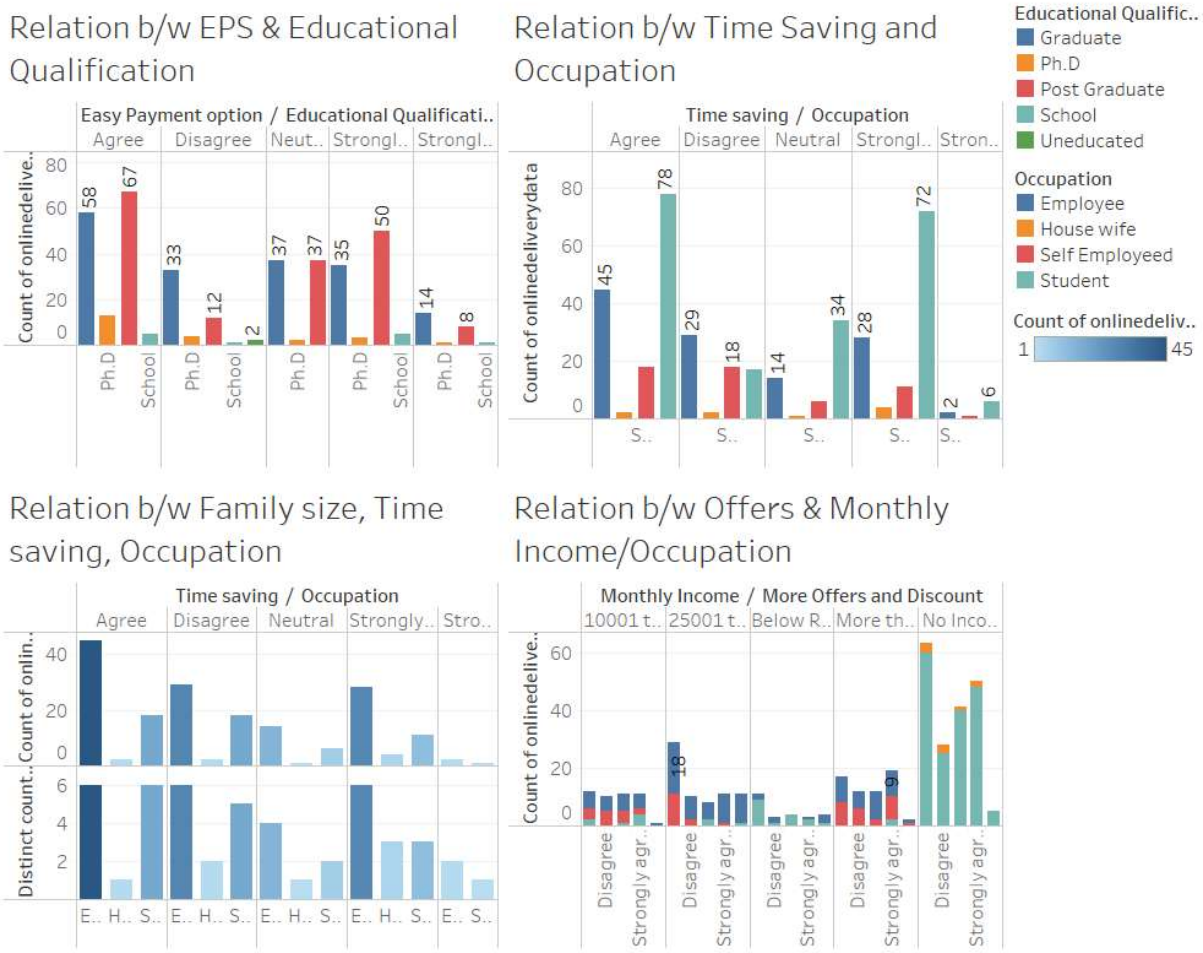
DASHBOARD 3

Dashboard 3 *represents the various modes of accessing food by the consumers. It also shows the most common time when food is generally ordered by people and its relationship with whether a person is single or married. The order method (p1) graph represents that food delivery apps are the most used by method by consumers to order food. The graph also shows that house wives are very less likely to order food as they might have more to time to prepare food which could be confirmed by looking at employee and student's bar. We can further see that people order less food as breakfast and are more likely to order food during the day and for dinner.*



DASHBOARD 3

Dashboard 3 consists of consumer's opinion on factors directly related to food. It is clearly observable that factors like freshness, good taste, temperature and good quantity of the food matter a lot for the consumers as a wide majority of the consumers convey that it is very important to them.



DASHBOARD 4

Dashboard 4 *has been divided into 4 important relationships.*

1. *Relation b/w Easy payment option and educational qualification.*

In this graph we can see that educated people know the importance of time saving so they want easy payments option to reduce the hassle between ordering food online. Also, what is clearly visible too is that school students don't have a great say in that because they most likely don't have personal payment methods.

2. *Relation b/w Time saving and occupation.*

This graph shows that time saving matters to people to what degree. Evidently time saving matters a lot to employees and students which could be the reason why they prefer ordering food online so much.

3. *Relation b/w Family size, Time Saving, Occupation.*

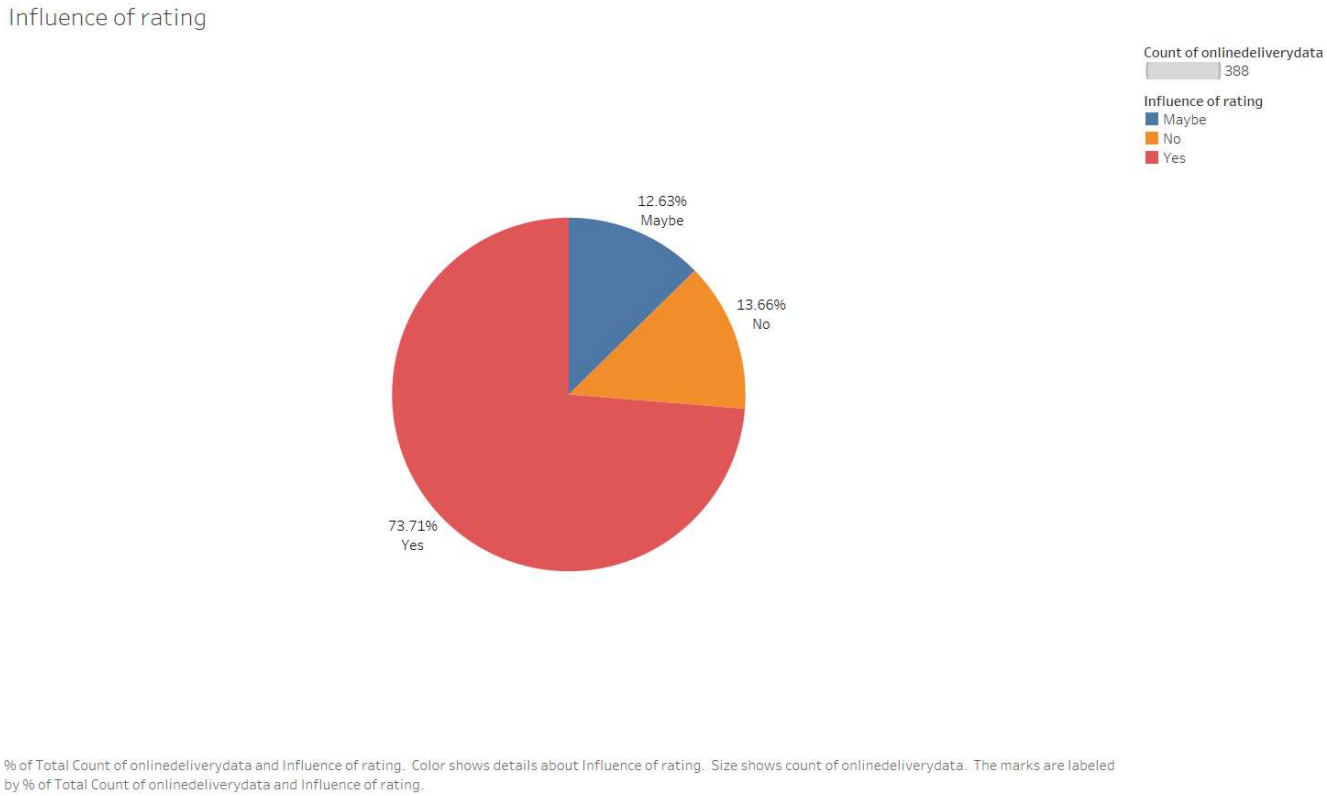
This graph shows that since working people don't have much time on their hands to prepare food, they are prone to ordering it online. Further, working people with bigger families tend to order more food which can be clearly seen from the feedback above.

4. *Relation b/w offers and Monthly Income and occupation.*

This graph divides the consumers into different income groups. From this we can deduce that people that fall under the no income group can be incentivized by providing more offers and discounts while ordering food online.

DASHBOARD 5

Dashboard 5 *above represents customers' feedback on basic general factors such as health concern, good tracking system, good food quality and unaffordability. But a unique trend we can see here is that a massive proportion of consumers agree that ordering food online is not unaffordable.*

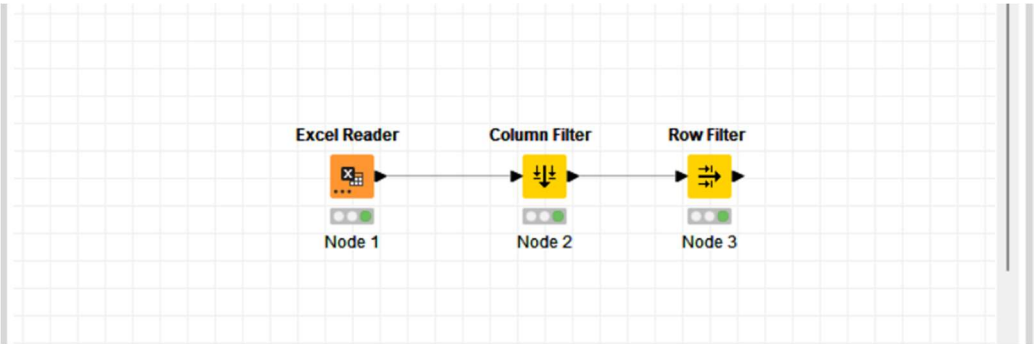


INFLUENCE OF RATING

This pie chart shows if the rating of a restaurant of the food delivery platform affects a consumers' choice.

DASHBOARD 6

Dashboard 6 *helps us to easily visualize the valuable feedback of the customers about important factors such as less delivery time, quality of package, number of calls made to successfully receive the order and the politeness of the delivery executive. At the end of the day, these factors could be the deal breaker for the customers if they don't feel satisfied with the service.*



The above figure shows the workflow in KNIME to easily analyze the reviews of the customers.

Edit Hilite Navigation View

"default" - Rows: 247 Spec - Column: 1 Properties Flow Variables

Row ID	S Reviews
Row0	Nil
Row2	Many a times payment gateways are an issue, so getting the refund and the surcharges are an inconvenience
Row11	Language barrier is also one major issue. Mostly these delivery boys are only familiar with Kanada which creates a problem while addressing any issue.
Row17	Spillage, bad packaging and missing items
Row18	Once my order from kfc got exchanged with someone else. Fault was delivery boy's.
Row22	I feel Swiggy has a good interface for users and the delivery time to my place in Bangalore taken by Swiggy is less than Zomato when ordered from same restaurant
Row29	No
Row32	I expect faster delivery in my area
Row36	Now days delivery ?? is improved a lot like fast delivery ,but now corna time many people are hesitating to order
Row37	I love zomato but it requires quality in deliver service.
Row40	Prefer hygienic delivery people
Row47	-
Row48	Spillage, bad packaging and missing items
Row52	No
Row53	N0
Row55	I have normally had good experiences with swiggy especially for payments and refunds
Row61	Nill
Row65	No
Row66	Good
Row69	Good so far
Row88	Now days delivery ?? is improved a lot like fast delivery ,but now corna time many people are hesitating to order
Row89	I hate online deliveries.Had harsh past experiences with delivery boys and the company responses
Row91	I expect the food that is being delivered to be hot and fresh
Row92	I love swiggy and their app user interface
Row94	No Comments!
Row98	I expect quality food rather than delivery time and ratings
Row99	Expect the delivery person to understand our hunger
Row103	Need more delivery bandwidth even in rural areas
Row104	Requires professional packaging with no leakage
Row106	Need more delivery people to cover all orders
Row110	nil
Row112	No
Row114	Want different cuisine dishes options in my location
Row115	I had bad experience with delivery person. They need to be polite
Row116	I'm happy with the service of online delivery startups
Row117	I need the order to be delivered fast to my location
Row118	I'm satisfied with the service of swiggy

In the picture above, a column filter has been applied to show only the reviews column along with the row number. Then a row filter has been applied to the displayed rows to remove reviews that contain the keyword "NIL".

This KNIME workflow made it easy to narrow down on the valuable reviews only rather than going through the whole dataset.

5. OBSERVATIONS AND CONCLUSIONS

The Conclusion of this research can be summarized as consumers are enjoying the experience of ordering food and they want it to be more accessible and affordable as it could get. Also not only do they want it to be affordable, but they don't want it on the cost of quality. A good chunk of the consumers of online food delivery services are students and single people. So, food delivery companies could learn from this information and create specific offers targeted towards this group to woo them into using their services more. Also, a major concern of customers ordering food is Delivery time and inconvenience due to location services not being accurate enough. Hence, companies can use the project data above to pinpoint areas where customers have faced issues because of this and deploy their resources to tackle these problems in an attempt to deliver a better experience to their customers.

The future scope derived from my research is that Data is a very big resource for Online Food delivery companies if they want to capitalize on the opportunities and surpass their rivals. Analyzing data as I have done in my research could help them understand the need of their customers as well as learn the trends as they change and stay ahead of the curve.

6. REFERENCES

I. https://www.kaggle.com/benroshan/online-food-delivery-preferencesbangalore-region

II. https://public.tableau.com/app/profile/rishubh.gusain/viz/Onlinefooddelivery/FeedbackofDeliveryExperience?publish=yes

ABOUT THE AUTHOR

Rishubh Gusain is a 3rd Year student pursuing B.tech in the department of Computer Science and Engineering from the **NorthCap University.** His area of interests are psychology, machine learning and content writing.

Email: rishubh19csu383@ncuindia.edu

CREDITS

Mr. Pankaj Aggarwal is a professor in the Northcap University in the department of Computer Science and Engineering. He has more than 45 research publications in international journals & conferences of repute. He is a certified Data Science Professional by IBM.

Email: pankajagarwal@ncuindia.edu