

Application of Organizational Justice Theory to Consumer Complaints in COVID-19 Vaccination Drive

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Consumer satisfaction is dependent not solely on the end result but also on the supplementary management processes involved. This study applies social listening techniques to extract and analyse consumer grievances regarding the COVID-19 vaccination drive in India. The objective is to provide actionable insights to service providers based on consumer data. The study presents a network analysis based on the keywords present in the posts. The network analysis provides an indicative clustering of the keywords based on their co-appearance. The study also presents a content-based thematic analysis and extends the application of organizational justice theory to analyse the interactions between the consumers and the service providers. The study identifies the main themes as complaints related to three aspects viz. price, process and interaction.

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Introduction

All over the world, countries are fighting a war against COVID-19. A major step forward in this direction has been the initiation of the COVID-19 vaccination drive. Countries are attempting to achieve mass immunization to prevent surges in the number of cases. India is making steadfast progress towards achieving that goal since the commencement of the vaccination drive on January 16, 2021 (Press Information Bureau Delhi, 2021). However, a true measure of the success of any such government initiative should be complemented by an assessment of the customer satisfaction associated with it (Anderson & Fornell, 2000). This study adopts a qualitative approach to analyse consumer complaints regarding the COVID-19 vaccination drive. We extend the application of the organizational justice theory to study interactions between the consumers and the service providers

with the objective to provide actionable insights for the service providers. This would increase the consumer satisfaction associated with the initiative and thereby improve participation. We extract data from an online consumer forum for complaints. To understand the overall structure of the topics mentioned by the consumers, we provide a network analysis of the keywords in the text. We supplement this analysis by critically examining the text of the complaints and classifying them into meaningful themes.

The network analysis provides a descriptive overview of the complaints. The analysis highlights the most frequently occurring keywords in the text thus suggesting the central theme of the complaints. The analysis also identifies three clusters based on the co-appearance of the keywords. The findings of the thematic analysis suggest that the complaints can be broadly classified into those related to three categories viz. price, process and interaction. We further classify the complaints based on the stage of the consumption process, i.e., pre-consumption, service encounter and post-encounter. The complaints in all three stages of the consumption process are majorly related to the processes involved in getting the vaccination. This study adds to the organizational justice literature and the service consumption literature. The findings of the study can be utilized by the ground-level service providers to minimize consumer grievances. The methodology followed in the paper can be applied by service providers to identify critical situations.

Organizational Justice

The organizational justice theory identifies three categories, i.e., distributive justice, procedural justice and interactional justice (Greenberg, 1987). Distributive justice is the degree to which appropriate allocation norms are followed in a particular decision-making context. It is associated with the justness of the outcome with respect to one's inputs. Procedural justice is associated with the process followed for outcome allocation. A just process is characterized by accuracy, consistency, lack of bias and representation of all relevant stakeholders. Interactional justice is associated with the fairness of interpersonal interaction. It is based on relevant authorities providing correct and honest information in a respectful manner (Cropanzana et al., 2007; Colquitt, 2012). The presence of organizational justice ensures trust, commitment, better performance, improved customer satisfaction and reduced conflict (Cropanzana et al., 2007). Organizations can improve customer satisfaction by ensuring organizational justice and maintaining the perception of fairness among customers. Ensuring high levels of customer satisfaction is not solely dependent on the delivery of products and services but also the complementary management processes. (Campbell & Finch, 2004; Finch, 2004). Maintaining

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the perception of fairness amongst customers becomes even more challenging as the size of the organization increases (Campbell & Finch, 2004).

To ensure the smooth functioning of the COVID-19 vaccination drive, a myriad of organizations have accepted the challenge to coordinate with each other, such as the Indian Ministry of Health and Family Welfare, private and government hospitals and temporary vaccination centres. Our study focuses on the interactions between these organizations, hereby called the service providers and the consumers.

Social Listening

Social listening is defined as the process of attending, observing, interpreting and responding to different stimuli through electronic, mediated and social channels (Stewart & Arnold, 2018). Social media and mobile technologies have led to an increase in connectivity between entities, this forms the basis of social listening. Social listening has obvious implications for customer relationship management (CRM). Organizations can utilize social listening techniques to track, analyse and respond to conversations about them on social media (Stewart et al., 2017). Since consumers take to online platforms to express and voice their opinions, organizations must have a system in place that addresses any critical situations (Maity, 2017). Co-founder and president of Shoutlet, Aaron Everson says that social listening methods provide organizations with actionable insights based on consumer behavior (Wagner, 2014).

Extant literature talks about the strategic role of social media in customer relationship management. Stewart et al. (2017) examine how an academic library uses social listening techniques to enhance CRM. Maecker et al. (2016) empirically test the impact of interactions between the company and its users on social media platforms on a telecommunication company's churn rate and upselling efforts. Rosman and Stuhura (2013) talk about how interactions on social media platforms have influenced the hotel industry. Park et al. (2015) analyze the impact of social listening on interpersonal service quality and utilitarian value in the context of e-contact centres and e-retailers.

Our study uses a social listening tool to extract and analyze the complaints posted by consumers regarding their interactions with the service providers in the context of COVID-19 vaccination drive being conducted in India. Our study illustrates how extracting and analysing such data can provide actionable insights for service providers.

Context

The research is conducted in the context of India's vaccination drive. India commenced its vaccination drive on January 16, 2021. The immunization drive was rolled out in a phased manner, focusing on the most vulnerable groups first (healthcare workers and frontline workers). The immunization for the general public was initiated on March 1, 2021. In the second phase of the vaccination drive, individuals above 60 years of age and

individuals above 45 years of age with co-morbidities were eligible to be vaccinated. The inclusion criterion was further relaxed to all individuals above 45 years of age. In phase 3, all individuals above 18 years of age were eligible to get the vaccination. Currently, three vaccines are available in India, Covaxin by Bharat Biotech, Covishield by Serum Institute of India (developed by AstraZeneca) and Russia's Sputnik V (developed by Gamaleya Research Institute). There are two modes to get the vaccination in India, walk-in registration at a vaccination centre (for individuals above 45 years of age) and through the Cowin portal or Aarogya Setu app (for individuals above 18 years of age). As per the press release by the Indian Ministry of Health and Family Welfare, over 200 million people had been vaccinated in India by May 26, 2021 (Press Information Bureau Delhi, 2021).

Data Collection

The first step in the data collection process was identifying publically visible forums that have been used to raise issues or post complaints. The data has been extracted from the Indian Consumer Complaints Forum (<https://www.consumercomplaints.in/>). We performed a keyword-based search to identify relevant posts. The data was collected on June 20, 2021. The keywords selected for the search criteria were: "covaxin", "covishield", "sputnik", "vaccine" and "vaccination". All the posts in the search results were extracted using Web Scraper (webscraper.io). We restricted ourselves to posts in the English language.

We extracted the title of the post, body of the post, date of the post and the complainant's username. The search yielded a total of 648 posts (covaxin (n=23), covishield (n=24), sputnik (n=7), vaccine (n=223), vaccination (n=371)).

Data Cleaning

To make the data usable, we manually screened all the posts. All the posts that were not concerned with the vaccination drive were excluded. This process yielded 135 relevant posts. Next, we compiled the data and removed the duplicates. This resulted in 62 posts, all further analysis was performed on these 62 posts. We then checked for spelling errors in the posts and used the CLEAN and TRIM functions in Excel to format these posts.

Data Processing

For processing the data, we used the tidytext package in R. The tidytext package is a natural language processing (NLP) tool used for text mining and text analysis. Using this package, we tokenized the data. The tokenization process involves slicing the data into separate words. For instance, the statement "the hospital staff was rude to me." would be broken down into seven different words, "the", "hospital", "staff", "was", "rude", "to" and "me" and all punctuation would be removed. The association of the resultant list of words to the complaint identification number is maintained, this is required for analysing the data. In the next step, we remove all the stop words from the obtained list of words.

Stop words include words such as “a”, “and”, “the”. These words can be safely removed from the data without sacrificing the meaning of the text. Continuing with our example, after excluding the stop words, the filtered result would include “hospital”, “staff” and “rude”. The final step in the process was stemming the data. The stemming process involves truncating words that are different forms of the same base word. For instance, in our context, the terms “vaccine”, “vaccinated” and “vaccination” was reduced to “vaccin”. In cases, where the stemmed words lacked meaning, we referred to the list of words obtained in the previous step to complete the word. We used the vertical lookup function in Excel to achieve this. Stemming is an important step for text analysis. Otherwise, different forms of the same word would be treated as distinct words, despite having the same meaning. This also reduces the quantum of data that needs to be analysed. The obtained list of words forms the input for the network analysis. The thematic analysis was performed on the complete text.

Analysis

We perform two distinct analyses on the extracted text corpus. The network analysis provides an overview of the data and segregates the data into clusters based on the co-appearance of the words. The thematic analysis provides an in-depth analysis of the text. The complaints have been categorized into meaningful themes for structuring the data and drawing inferences.

Network Analysis

We used Gephi 0.9.2 for analysing and visualizing the network data. The network analysis is based on the co-appearance of the words in the complaint text. The network is a one-mode projection of a two-mode network based on the words in the complaints and the complainant’s identification number. The network is presented in Fig. 1. The nodes in the networks are words and the edges represent co-appearance. If two words were mentioned in the same complaint, then they are connected. The size of the nodes is based on the degree of centrality and represents the frequency of the word’s occurrence.

To refine our results we have included words that appear at least five times in the word corpus. The community detection algorithm has identified three communities or clusters. The words included in the three clusters are presented in Table 1. The words have been arranged in decreasing order of degree centrality.

The top ten high-frequency keywords were “covid”, “dose”, “vaccination”, “hospital”, “cowin”, “covishield”, “registration”, “provided”, “staff” and “certifi-

Out of three vaccines, only “covishield” appears in the top ten high-frequency words, indicating that majority of the complaints were about incidents where Covishield was administered.

complainants frequently mention “cowin”, which is the government portal used for “registration”, indicating that most complainants were individuals who used the cowin portal for registration (as opposed to individuals who opted for a walk-in registration). The presence of the word “certificate” indicates issues related to obtaining the vaccination certificate. The words “hospital” and “staff” indicate issues related to the personnel present at the vaccination centres.

Of the three clusters, cluster 1 consisted of the most keywords (53.12 per cent). In cluster 1, a major set of keywords consisted of terms associated with monetary issues: “charged”, “rupees”, “paid”, “money” and “amount”. Another set of keywords that appeared in the same cluster were terms related to service providers: “hospital”, “staff” and “doctor”. A noteworthy association is a link between the keywords related to service providers and the terms related to interactions: “call”, “contact”, “message”, “behavior”, “informed” and “act”. This indicates the presence of complaints pertaining to monetary issues and interaction with service providers. Cluster 2 is the second-largest cluster in terms of the number of keywords (28.12 per cent). In cluster 2, one set of keywords is associated with the online portals used for vaccine registration: “cowin”, “portal”, “aarogya” and “setu”. This set of keywords co-appear with terms such as: “registration”, “certificate” and “details”. This association of keywords indicates issues related to the online registration process. Cluster 3 is the smallest of the three, consisting of the minimum number

of keywords (18.75 per cent). One set of keywords is associated with the service providers: “apollo” (name of a hospital) “government” and “clinic”. A second set of keywords related to documentation also appears in the same cluster: “receipt” and “records”. This indicates issues related to documentation at the ground level.

The inferences drawn from the network analysis are only indicative. We supplement our findings by critically examining the content of the posts and identifying emergent themes.

Thematic Analysis

We used NVivo 12, a qualitative analysis software for the thematic analysis. In the context of services, the individual’s consumption process can be divided into three stages: pre-consumption stage, service encounter stage and post-encounter stage (Wirtz & Lovelock, 2016). We categorize the complaints based on the stage of the consumption process to identify at which stage the mentioned issues arise. This provides a timeline for the complaints. Next, we categorize the complaints based on the issue mentioned. The classification for this theme has been adopted from the organizational justice typology. There are three types of organizational justice, i.e., distributive justice, procedural justice and interactional justice (Greenberg, 1987). We modify the classification to one that is more suited to our context. We classify the issues into three categories, complaints related to price, process and

interaction. Table 2 presents the cross-tabulation of the number of complaints coded under the different factors. Complaints that mentioned multiple issues or stages were coded under all relevant factors. We elaborate on the issues below and provide sample texts from the complaints.

Table 2 Coding Distribution of the Types of Complaints

Types of complaints	Pre-consumption	Service encounter	Post-encounter
Price	2	8	1
Process	11	15	27
Interaction	0	15	10

Pre-consumption Stage

The pre-consumption stage involves information search, registration on the Cowin portal, searching vaccination centres, booking slots and managing slots. This stage accounted for the least number of complaints (n=13). Most complaints during this stage were related to the processes involved.

A. Complaints Related to Price. All monetary issues have been coded under this factor. In this stage, complaints related to price involved instances where the complainant was unable to book a slot even though the transaction went through. "I have paid Rs. 1,146 for covid vaccination but it failed, the amount has been debited but I didn't get any refund." – Complainant no. 48

B. Complaints Related to Process. The processes involved during the pre-consumption stage have already been mentioned. Most complaints in this category were related to the non-availability of slots for first and second doses of vaccine. This is crucial as the second dose needs to be administered within a specific interval. Cancellation of slots and

issues with complementary processes (getting permissions for travelling during lockdown) were also mentioned. "I got my Covaxin on 3rd May and I have to get the second dose in between 3rd May to 14th June but there is not slot in Delhi also no Covaxin for 18-44 age." – Complainant no. 4. "I had booked for vaccination on 11th March at 1504 hours. As per the message received today, the appointment for vaccination has been cancelled, citing the reason as the non-availability of a doctor. The reason stated seems to be not justified as super speciality hospitals have hundreds of doctors on their roll." – Complainant no. 58

Service Encounter Stage

This stage involves going to the vaccination centre, interacting with the service providers and getting the vaccination. The service encounter stage and the post-encounter stage accounted for the most complaints (n=38). Complaints related to process and interaction accounted for the most complaints during this stage.

A. Complaints Related to Price. Complaints in this category were majorly

related to over-charging. Complainants mentioned, service providers charging above the maximum price limit and adding unwarranted service, consultation and registration charges. Complaints regarding denial to accept a particular mode of payment (medical cards) were also observed.

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“Government has specified the price of Covishield at (at most) 780 INR including all, but (hospital name) taking 900 INR. I told them this, they replied 780 vaccine price + 120 service charge. We knew that 600 vaccine + 30 GST + 150 service charge (maximum) = 780. But they denied this price.” – Complainant no. 58. “I have Religare OPHC medical card. As per the agreement, network hospitals should accept 80 per cent from this card for vaccination. We opted for Covaxin from network hospital on 28th May, but they denied to accept OPHC medical card”. – Complainant no. 40

B. Complaints Related to Process. The processes involved during this stage have already been mentioned. Complainants posted regarding vaccination centres being closed without providing prior information, denial to provide vaccination, long waiting hours, wrong mobile numbers being used for registration, COVID norms not being followed, the wrong vaccine being ad-

ministered and vaccination centre not providing necessary receipts and vaccination certificate.

“He (hospital staff) said that I can give my number for billing. I was told after the argument that in the government vaccination certificate my father’s name will be there. Now, the Cowin records show that I am vaccinated instead of my father who actually got the shot. Now, I cannot register for my first shot because according to the government record, I am vaccinated.” – Complainant no. 6. “I had registered them (parents) on Aarogya setu app asking specifically for the paid Covishield second dose. The hospital team did not even ask them what vaccine they had previously taken and gave them Covaxin.” – Complainant no. 21

C. Complaints Related to Interaction. The service encounter stage involves interaction between the consumer and the service provider. The quality of interaction was observed to be an important determinant of the individual’s satisfaction or dissatisfaction with the vaccination drive. The complainants mentioned being ill-treated by the staff present at the vaccination centre, this included misbehavior, providing incomplete or incorrect information and denial to provide information. “The staff in charge of Covid vaccine line was very rude, argued intentionally, abused women and elderly, and used inappropriate language.” – Complainant no. 56. “Instead of asking us to wait for half an hour to see the adverse reactions if any and also as per standard protocol, it was being

continuously announced that those vaccinated should immediately leave the premises.” – Complainant no. 61

Post-encounter Stage

In our context, the post-encounter stage involves obtaining confirmation/proof of vaccination in the form of a vaccination certificate. The vaccination certificate can be procured at the vaccination centre in the case of walk-in registration. In the case of registration through the Cowin portal, the certificate can be downloaded from the portal after getting the vaccination. This stage accounted for the most complaints (n=38). Complaints related to process accounted for the most complaints during this stage, followed by complaints related to interaction.

A. Complaints Related to Price. We observed only one complaint regarding price in this stage. The complainant mentioned not receiving cashback. “I haven’t received my vaccine cashback after completing my 50 transactions.” – Complainant no. 47

B. Complaints Related to Process. Complainants mentioned discrepancies in their actual vaccination status and the vaccination status on the portal. A few complainants mentioned that even after being successfully vaccinated, their status on the Cowin portal failed to reflect that. Other complainants mentioned that even though they were unsuccessful in getting the vaccination, they received confirmation. In some cases, even though the vaccination sta-

tus mentioned on the portal correctly reflected the actual vaccination status, incorrect information was uploaded on the portal, such as the name of the vaccine administered.

“I got the first dose of vaccination on 11th April 2021 and the second dose was due on 9th May 2021. Since the centre had no stock, I went to the municipality where it was found that the entry was made for the first dose as Covishield. The municipality has refused to vaccinate the second dose because of this discrepancy.” – Complainant no. 1

“I was administered the second dose at (hospital name) on 16th April 2021 and was given a handwritten certificate and was instructed to download the proper certificate from Cowin portal after a couple of days. However, when I downloaded the certificate from the Cowin portal, it shows that I have been given the first dose on 16th April 2021 and the second dose is due.” – Complainant no. 14

C. Complaints Related to Interaction. Complaints related to interaction ranked second during the post-encounter stage. The complainants interacted with the concerned authorities for redressing the information mismatch, however, these interactions in certain cases resulted in further dissatisfaction. The complaints mentioned unsatisfactory or no response from the concerned authorities, receiving incorrect information and misbehavior.

“He promised me to get the certificate after 80 days. Now I am trying to

contact him through his WhatsApp and there is no response from his end.” – Complainant no. 16

“My daughter got vaccinated and the vaccination team has failed to update the same on Cowin or MOH. When my wife and daughter visited them and contacted them, they responded poorly. The PRO defended his negligence and behaved rudely.” – Complainant no. 22

Discussion

With the lurching fear of the COVID-19 delta variant, it is crucial to maintain the ongoing success of the vaccination drive. Our study qualitatively analyses the consumer grievances and identifies the main themes based on network analysis and thematic analysis. The major themes that emerge are complaints based on price, process and interaction. This classification is adapted from the organizational justice typology. Redressing these issues at the ground level can improve consumer satisfaction with the vaccination drive and thereby increase participation.

Implications

This research offers theoretical and managerial implications. Our study adds to the organizational justice literature by illustrating its applications in analysing the interactions between organizations and consumers. By mapping the organizational justice constructs to the three stages of service consumption, this research also adds value to the service consumption litera-

ture. The study presents a characterization of the three stages of the service consumption process in terms of the dominant form of organizational injustice.

This research holds value for ground-level service providers, such as private and government hospitals and vaccination centres. By ensuring transparency in terms of the charges, respectful behavior towards the consumers and timely updating of consumer details on the respective portals, service providers can reduce consumer grievances. The study uses a social listening technique to analyse consumer grievances. This methodology can be utilised by the service providers to identify any critical situations or critical issues troubling their consumers.

Limitations & Future Research

The future directions of research emanate from the limitations of this study. The study is based on the data extracted from an online consumer complaints forum. This might have excluded consumers who are inept in using such e-platforms. It would require a modification of the study design to incorporate multiple sources of data. The themes identified in the paper through network analysis and thematic analysis are contingent upon the methods used and the judgement of the researchers. To minimize the subjectivity involved, the results were based on multiple rounds of discussion. A calculation-based categorization can further reduce the subjectivity involved in the process.

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