Innovative service recovery of customers by food aggregators using sentiment analysis

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Abstract. In the global era, technology plays a vital role in determining the strong market position for the modern-day organizations. Food aggregators make efforts to identify the reasons for service failure in case of customers not in direct communication with them. The ascending online food ordering market has augmented the involvement of peers’ day-to-day interaction on social media resources. Food ordering brands like Swiggy, Food panda, Zomato who have garnered quite a reputation by tapping their audience online via enticing them with the idea of getting quality restaurant meals right at their doorstep with just a click are slowly being victimised by their web of problems. Online marketing had made daily food ordering easy for the users but, the excessive demand of orders at a time can lead to delay in deliveries, loss in quality etc. henceforth, targeting brand’s esteem and loss of valuable consumers. These food ordering websites collaborate with a wide network of restaurants/hotels in a city and provide quick delivery of food products to their customers using aggregator business model. They act as middlemen who deliver the food from restaurants to user’s home maintaining a brands name. The current study focuses on tracking the sentiments of the customers through which these brands can identify the issues which leads to unsatisfactory responses or reviews on various online and social sites. Further study pave ways for innovative service recovery mechanism to frame a sustainable business practice for gaining competitive advantage. In this study, sentiment analysis tools like IBM Watson, social mention and tone analysers were used to observe the reactions of customers and used disruptive technology to analyse how brands could improve their service recovery behaviour to secure and reach more customers by figuring out the reasons of service failure.

Keywords: Aggregator business model; Online food ordering; Sentimental analysis; Tone analyser; Social mention tool; Sustainable business practices.

1. Introduction

With the advent of technology and rise of social media online marketing has outstretched its influence over the patrons [1]. From food to groceries to utilities, every basic necessity is just a tap away and
henceforth; it becomes essential to ensure that the sentiments of users are not overlooked, and they are satisfied with the services provided [2]. Customers are turning to online assistance to make their lives easier and what could be a better medium than an easy to use the mobile app to make purchases even more convenient? Study includes example of a few food ordering and delivering brands like Swiggy, Food panda or Zomato which are the major players in the industry in India. Nowadays people prefer ordering food online and make some quality time for themselves instead of dining out and waiting on ques. But every business industry has its own set of pros and cons. Hence an efficient alternative with an innovative customer mechanism approach can help the company soar huge profits. Therefore, the study considers this as a business problem and try to find out things any startup in this domain can induce to work on innovative service recovery behavior. Focus in the study remains to make the process of from food ordering to its delivery a seamless experience for the customers. In the quest of attaining a bigger brand name, vendors or brands usually preterm the needs of the consumers which after eternal recurrence becomes a big concern for brands; resulting in loss of customers, negative reviews and a direct attack on brand’s reputation. For food ordering brands, the process starts with arrival of customer on food aggregator’s portal wherein customer assesses the available food options/vendors then customer add the food to the cart and makes the payment option choice, as soon as payment details reached to the vendor/restaurant customer order gets processed then after packaging order gets shipped and delivered to customer’s provided address.

Now on the outside, this may appear like a simple task to do, but for food delivery apps this is a very complicated procedure to be followed. From the first step to till the time delivery is made, a single error can cost the brand a valuable customer [3]. And the biggest horror for the brand is the flexible and easy to use social media portals. Customers not only raise their queries on the website but they share their slightest of concerns with other audiences on various online mediums in the form of reviews, forums, social channels like Facebook, Twitter, Instagram etc [4, 5]. Which is where sentiment analysis tools like IBM Watson come in handy for the brands? By tracking down sentiments of the users, brands can not only track the health of their online reputation but can also use it for solving their customers’ distress with ease [6] [7]. Also, at times it becomes difficult for the brands to identify or track down where the major problem is with the help of sentiment analysis tools it gets more feasible for a brand to analyses what was the cause behind an issue generated by a user [8].

2. Literature Review

Service recovery: Most organizations these days prefer to have a team and system to record reasons for customer complaints and service failure to act on service recovery [9]. However, [10] have raised the issue that several organizations have failed to use the complaint data to service recovery. Customer complaint data help organizations to find out the reasons of customer dissatisfaction [4, 5] and operational issues leading to service failure [10], and learning of not repeating those mistakes in future again [10]. Service recovery has gained a lot of attention of marketing researchers and organizations these days. Effective service recovery leads to enhanced customer satisfaction and positive word of mouth [11]. The system of service recovery involves customer, employees and process as a whole [12, 13],[14] [4] pointed out that service recovery is only successful if customers do not feel the failure severe and are delighted by service recovery efforts of the concerned organization. Service recovery includes the actions taken by service provider in response to the observed or notified failure . Service recovery performance generates positive and favourable word-of-mouth [15]. The proper handling of occasional service failures ensures that the customer is well served and satisfied with the efforts made by service organization.
Social media analytics: In today’s knowledge-based economies, businesses need to create and utilize customer related knowledge to sustain their competitive position and help to maintain competitive advantage over their rivals. [16] pointed out that consumers’ uses of social media contribute to their purchase decisions. Many consumers rely on users-generated reviews on social media to evaluate the offerings of service provider before making any purchase decision [2]. To leverage on these users-generated contents, it is critical for service organizations to develop capability of collecting, storing and analyzing these data from social media to make actionable decisions for it’s benefit [9]. [1] pointed out that social media analytics is concerned with developing and evaluating frameworks and informatics tools to work on social media data to provide conversations and interactions to dig out useful information regarding users’ sentiments. Practically social media websites provide the basis to make business decisions [6]. Sentiment analytics and semantic analytics are few of the frequently used advanced techniques to conduct social media analytics.

3. Research Methodology

To analyse the business problem, Watson tone analyser was used for getting the insights about the sentiments of the consumers for various brands. Further IBM Watson for social media analytics was used for judging the brand equity of many counterparts in the online delivery space [16]. Other tools like social mention, export twitter, twitter advanced search were applied for extensive research about the current situation of various brands.

While doing the sentimental and documental level analysis of current online delivery competitors like swiggy, food panda, zomato etc., data was used from tweets, reviews, Facebook posts etc. Then data got embedded in the tone analyser software provided by IBM Watson which further helped to generate results about the sentiments people are having for that particular brand. The tone of the consumer’s feedback like angry, sad, joy, analytical etc. can be analysed through document level analysis. More focus was given on the angry and sad feedbacks and a pool of all those reviews and feedbacks to be pooled and taken into consideration while developing the solution to the business problem and in our case while promoting the new brand for online delivery. Social mention which again is one of the efficient social media tools helped in getting an overview of the current brands and export tweet assists in making the proper usage of MS Excel for further extensive research as export tweet allows all the tweet to be deployed in the excel sheet and it makes it easy to sort and filter various tweets as per the requirement of the research.

4. Data Collection

Data reliability can be seen with mention with no theme output which in our case is 14% as it signifies that our data is reliable, productive and accurate inference can be gained using this data. Further, the output generated by social mention tool also means the level of reach and responsiveness of the particular hashtags we are using for analysis. The export tweet has played a significant role in the collection of data, three meaningful hashtags named #swiggy, #zomato, #foodpanda which were inserted in the tracking tab of the website. A detailed report consisting relevant points like no. of tweets, essential influencers, most active authors, geographical location of the tweets, the dominant language used were the significant output generated by the website. Brand watch, rapid miner, semantria are other tools which were used for data collection and getting useful insights about the mentioned business problem. Significant use of the export tweet has been taken for collecting the top 100 tweets of all the three key players which we considered for sentimental analysis through tone analyser. These tweets were extracted in an excel file through export twitter app and then inserted into the tone analyser software which generated the specific output of various sentiments consumers were having in their mind.
5. Data Analysis

The below-mentioned data has been gathered from the tone analyser software, wherein the top 100 tweets from swiggy, zomato and food panda were analysed to get an overview of the sentiments of the customers. For getting into the real insights about the sentiments of the people, tone analyser has been majorly used, and the values of the tones have been taken in a range from 0 to 1 where 0 signifies the least level of that particular tone and 1 signifies the maximum level of tone of that nature. The table below shows seven different types of tones and their respective value given by IBM Watson Tone analyser. First, these three hashtags namely #swiggy, #Zomato, #Foodpanda were used to export their tweets in the excel file using birdiq.net, then all of those tweets were clubbed and inserted to the tone analyser software.

Table 1. Tones across different providers

| Tone        | #Swiggy | #Zomato | #Food panda |
|-------------|---------|---------|-------------|
| Anger       | 0.70    | 0.59    | 0.78        |
| Fear        | 0.52    | 0.53    | 0.54        |
| Joy         | 0.69    | 0.79    | 0.95        |
| Sadness     | 0.90    | 0.51    | 0.64        |
| Analytical  | 0.61    | 0.68    | 0.84        |
| Confident   | 0.68    | 0.53    | 0.80        |
| Tentative   | 0       | 0.75    | 0           |

Figure 1. Aggregate Sentiments for different food delivery players

Different levels of tones were observed for three major online food delivery players in figure 1. The sentiments including anger, joy, sadness, analytical domain, confidence and tentatives were recorded.
Figure 2. Anger sentiment for different food delivery players

The maximum level of anger 0.78 (Figure 2) can be seen in the customers of food panda, and the primary reasons behind it account for bad after sale services or not so good order tracking system by the company. On the other hand, among all the three partners zomato has the best order tracking system and their customers have less content of anger in their sentiments. People tend to like the after-sale services of zomato, and one of the principal reason for that is their upright tracking software.

Figure 3. Joy sentiment for different food delivery players

Even though food panda has the maximum level of angry sentiment, but, on the other hand, it also has the supreme joy level of 0.95 (Figure 3). Foremost reasons for that were the significant level of discounted offers provided by the company. People tend to feel joyful when they get fast delivered food at a
discounted price. Food panda has focused on gathering the mass market by introducing exclusive deals on various special events like Mother’s day, Diwali, Rakshabandhan etc.

Swiggy has the maximum level of sadness factor 0.91 (Figure 4) among the sentiments of its users. The reason attributed to it is majorly the inefficient working of the app of swiggy and continuous crashing of the software and difficult sign-up system for the services to be consumed. Swiggy should focus on improving its mobile application and removing various bugs which are causing this problem in their software. Comparatively, zomato and food panda have a lower level of sadness factor and also the reasons accredited for this particular sentiment is different. As people are sad about zomato due to non-recovery of their cashback which the company promised and in the case of food panda the main reason for the sadness is because of the delayed delivery.

Figure 4. Sadness sentiment for different food delivery players

Figure 5. Analytical sentiment for different food delivery players
Analytical tone signifies a person’s reasoning and logical attitude about the things. So it can be seen in the figure 5 that sentiment of the users of food panda seemed to be much more consistent and realistic hence primary focus should be given to resolve their queries ASAP. The main concern is about the failure in the login system of the apps or the network error due to which delays in the order or the less frequency in the laws can be seen.

Figure 6. Confidence sentiment for different food delivery players

A confident tone signifies a person’s degree of certainty of whatever he/she is saying or what they are feeling. In the case above the maximum assurance in the sentiments of food panda users can be seen which accounts to be up to a maximum level of 0.8 (Figure 6) in comparison with the other two players. This confidence factor has also been seen in the dissatisfaction among the users where they are complaining about the services provided by the company. They are expressing their disappointment of delay in their orders and failure in the login course.
Figure 7. Tentative sentiment for different food delivery players

A tentative tone signifies a person’s degree of inhibition which can only be seen in the case of zomato for our example is 0.75 (Figure 7). The critical reason for zomato having this level is because of its presence in multiple cities as zomato’s presence is in more cities as compared to other players. Hence, users are expressing their good experience with zomato and how effectively zomato was with them even when they travelled to different cities.

Insights taken from social mention are as follows-

The maximum percentage of negative sentiment among all the three players can be seen in swiggy again which again can be confirmed with the analysis done above with the tone analyser showing the maximum level of sadness factor of 0.91 (Figure 4) in it. This can be reflected through the analysis of social mention for these three players as food aggregators in online food market. As per the social mention Swiggy retained the maximum strength of 58% (Figure 8) across the considered players. In terms of reach also Swiggy leads with 54% (Figure 8). This is the indicator that the online food delivery market Swiggy is enjoying an edge over it’s rivals. In the social mention it has been found that more proportion is for neutral sentiments, followed by positive sentiments and negative sentiments.
Figure 8. Social mention insights

6. Inferences Drawn
It has been found that the significant usage was there during the weekends. Advertisement medium was used as a mechanism to reach out customers. Customers confronted issues related to website malfunctioning sometimes during the order processing phase. It has also been observed that the customer’s dissatisfaction lead to service failure as a result of poor follow up from the service provider. One of the reasons accounted for switching of apps was delayed delivery times. It has also been found that customers were quite keen in demanding cash on delivery for foods. Negative emotions among users were mainly due to insecurity around website usage and delay in food delivery. The joyful emotions of customers were driven by cashback offers, which make them delighted and enthusiastic for next purchase. The primary users of aggregators were found in metro cities and still many other towns left to be tapped. The availability of good internet speed is essential for customers to order food online.

7. Conclusion and Recommendations

After thoroughly analysing the sentiments of users over various online platforms we can predict about general user behaviour and reactions concerning the online food delivery brands. Certain conclusions were drawn from data analysis research which we can wisely implement as a business precedent in a newly launched brand to work on developing innovative service recovery systems. Even after certain mismanagements by online food delivery brands customers’ sentiment data came out to be joyful reasons being - Gifts, tempting offers, discounts and free delivery. Brands’ multi-destination presence also plays a significant role in affecting overall brand significance across the web. For example, Zomato has a broader reach and likeability among the online audience as they provide services in most Indian cities, henceforth targeting a much broader zone of customers. The continuous crashing of apps or website pages is the mainly the primary reason for customer’s sad response. With hybrid mobile apps or accelerated web pages, a brand would undoubtedly witness a satisfactory answer from the users along with increased business via online marketing. Online monitoring is an essential tool which is a must-have for any online seller, especially for a food-ordering site. Proper understanding of sentiments of users can pave the way for service providers to find out the reasons for service failure and look for designing innovative service recovery systems. Users these days prefer to express their opinion through social media platforms, which further may be referred by prospective service users. Sentiment analysis of data using IBM Watson rendered the solution to a poor delivery-tracking system, which can pave the path for innovative service recovery efforts by food aggregators. By sharing the live location of delivery support with the customers food aggregators might help in lowering the users’ angry sentiment response. As in the current study the focus was on analysing the users’ sentiments from the perspective of food aggregators operating in restaurants and food facility, in future similar studies can be carried out in other service sectors as well.

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