



Sentimental Analysis on Quick Commerce Platform Based on Customer Reviews in Google Play Store

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Abstract: *Quick commerce, commonly referred to as q-commerce, is a distinctive and developing business model in which the time between placing an order and receiving it is less than with e-commerce. This study aims to analyse the customer emotions using sentiment analysis among quick commerce users. The study found six major sentiments of the customers, they are constraining, litigious, negative, positive, superfluous, uncertainty. Data for this study has been extracted from google play store with the help of web scrapping, reviews of 3027 were gathered for this study. The results of this study demonstrate the value of review for analytics and demonstrate the power of sentiment analysis in deriving business value and competitive advantage.*

Keywords: *Sentiment Analysis, Customer Satisfaction, Quick Commerce, Customer Review.*

1. INTRODUCTION

Quick commerce, commonly referred to as q-commerce, is a distinctive and developing business model in which the time between placing an order and receiving it is less than with e-commerce. Fast order fulfilment is the goal of rapid commerce, which prioritises supplying a variety of goods and daily necessities in smaller amounts, including kitchen supplies, medications, and other necessities. In other words, during the epidemic, a new business model entered fast commerce to fill the gap left by the inability of shippers to keep up with demand. Within 10 to 30 minutes of placing an order, Q-commerce offers on-time, quick doorstep delivery thanks to a super-fast delivery business strategy that simplifies logistical operations. (Samsukha, 2022).



On-demand delivery and fast commerce are sometimes used interchangeably. It brings together the advantages of conventional e-commerce with advancements in last-mile delivery. It frequently focuses on the micro, or on smaller amounts of fewer products. For instance, a dish that is already underway could need a missing ingredient immediately.

Within minutes of receiving an order, Q-commerce grocery stores deliver tens of thousands of common products to consumers' homes. Hundreds of frequently purchased items, including yoghurt, milk, eggs, bread, chips, beverages, chocolate, fruits, vegetables, baby diapers, soaps, shampoos, shaving creams, deodorants, detergents, cat & dog food, magazines, and batteries, are delivered to customers' doors in a matter of minutes by these retailers. Their commercial dissemination is accelerated by this enormous ease. (Cagla, 2021).

Q-commerce (quick-commerce) is a new e-commerce model that emphasises efficiency, convenience, and customer service. (Rafael & Andrés, 2021). Customers slowly started to adapt to this new market and started to refuse to visit Kirana stores to fulfil their daily grocery needs as a result of the supply chain disruption caused by the Covid-19 pandemic. Q-commerce is a unique business model where the delivery of goods and services is done within 10-30 minutes of ordering.

Quick commerce does not try to be like a Wal-Mart or Big Bazaar. It just aims to use the dark store concept to become the largest Kirana store in an urban community. These have the necessary stock holding unit and are located next to apartment buildings. In the top 10 cities where their 10–20–minute delivery services are active, companies including Dunzo, Swiggy Instamart, Blinkit, and Zepto presently operate 20–30 such micro-fulfillment centres. A dark shop generally serves a radius of 2 km.

According to “**Business Standard**” article on **Quick Commerce**, some of the benefits of Quick commerce are:

- a. **Speed:** The fact that rapid commerce businesses can deliver items to clients in a fraction of the time it takes a typical retail location to accomplish the same gives them a huge edge over that type of business.
- b. **Guaranteed availability of products:** Because of the investments in AI and technology that monitor demand and alter inventory in real-time, items currently are not simply plain delivered faster. Nevertheless, they are more likely to be accessible when required.
- c. **24-hour operation:** Dark businesses are not constrained by the same constraints of daily opening hours that brick-and-mortar stores are, therefore they can operate 24 hours a day, 365 days a year. This is undoubtedly the biggest advantage of fast commerce and a major game-changer.

Quick Commerce Applications:

According to the **Forbes** report on “**Quick Commerce: An Ever-Changing E-Commerce Prospect**” by Amit Samsukha, Director & CTO at EmizenTech, is an e-commerce consultant, proficient at improvising IT infrastructure. The **top five players** in Quick commerce are:



- **Grofers:** Blinkit, a renamed delivery app, discovered a technique to achieve 10-minute delivery.
 - **Zepto:** Zepto is also working to develop a 15- to 30-minute delivery time.
 - **Swiggy:** More companies are investing in rapid commerce, like Instamart.
 - **BigBasket:** is growing in the q-commerce industry as well.
 - **Dunzo:** the fastest growing quick commerce in terms of shortest delivery time.
- a. **Grofers (Now Blinkit):** Imagine having a need for something at home and getting it before tying your shoes to go. By enabling instant access to the items that are most essential to you, we are redefining online shopping. We want our consumers to concentrate on their own more significant goals rather than worrying about the daily necessities of life. We are here to take care of your errands. The company "Blink Commerce Private Limited" (formerly known as Grofers India Private Limited) owns and operates "Blinkit," which is unconnected to "GROFFR.COM," a company that provides real estate services and is run by "Redstone Consultancy Services Private Limited" in any way. (About-Blinkit)
 - b. **Zepto:** Speed is ingrained in us since it is the smallest unit of observable time according to physics, or zepto. Speed is always a priority, whether it's surprising clients with 10-minute delivery or expanding our footprint across the nation. Because 10-minute delivery seems absurd, we think it's important to challenge preconceived notions and develop completely novel concepts. (About-Zepto)
 - c. **Swiggy Instamart:** "INSTAMART - Instant Grocery Delivery"- Swiggy Instamart is a Swiggy-powered instant grocery delivery service that brings goods to your home in only 15 to 30 minutes. We'll take care of your midweek shopping run, last-minute needs, midnight desires, and much more when you order any time between 6am and 3am. You may fulfil all of your shopping needs on Swiggy Instamart, from snacks and beverages to fruits and vegetables, cooking to cleaning basics, personal care to baby care. (About-Swiggy)
 - d. **Big Basket:** Bigbasket.com enables you to abandon the tediousness of grocery shopping and embrace a simple, laid-back method of browsing and purchasing food. From the convenience of your home or workplace, shop for all of your food and grocery requirements. Get whatever you need, when you need it, right at your home. Say goodbye to being trapped in traffic, paying for parking, standing in line, and carrying heavy bags. Now that every item on your monthly grocery list is accessible online at bigbasket.com, buying food online has never been simpler. (About-Bigbasket)
 - e. **Dunzo:** We never have enough time to do all we want to do in the city. Dunzo has the power to alter the way you buy, move items around, and access your city. With our app, you may find the closest delivery partner who can make purchases, pick up things from any restaurant or store in the area, and deliver them to you. Making purchases or dropping



off deliveries is never simple when you're busy at work, in traffic, or you can even forget about it entirely. (About-Dunzo)

Sentiment analysis is a contextual text mining technique that pulls data from internet sources to ascertain people's attitudes and opinions regarding a business, person, or event. (Alasmari, 2017). Sentiment analysis looks at arbitrary statements in user-generated material with the intention of identifying the attitude it expresses by categorising its polarity as positive, negative, or neutral. (Liu, 2012)

Objective of the Study

There are three main objectives of our study which we will try to achieve at the end of our research:

- To study the perception of the consumers towards the quick commerce.
- To figure out different drivers that motivates people to order through these applications.
- To determine what attitude or perception a consumer holds regarding the Quick commerce applications.

The following two Research Questions are;

RQ1: What are the important dimensions regarding customer's perceptions toward the quick commerce?

RQ2: What are customer's perceptions towards the quick commerce, positive or negative?

Literature review

A. Quick Commerce:

As per (Rafael & Andrés, 2021) A new e-commerce model called "quick commerce" has arisen, and it is built on ease, quick delivery, and caring for the consumer. As (Samsukha, 2022) An developing business model called quick commerce has a shorter time between placing an order and receiving it than e-commerce does.

(Cagla, 2021) indicated in their study that people's reluctance to visit physical retail establishments during the COVID-19 epidemic increased the need for rapid commerce food sellers. We decided to conduct a study on this subject to grasp the customer's opinion on rapid commerce as a result of the unexpected rise in this industry.

As (Nierynck, 2020) states the next generation of e-commerce is called "rapid commerce," and as the name implies, it is focused on speed. According to Milena Lazarevska, vice president of Commercial Quick Commerce at Delivery Hero, "people will soon wonder what they did before this service became an integral part of their life." (Delivery Hero, 2020)

B. Sentimental Analysis:

As (Ye, Zhang, & Law, 2009) The breadth, depth, and size of the sentiment analysis technique, which is used to gather and analyse a significant body of text data to provide insight into real-world issues, has recently increased. According to (Dave, Lawerence, Pennock, 2003) The goal of emotional analysis is to extract the content of written customer evaluations for certain goods or services and to categorise the reviews as either positive or negative depending on their polarity. In a research paper (Sharwan Kumar & Amrinder,



2021) used sentimental analysis to find customer's perception on Food Delivery Applications, i.e. Swiggy, Zomato and UberEats. Based on the customer's reviews on Twitter application and he found that Zomato has more percentage positive reviews and less percentage of negative reviews.

We did sentiment analysis based on the citations above since it is quite beneficial to look at customer reviews because it provides us an idea of how the general public thinks about particular concerns. Sentiment analysis has a wide range of practical applications. Businesses all across the world are embracing the ability to get insights from social data. It can also play a crucial role in your customer service and market research strategies. You may view consumer opinions not just of your own goods or services, but also of those of your rivals. Sentiment research may instantly disclose the general customer experience of your users, but it also has the potential to be far more detailed.

Sentiment analysis helps businesses measure the effectiveness of advertising efforts, the calibre of their goods and services, and spot problems before they become a burden to the business. In other words, it may help businesses leverage their strengths and obtain a sufficient competitive edge over rivals. Previous research computed the attitudes of people who post and write about commercial activities in the food-tech sector using sentiment analysis methodologies.

C. Online Customer Reviews:

Recently, businesses like Twitter, IBM, and Intel began utilising sentiment analysis to gauge how their own people felt about their positions. This gave management the opportunity to identify issues that they may not have otherwise known existed. (Waddell, 2016). IBM monitors platform posts using a sentiment analysis tool they developed internally to spot trends and warning signs. The results help the company improve the workplace, as evidenced by an updated employee performance review system based on suggestions from employees about how to make the system a better tool for their needs. (Waddell, 2016)

Online customer reviews provide a trustworthy venue for gathering several reviewers' opinions and perspectives on any niche subject of their choosing. (Huang, 2017). Online customer reviews are the most common type of e-WOM that influences the purchasing decisions of potential consumers and have been utilised as the major data in numerous research studies. (DeAscaniis & Gretzel, 2013).

Value is the rating that reviewers give a certain item or service. Customer purchases are more likely to be discouraged by negative valence than by positive valence. (Xianghua , Sulin , Lihua , & Yue, 2013). As a result, prospective consumers may utilise reasonably objective customer evaluations to help them make decisions and to share their own comments after using goods and services. (Gupta & Herman, 2011). Sentiment analysis was used as the method of analysis to analyse a huge data collection of customer satisfaction comments in this study in order to close this gap.



2. METHODOLOGY

For our research study we have taken Three thousand and twenty seven (3027) comments posted on Dunzo, Swiggy, Zepto, BigBasket and Blinkit in Google play store were analysed in this study. Sentiment analysis is used to examine the customer comments by identifying meaningful patterns, frequently used words and emotions. As there is no such study conducted regarding customers sentiments towards quick commerce sector. So we have used R software to understand the customer's perspective towards the quick commerce sector.

The statistical computing language, R software used to perform the sentiment analysis process to analyse customer comments, compare the words and classify the customers comments into the appropriate emotion category. In order to assess if a customer's attitude toward a given topic, product, etc. is good, negative, or neutral, sentiment analysis is the process of computationally recognising and categorising opinions conveyed in a piece of text.

3. RESULTS AND DISCUSSIONS

According to “**Exhibit-1**”, six major sentiments of the customers are established using 3027 customer reviews extracted from Google play store and that are as follows:

- a. **Constraints:** The various words from customer review states there are some limiting factors where quick commerce is lagging behind for the future growth and the companies need to focus on that area like unavailable goods, requirement, limitation, commitment etc. total 162 mentions have been found as per the customer reviews through R programming.
- b. **Positive:** According to R programming most of the mentions from customer reviews are consisting of positive words like good, great, better, best, easy, happy, excellent, etc. from which good is the most mentioned word in customer's comments.
- c. **Litigious:** It means that the company is tending to take legal action to settle disputes, but according to customer reviews the quick commerce companies are not focusing on these areas like moreover, claims, court disputes, etc.
- d. **Superfluous:** It means that more than is wanted on not needed, so the customers are focusing more on wide variety of products as well as the addition in quick commerce services which they are providing to the customers which is not required at this point of time. The two words founded as per R programming that shows that customers are focusing on the area which is not needed like (whilst, furthermore) are the words is founded from customer reviews.
- e. **Negative:** Total 3974 mentions are founded from customer reviews which show the negative words used by customers for quick commerce companies. The words like worst, bad, cancelled, poor, etc. are used by the customers out of which worst words is used mostly.
- f. **Uncertainty:** This word states that the companies are not flexible and not consistent so customers can't predict the future of the companies. Sometimes companies performs well and vice-versa. The words are sometimes, almost, could, possible, etc. are used by the customers in their reviews.



“Exhibit-2”: It tells about the words which have more numbers of mentions in customer reviews. It reveals that “order” has more number of mentions followed by “app, deliveri, time, custom, service, swiggi, deliv, item and use”. Out of which the word “order” is used most frequently by the customers, which shows positive intention towards the acceptance of the quick commerce.

“Exhibit-3”: It shows the sentiments that are analysed from customer reviews taken from Google play store. It reveals that “positive” sentiment has the highest mentions and “anticipation and negative” sentiment has almost similar number of mentions; followed by “trust, score, joy, sadness, anger, fear, disgust, surprise” sentiments. Out of which positive sentiment have most frequent mentions and the anger, fear, disgust and suprise have fewer mentions.

The **“Exhibit-4”** we can understand that in negative sentiments “worst” has mentioned more number of times that is 1042 times in customer reviews compared to other sentiments such as “Bad” which was mentioned 705 times , then followed by “Issue” which has 541 mentions, followed by “Pathetic” which has mentioned 355 times, then followed by “Poor” which has 303 mentions, followed by “Issues” which has 278 mentions, then followed by “Wrong” which has 230 mentions, then followed by the least negative sentiments which are “Problem, Delayed and Disappointment” which has 193, 169 and 158 mentions respectively.

From **“Exhibit-5”**, shows the constraint sentiments where “Unavailable” has highest of 69 mentions, followed by “Required” it has 27 mentions, then followed by “Limit” which has 18 mentions, then followed by “Commitment” which has 10 mentions and close to it “Permission” has 9 mentions, followed by “Requirement” which has 7 mentions, followed by “Committed” and “Compulsory” which has equal mentions of 6, followed by “Unavailability” which has 5 mentions respectively.

“Exhibit-6”, lists the most mention based on sentiments of quick commerce. Almost with the 34,000 mentions, order was most important mentions at 4933, followed by app which has mentions at 3267, followed closely by 3218 mentions regarding delivery of groceries, then comes time which has mentions at 2374, followed by customer which has mentions at 2060, followed by service with mentions at 1911, then followed by item which had mentions at 1551, followed by use which is mentioned at 1276, and contd. Results suggest that word positive has received more positive sentiments as compared to other sentiments, followed by anticipation and sentiment which have equal level of sentiments, then followed by score which has next level of sentiments and also joy and sadness have more or less same level of sentiments. we can understand that in negative sentiments “worst” has mentioned more number of times that is 1042 times in customer reviews compared to other sentiments such as “Bad” which was mentioned 705 times , then followed by “Issue” which has 541 mentions, followed by “Pathetic” which has mentioned 355 times, then followed by “Poor” which has 303 mentions, followed by “Issues” which has 278 mentions, then followed by “Wrong” which has 230 mentions, then followed by the least negative sentiments which are “Problem, Delayed and Disappointment” which has 193, 169 and 158 mentions respectively.

“Exhibit-7”: It again shows the most mentioned words such as order, app, time, custom, deliveri, etc., in word cloud format which are extracted from the customer’s reviews.

“Exhibit-8”: It shows the mentions that are related to positive and negative emotions of the customers.



4. CONCLUSION

So, we can conclude that customers have positive response towards quick commerce and also customers have adapted purchasing groceries through quick commerce applications in online. The results of this study demonstrate the value of review for analytics and demonstrate the power of sentiment analysis in deriving business value and competitive advantage.

Quick Commerce Companies should develop some business strategies as per customer needs and expectations which will help companies to gain more customers and to survive in this competitive industry. Companies should understand the customer needs and wants in advance which will help companies to grab the market share.

These Quick commerce companies should concentrate more the area which has more negative and constraining mentions as per the Exhibit-5 and Exhibit-6. For example: In Exhibit-5 we can see that “worst” has one thousand forty two (1042) mentions; it shows that something happened to customers which they didn’t like if companies concentrate more in these areas they can satisfy their customer in a better way.

According to the this research, quick commerce significantly transforms customer buying behaviour and the grocery retail chain by delivering speedier alternatives and a more comfort-driven buying experience. Quick commerce technologies allow for a more efficient customer experience. They update online shopping carts speedier, involve smaller steps to purchase things, and produce a better comprehensive shopping cart environment.

Exhibit-1

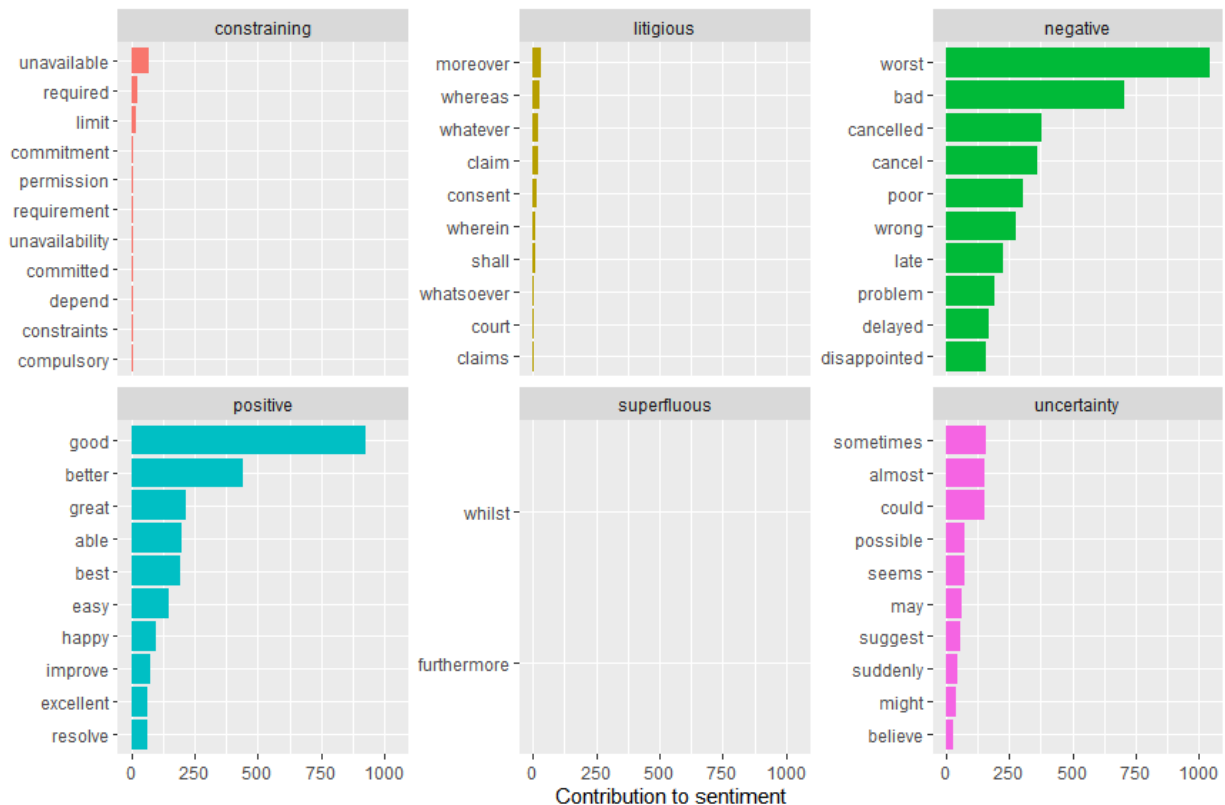


Exhibit-2

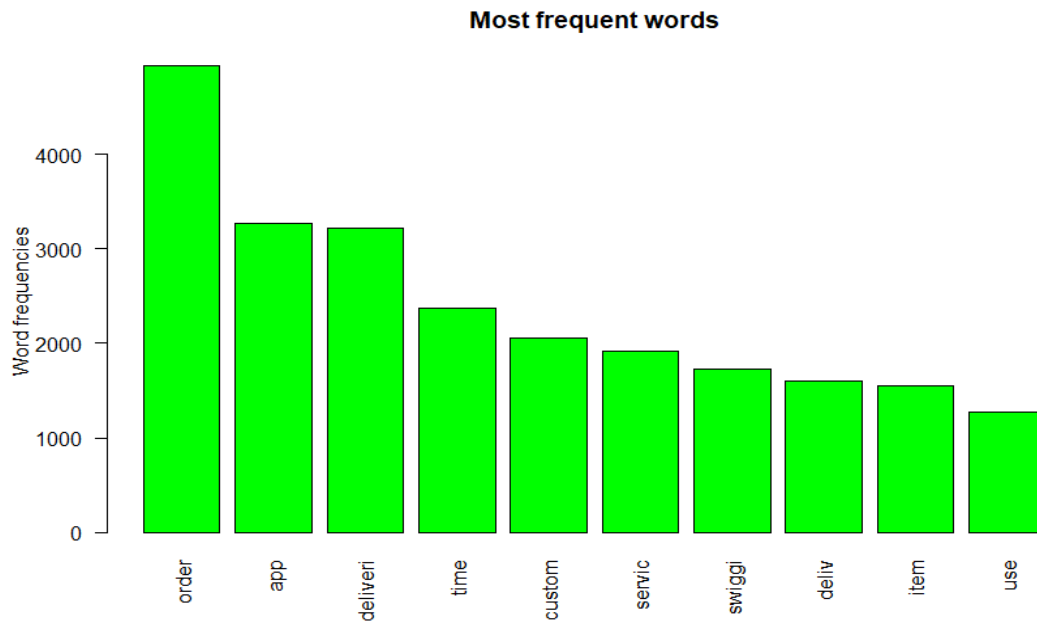


Exhibit-3

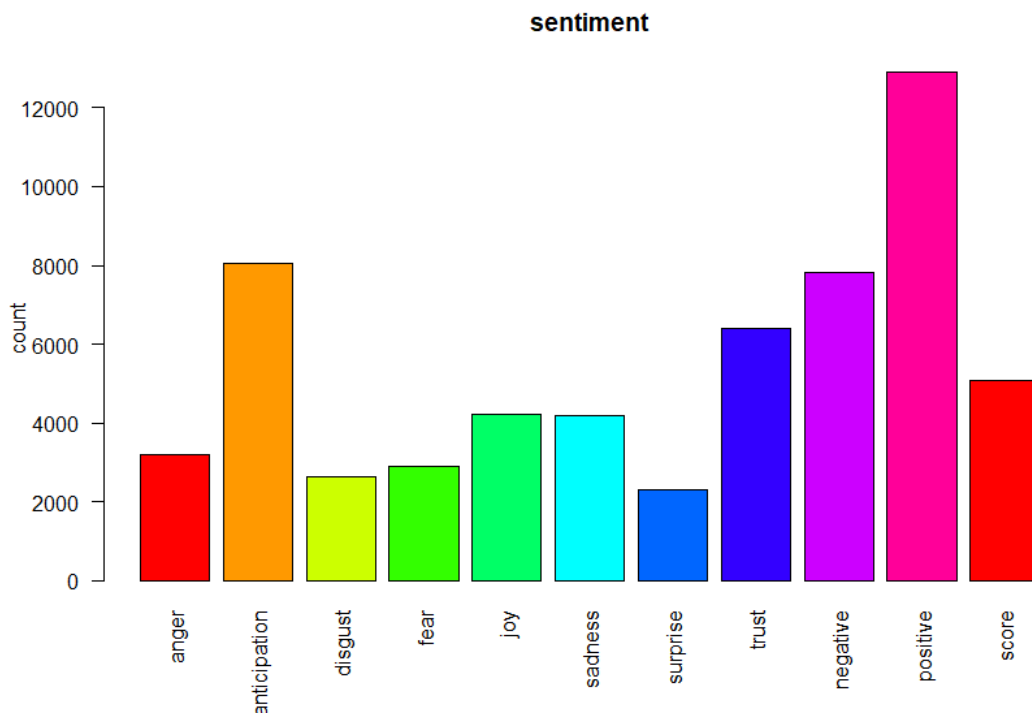


Exhibit-4			
Sr.no	Sentiments	Contribution	Frequency
1	Worst	Negative	1042
2	Bad	Negative	705
3	Issue	Negative	541
4	Pathetic	Negative	355
5	Poor	Negative	303
6	Wrong	Negative	230
7	Issues	Negative	278
8	Problem	Negative	193
9	Delayed	Negative	169
10	Disappointed	Negative	158

Exhibit-5			
Sr.no	Sentiments	Contribution	Frequency
1	Unavailable	Constraining	69
2	Required	Constraining	27
3	Limit	Constraining	18
4	Commitment	Constraining	10
5	Permission	Constraining	9
6	Requirement	Constraining	7
7	Committed	Constraining	6
8	Compulsory	Constraining	6
9	Unavailability	Constraining	5
10	Constraints	Constraining	5



Exhibit-6		
Sr.no	Sentiments	Frequency
1	Order	4933
2	App	3265
3	Deliveri	3219
4	Time	2372
5	Custom	2059
6	Servic	1913
7	Swiggi	1731
8	Deliv	1600
9	Item	1546
10	Use	1278
11	Will	1142
12	Even	1067
13	One	1058
14	Get	1041
15	Cancel	1040
16	Worst	1026
17	Experi	1006
18	Refund	1001
19	Product	998
20	Food	994



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