

## Sentiment Analysis Using Twitter Data: An Exploration of Consumer Misbehavior

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### Abstract

This research is aimed to explore consumer misbehavior sentiments during a discounted sale event by using Twitter data. Consumers have been observed to be pushing each other and fighting over discounted products in the past, causing harm to employees and fellow consumers. Such incidences make it crucial to highlight the causes of consumer misbehavior taking place in the retail environment. By using the sentiment analysis technique, the current research explored the sentiments of the consumers through the tweet's consumer tweeted during a sale event. The present study took the tweets on the occasion of the Mother's Day sale. The keywords #Khaadi, #SanaSafinaz, and #Alkaram were specified as the tweet-identifying hashtags. The reason for selecting these keywords instead of the hashtag Mother's Day sale was to keep it Pakistan-centric. A total number of 489 tweets were downloaded, out of which 222 tweets were found to have the expression of Neutral, 170 tweets with the Positive status, and 94 tweets were found to be Negative. The negative tweets were further analyzed to find the factors making these negative emotions. The findings resulted in the emergence of five stimulating factors: Superabundant, shortage of checkout counters, payment and delivery, violation of corporate social responsibility, and privacy violation. These factors were found to instigate misbehavior in the consumers. Thus, retailers need to reflect on eradicating these factors from the environment prudently. This paper is one of a few that explores the sentiments of tweeters about consumer misbehavior during the event of a sale.

**Keywords:** *Consumer Misbehavior, Sentiment Analysis, Twitter, Pakistan, Apparel Industry, Consumer Sentiment.*

**JEL Code:** M310

### 1. Introduction

This era of social media, a time of technology and vast online networks, has profoundly changed how everyone perceives things and interacts with each other (Zolfagharian & Yazdanparast, 2017). The availability and accessibility of social media applications such as Twitter, Facebook, and Tumbler have made it easier for consumers to express their feelings and emotions (Hea, Zha, & Li, 2013). This inclination of the consumers to share their personal experiences, lifestyles, and events on social media applications has proposed several astonishing opportunities for marketing researchers and managers to scrutinize their consumption behaviors (Davis & O'Flaherty, 2012).

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Knowing about consumer behavior has been an essential part of the marketing literature (Choudhary, 2014). The phenomenon of consumer misbehavior can be defined as a disrupted behavior from standardized expected behavior (Lennon, Kim, Lee, & Johnson, 2017). Consumer misbehavior is pernicious and ubiquitous misbehavior that the consumers execute against employees and fellow consumers (Amarnani, Bordia, & Restubog, 2018). The consumer misbehavior in the retail setting over discounted products has been studied by a few researchers in the past (Lennon, Lee, Kim, & Johnson, 2014). Consumer misbehavior during a discounted sales event has caused a Wal-Mart employee's death in the Long Island.

The employee was killed by the pushy and wild consumers who were in a hurry to get through the store's doors to buy discounted stuff. The crowd did not care about the trampled employee's hurry to get to the products causing him to die. Four other employees got seriously injured along with him, which included a pregnant woman (Blau, 2015). The crowd refused to extend help to the injured and said they have been waiting for the store to open since 5 am. It was a troop of around 2,000 shoppers (Dubuis & Bucktin, 2015). This event was a shocker for everyone and required some drastic changes in the retailers' security system (Blau, 2015). South Wales police confirmed receiving multiple calls from the Tesco employees for their safety because of the crowd who showed up for the Black Friday sale (Burke & Agencies, 2014).

In recent research, Nawaz and Khan (2020) found Pakistani consumers misbehaving during the Black Friday sale. Similarly, during a sale event in Pakistan, women were found fighting over discounted clothes. The video of these privileged women fighting over clothes went viral. It was the most talked about topic on Twitter at that time (Ghazi, 2015). It specifies the misbehaving tendency of the consumers during discounted sale events. This event also indicates social media usage by Pakistani consumers to express their sentiments on such occasions.

Moreover, such incidents and behaviors from the consumers make it obligatory for the retailers to control these situations. These incidents make the situation worse for fellow consumers and employees. Thus, the first step in solving this problem is to explore the factors that stimulate the consumers to misbehave while hunting for discounted items. The service encounter point in a retail environment is where consumers and employees interact with each other. This interaction can be positive or negative (Keeffe, Russell-Bennett, & Tombs, 2008). The retail industry dynamics are constantly evolving, and consumer and retailer relationships have been transforming due to the consumer operating checkout payment systems (Taylor, 2018). The researchers have studied various industries to know about consumer behavior. Some of those industries are as follows: Hypermart (Amelia & Ronald, 2017), professional services (Greer, 2015), restaurant/hotels, household service firms, health clubs, and general retail (Harris & Daunt, 2011), restaurants (Reynolds & Harris, 2006), hospitality industry (Reynolds & Harris, 2009), retail outlets/supermarket (Harris, 2010), bars, hotels and restaurants (Daunt & Harris, 2012; Daunt & Harris, 2014), the retail sector (Harris & Daunt, 2013), online music (Harris & Dumas, 2009), normal shoppers (Dootson, Johnston, Beatson, & Lings, 2016), clothing (Dodd, Linaker, & Grigg, 2005; Lennon, Lee, Kim, & Johnson, 2014), and service environment (Daunt & Greer, 2015). All of these

mentioned studies talk about misbehavior involved in different industries to study the phenomenon. The need to get the answers for consumer misbehavior escalates even further, especially in the apparel industry, keeping in mind the reasons mentioned above. The textile sector of Pakistan is a vital part of the manufacturing sector with the longest production chain. According to the Pakistan Economic Review, the textile sector showed an increase of 0.12% when it went to 0.78% from 0.66% (Survey, 2017). Pakistan's textile industry is self-sufficient when it comes to manufacturing cotton, fabric, or knitting. This industry has an advantage over many other countries because of the strong chain of processes. The apparel industry has shown good growth both at the local as well as at international levels. In this industry, the readymade garment sector contributed 9.36% in the economic value. The ministry of textile developed a five-year plan from 2014 to 2019. This plan was expected to produce 26 billion dollars in the textile industry by the end of 2019 (Survey, 2014). The statistics exhibit the potential growth and significance of this industry for the retailers and the researchers. All these factors prove to be crucial to know about the misbehavior of the apparel consumers. Sentiment analysis enables the researchers to analytically extract and categorize consumer sentiments about the services, experiences, and products expressed in social media to know about market trends and consumer attitudes (Rambocas & Pacheco, 2018). Consumer misbehavior can be described as the social behavior that negates and disrupt the commonly set standards of retailing. Such misbehavior can cause physical, psychological, or material loss to fellow consumers, retail employees, and retailers. In such conditions, most of the time, the consumers who are not misbehaving get mishandled by others (Fullerton & Punj, 2004). It is a challenge for marketing researchers to explore the factors that can motivate consumers to misbehave sometimes (Lennon et al., 2017). Retailers should be able to explore ways to understand Big Data more efficiently. Retailers observe and monitor the actions, interactions, and behaviors of the consumers so that they can target and segment their products according to the preferences and choices of the consumers. The retailers are getting help from Big Data in placing, storing, and controlling the inventory. Big Data is also enabling retailers to make personalized products for each consumer individually (Brown, Chui, & Manyika, 2011). Thus, considering the significance of data in today's marketing practices present study involved analyzing Twitter Data to do the sentiment analysis. Therefore, the purpose of the current research is to explore and analyze the sentiments of the Pakistani consumers of the apparel industry through the sentiment analysis of their tweets during a sale event.

## **2. Literature Review**

According to Everton, Jolton, and Mastrangelo (2007), it must go against the organization's norms regardless of the societal norms for a behavior to be called misbehavior. Consumer misbehavior can turn the serenity of the marketplace into a hubbub for both the retailers and the consumers. This behavior can harm the values of the retail culture (Daunt & Greer, 2015). The consumer misbehaviors are different from the other complaint-related legitimate behaviors in which the consumer can file a complaint against the organization, switch the brands for a short time of period or permanently (Drennan et al., 2007). According to Yi and Gong (2006), managing

consumer misbehavior is as important as employee misbehavior. Organizations need to control the negative consumer to combat its negative effects to prevent other consumers from misbehaving.

In the literature on consumer misbehavior, researchers have used different methodologies to conduct studies about the phenomenon. Some of the studies used methodologies dividing into two major categories: quantitative and qualitative research approaches: Chen, Hu, and King (2018) researched in Taiwan by using administrative questionnaires. Keeffe et al. (2008) used a quasi-experimental study design. Lee et al. (2014) conducted an empirical study and compared Structural Equation Modeling (SEM) with competing models. In a recent study, Cova, Gaglio, Weber, and Chaniel (2018) used the case study approach to know about France's mutual insurance company behaviors. Fong, So, and Law (2017) used the Critical Incident Technique (CIT) for collecting the data from the employees. Gatzweiler, Blazevic, and Piller (2017) used a netnography study approach which is an interpretive research design to know about the deviance phenomenon. Booa, Mattilab, and Tana (2013) conducted two qualitative studies to make comparisons. Although the authors have used various types of methodologies to know about consumer misbehavior, no research has been done using the sentiment analysis approach, which leaves a significant gap in the literature.

The sentiment analysis uses the machine learning process to acquire knowledge consumer reviews about a specific product, phenomenon, or situation (Davis & O'Flaherty, 2012). An analytical review of the studies published using sentiment analysis from the year 2008 to 2016 was done by Rambocas and Pacheco (2018). According to them, 72% of studies were conducted by the discipline related to computer studies, and the remaining 28% of the studies were conducted by all the other disciplines. The marketing discipline had 9% studies. This shows the nascent stream of marketing research through this technique and the gap that exists. Therefore, it depicts the significance of doing sentiment analysis within the marketing discipline so that the consumers' feelings, emotions, and perceptions can be known.

Attributions are the interpretations that people create to make sense out of certain events and situations. To understand the experiences they have with others, people make attributions (Weiner, 1985). Attribution theory talks about how people need to make inferences of their experiences and involve in the attribution actions. The basic assumption about the people is that they are inexperienced naïve people who want to make sense of the happenings surrounding them (DeJoy, 1994). The attribution theory tries to explain the world's experiences and determine the cause of behavior or an event (Jackson, 2019). There are different types of attributions (Weiner, 1985). Firstly, personal attributions refer to the desires, beliefs, and intentions related to purposeful human behavior (DeJoy, 1994). The impersonal attributions refer to the cause that does not involve the purpose or intent. In both these attributions, people tend to explain why a behavior took place. Dispositional attribution is the third type of attribution in which people make a specific judgment about another person's behavior. They observe and infer other person's stable dispositions such as attitudes, traits, and values (Weiner, 1985). The last attributions are the blame attributions and responsibility attributions related to the judgments of moral issues. These attributions happen when some adverse

event occurs, and people try to find the person to be held responsible and to blame (DeJoy, 1994). Consumers in a retail environment are expected to draw inferences based on their perceptions of others.

### **3. Research Methods**

Mäntylä, Graziotin and Kuutila (2018) defined sentiment analysis as the qualitative methodology and tool that allows the interpretation of the textual data. Knowing about the time horizon helps in selecting strategies that need to be formulated for the research design (Creswell, 2003). This research's time horizon was cross-sectional because this study was conducted on a specific period.

#### **3.1. Research Context**

The current research has chosen readymade apparel brands as the research context. Few studies took apparel brands as the context to study the consumer misbehavior phenomenon. This study, however, chose the readymade apparel brands from Pakistan because of the performance of the textile sector in the economy. According to the Pakistan Economic Survey, the textile sector has the highest performance, with a Quantum Index Manufacturing (QIM) of 20.91 (Survey, 2019). The readymade apparel industry has developed as one of the most important small-scale sectors of the country. The products have demand both in the local and international markets. A recent study by Gilal, Zhang, Gilal, and Gilal (2020) specified the influence of the fashion apparel industry regarding consumer segmentation and positioning by investigating a theoretical framework of age and gender. Thus, making it a crucial sector for research.

#### **3.2. Participants**

This study is qualitative in nature, so probability-based sampling cannot be applied here because that is mainly used to draw inferences about the population. Instead of that, purposive sampling was used through which a group of tweets was selected on the basis of specific keywords. Those keywords were carefully chosen to do the needed analysis. For this purpose, tweets were collected from 3<sup>rd</sup> to 13<sup>th</sup> May because the sale date falls in that week. The tweets were extracted on 13<sup>th</sup> May. The study took the tweets on Mother's Day sale as the participants because of discounted sales event was in place.

#### **3.3. Procedure**

For the collection of data, the social media site Twitter was selected. Because Twitter has 3.1 million Pakistani users (Sci-tech, 2017) and the content is publicly available. The keywords Khaadi, Sana Safinaz, and Alkaram were specified as the tweet-identifying words. Then the tweets of consumers with the hashtags of Khaadi, Sana Safinaz, and Alkaram were extracted for the specified period. The reason for selecting these keywords instead of the hashtag Mother's Day sale was to keep it Pakistan-centric. The time limit of 3<sup>rd</sup> to 13<sup>th</sup> May enabled the data to be Mother's Day centric as it was collected during that day.

After collecting the tweets, the descriptive analysis was done. Then the tweets were saved in an Excel file to conduct sentiment analysis. For this purpose, an online analysis tool MonkeyLearn was used. MonkeyLearn is an online machine learning website that allows the topics to be extracted from the data and the expressed textual sentiments in the form of chats, tweets, articles, reviews, and more (Maguire, 2018). This analysis divided the tweets into three major sentiment categories: Neutral, positive, and negative. From this data, the tweets with negative sentiments were excavated. Only the negative tweets related to consumer misbehavior were analyzed and were used to extract the desired themes. The negative tweets related to any other issue were not considered to achieve the research objective. The graphical representation of this whole process is presented in figure 1.

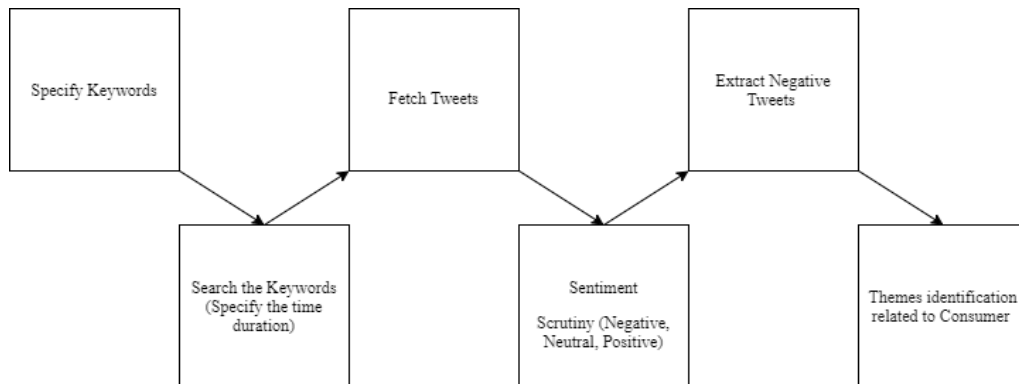


Figure 1. Data Collection and Analysis Process of Tweets

#### 4. Findings

From Pakistan's apparel brands, the tweets mentioning Khaadi, Sana Safinaz, and Alkaram were used. The descriptive statistics of these tweets are presented below: The statistics of the tweets were calculated to know about the frequency of tweets accumulated on weekdays.

Table 1 Weekly Statistics

Day	Frequency	Percentage
Monday	74	15.23
Tuesday	49	10.08
Wednesday	45	9.26
Thursday	32	6.58
Friday	90	18.52
Saturday	105	21.60
Sunday	91	18.72
Total	486	100.00

The table mentioned above shows that weekends are the days when most of the tweets were tweeted. The frequency for Saturday is 105, with a percentage of 21.60. This makes Saturday the most tweeted day of the week, followed by Sunday and Friday.

Table 2 Tweet Type Statistics

Type	Frequency	Percentage
Tweet	269	55.35
Retweet	124	25.51
Reply	93	19.14
Total	486	100.00

After knowing the frequencies of tweeting with regards to the days, the tweet types were analyzed. The type of the tweet is related to the way of a tweet. Three types of tweets can be tweeted; 1) Tweet, 2) Retweet, and 3) Reply. The tweet is something that a tweeter writes while using the Twitter account. The retweet has been tweeted by one person and republish by another person on their profile. Finally, the reply is when a tweeter answers someone else's tweet. Table 2 shows that 55.35% were tweeted, 25.51% were retweets, and 19.14% replied to other tweeters. This analysis means that most of the tweets were in the form of the original condition that tweeters wrote.

The hashtags are the words written in conjunction after the sign of #. These hashtags help tweeters in searching the different keywords. On the basis of these hashtags, the Twitter trends are formulated. The Twitter trends vary from country to country and also have a worldwide trends option. This worldwide trend option enables Twitter users to know what is happening around the globe. Thus, the hashtags hold significant importance in Twitter-verse.

Table 3 Most Commonly Used Hashtags

Hashtag	Frequency	Percentage	Percentage (valid)
#khaadi	39	10.54	31.45
#mothersdayshop	15	4.05	12.10
#alkaram	13	3.51	10.48
#ayezakhan	7	1.89	5.65
#sanasafinaz	6	1.62	4.84
#fashion	5	1.35	4.03
#khaadiunstitched	5	1.35	4.03
#lawn	5	1.35	4.03
#safinaz	5	1.35	4.03
#casualstyle	4	1.08	3.23

#clothing	4	1.08	3.23
#fashionforward	4	1.08	3.23
#festive	4	1.08	3.23
#gauravgrover	4	1.08	3.23
#indonesian	4	1.08	3.23
Total (valid)	124	33.51	100.00
Other	246	66.49	-
Total	370	100.00	-

For the current study, the hashtags mentioned above were used most commonly. Out of all these hashtags, the most famous ones are #Khaadi, #MothersDayShop, #SanaSafinaz, and #Alkaram. The sources or the devices tweeters used to tweet were analyzed.

Table 4 Sources

	Frequency	Percentage	Percentage (valid)
Twitter for Android	163	33.54	35.13
Twitter for iPhone	115	23.66	24.78
Twitter Web Client	60	12.35	12.93
Facebook	48	9.88	10.34
Google	38	7.82	8.19
WordPress.com	9	1.85	1.94
Instagram	8	1.65	1.72
IFTTT	4	0.82	0.86
Twitter Lite	4	0.82	0.86
Cloudhopper	3	0.62	0.65
Hootsuite	3	0.62	0.65
TweetDeck	3	0.62	0.65
indozstyle	3	0.62	0.65
MailChimp	2	0.41	0.43
Bebo Fashions	1	0.21	0.22
Total (valid)	464	95.47	100.00
Other	22	4.53	-
Total	486	100.00	-



The above table shows that 33.54% of tweeters used the mobile app through the android interface, whereas 23.66% of tweeters used iPhones. Since Twitter is an app rather than a web application, most tweets were tweeted from mobile phones.

Sentiment analysis is a data mining technique commonly used to do the analysis of online expression in the form of textual data (Rambocas & Gama, 2013). The sentiment analysis determines the nature of consumers' attitudes towards a phenomenon and categorizes it into negative, neutral, and positive categories (Rambocas & Pacheco, 2018). A total number of n= 489 tweets were downloaded, out of which 222 tweets were found to have the expression of Neutral, 170 tweets with the Positive status, and 94 tweets were found to be Negative. Some examples of the categorized tweets into Positive, Neutral, and Negative are as follows:

*Positive: "I love Beechtree and Sana Safinaz"*

*Positive: "Khaadi has the best kurtiss" (Shirts)*

*Positive: "I only like khaadi and generation"*

*Neutral: "When you want to be the first one to pick up new Sana Safinaz lawn"*

*Neutral: "Leave it. I heard there is a good collection at Alkaram"*

*Negative: "Got myself a Sana Safinaz kurti online but I don't like it at all. What to do"*

For the current study, the sentiment analysis of the tweets from Khaadi, Sana Safinaz, and Alkaram was done. The attitude of the consumers towards the doorbuster sale on Mother's Day was analyzed.

Firstly, the tweets for all three brands were analyzed individually, followed by a collective analysis. The tweets mentioning the term Khaadi were extracted and then analyzed for sentiment analysis.

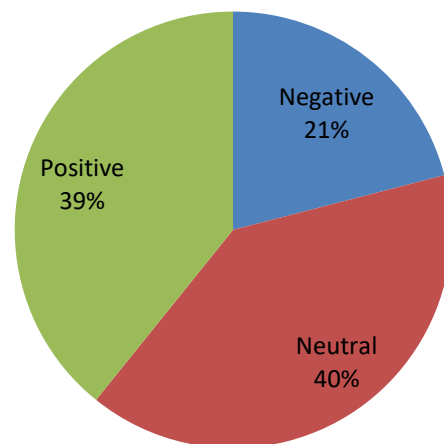


Figure 2. Sentiment Analysis of Khaadi Tweets

In the tweets, 39% of consumers had a positive attitude towards the Mother's Day sale event. But 21% of consumers had a negative opinion about this sale phenomenon. This negative opinion would have shaped because of certain factors. Out of those factors, one can be of consumer misbehavior with each other or with the employees. The percentage of 21 is high; it is almost near to the percentage of positive attitudes. On the other hand, 40% of consumers had a neutral attitude towards the sale. This neutral factor can go to any of the other two factors. For the retailers, it is vital to capture these 40% neutral consumers and turn this turn it into a positive attitude. But due to consumer misbehavior, it can also shift towards the negative side. Thus, the Khaadi retailers need to pay attention to highlighted factor in their upcoming sale event.

The sentiment analysis of the tweets mentioning Sana Safinaz showed a positive attitude of 22% and a negative attitude of 19% people. This score indicates a strong negative influence that would have been created due to consumer misbehavior along with other present factors.

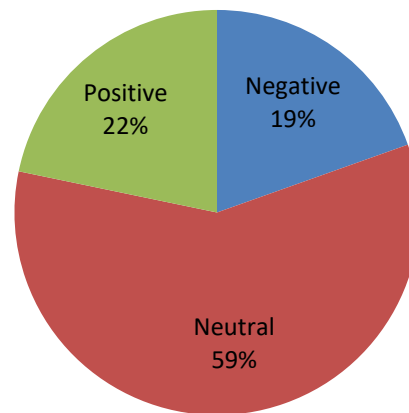


Figure 3. Sentiment Analysis of Sana Safinaz's Tweets

The tweets range for Sana Safinaz was less than the tweets range of Khaadi, but the neutral consumers were more for Sana Safinaz. This analysis provides a better opportunity for Sana Safinaz to reduce the negative factors and increase consumers' positive attitudes.

The sentiment analysis of the Alkaram tweets showed the positive attitude of 32% of consumers while the negative attitude is 11%. This analysis shows the more positive attitude of the consumer towards Alkaram's sale than the negative attitude. Thus, it can be inferred that Alkaram is better at managing misbehaving consumers than managing other negative factors.

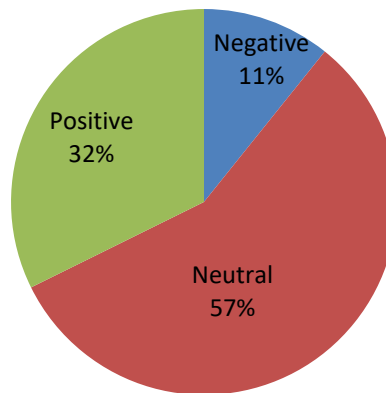


Figure 4. Sentiment Analysis of Alkaram's Tweets

Based on the negative tweets about the apparel brands, five themes emerged as the anticipated stimulators of consumer misbehavior. The tweets were written in Urdu and English both languages were extracted as Urdu is the national and English is the official language of Pakistan (Jakhar, 2018). The tweets in the Urdu language were translated for data interpretation. The translated and original tweets were used to do the analysis. The grammatical and language mistakes were not corrected in the tweets to keep these as original as they can be.

The first theme that emerged is the superabundance factor.

*Translated tweet: I went to Khaadi today, and it was so crowded, it was difficult to breath*

In this tweet mentioned above, the tweeter felt uneasy because of the huge crowd presented at the store. The feeling of overabundant is clear as the person had a hard time breathing. In the literature on consumer misbehavior, the perceived crowd has been a significant stimulating factor of consumer misbehavior (Lennon, Lee, Kim, & Johnson, 2014). According to Rose & Neidermeyer (1999), the physical environment plays a key role in influencing aggressive behavior with emotions such as odor, temperature, and crowding. Thus, the tweeters who felt uneasy because of the crowd are likely to misbehave as a response.

This perceived unease can be a stimulating factor causing consumers to misbehave in the discounted environment. This can be inferred from the following tweet as well:

*Translated tweet: Moral of story is if there is a sale then don't go to khaadi*

In this tweet, the tweeter is cautioning and recommending not going to the stores while there is a sale. According to this person, he/she will not be going to shop when there is a sale going on. This can create a problem for the retailers as they are losing the consumers.

*Translated tweet: Thanks to Khaadi's sale, the road to my house is blocked, and it torments me to get out of the house. Also, I have a headache that won't go away no matter how many Panadol I take. Life can't get any better, Alhamdulillah*

In the above tweet, the tweeter has described the pain of being unable to get out of the house due to the excessive crowd of consumers. Thus, it can also be seen as a potential factor to stimulate misbehavior.

The next theme relates to the inner environment of the store. It relates to the tweeters complaining about the checkout counters.

*Original tweet: #Khaadi = The shop was filled, 2 hours just to get the billing done. Anything for pakistani lawn n some nice kurtis*

*Original tweet: #Khaadi @\_Khaadi Next supersale pls do something about the counters, we need more billing counters.*

The above-mentioned tweets show the problem of fewer checkout counters in the stores. The inline waiting and aggression can trigger the consumers to misbehave. McColl-Kennedy, Patterson, Smith, and Brady (2009) defined consumer rage as a type of anger that consisted of a range of negative emotions ranging from fury, ferocity, wrath, contempt, disgust, resentment, and scorn. Whenever consumers feel any of these rage-related emotions, they tend to show it through verbal, nonverbal, physical, constructive expression, or displaced expressions. In the first tweet, the tweeter talked about waiting 2 hours in a queue. This long wait can most certainly trigger the consumers to behave inappropriately, as, in the previous tweets, one tweeter talked about being unable to breathe. Thus, the long queues in front of the checkout counters and shortage of the checkout counters can be the factors to generate misbehavior among consumers.

The third theme of the study talks about the online shopping problems that can cause big issues.

*Original Retweet: RT @Schizzzuka: Placed an order at @\_Khaadi through debit card amount has been deducted twice but they aint submitted my order yet ...*

In the above-stated retweet, the issue is online shopping and payment related. This aspect is related to delayed delivery from the store's side. This also caused the tweeter to pay twice the amount for the same item of cloth. Such behaviors can be seen in the light of a service failure from the tweeter's point of view. Lin, Li, and Shih-Yang (2018) used the justice-affect-behavior model to determine the stimulus of Tabaco website consumers' dysfunctional behavior. They found negative emotions and service dissatisfaction to be the motivators of the dysfunctional behavior. This can easily trigger the consumer to misbehave for being double charged and not getting the purchased item. Thus, the gap between payment and delivery can be a potential factor for the consumer to be motivated to misbehave. Even loyal consumers can behave inappropriately because of a service failure and poor service recovery (Grégoire & Fisher, 2008).

The emergence of this theme happened because of the criticism on the gap between clothes prices and labor wages by the tweeters. These tweets also suggest the negation of corporate social responsibility.

*Original tweet: A trip to Khaadi always nauseates tf out of me. I'm forever mentally calculating the amount they pay per dress to their labor. Oh, this costs 3200? Pretty sure that's only 200 which is going in the worker's pocket. ??*

So, the above tweeter seems pretty upset with the brand because of the higher prices. The usage of the word nauseating shows the intensity of the tweeter's annoyance. Bechwati and Morrin (2003) introduced the concept of desire for consumer vengeance as an extension to the aggressive consumers who goes from loving a firm to hating that firm with the feeling of vengeance and getting even at all cost. The desire to get even with the firm gets stronger for the interpersonal factors than the tangible and physical factors after experiencing the dissonance in the form of service failure. The tweet also highlights the labor wage issue. This tweeter seems to have a soft corner for the labor as they are underpaid. Thus, the underpaid labor issue and the negation of the CSR can motivate the consumers to misbehave because of vengeance.

*Original tweet: Khaadi is running business with profit of 300 million with zero debt equity. Just think how much profit this brand is earning. But they cannot set there prices low for consumers #BoycottEidCollection*

The above tweet also has the problem with the store's higher prices and not accommodating the consumers. Consumers often go on social media networks and start petitioning. These boycott petitions represent an online deviance consumer behavior (Braunsberger & Buckler, 2011). Thus, the hashtag Boycott Eid Collection shows the rebel nature of the tweeter, which can ultimately instigate the consumers to misbehave. The last theme was developed based on consumer complaints concerning the privacy rights of the consumers.

*Original tweet: One thing though - @\_Khaadi - Not Cool. Not cool at All. The staff recorded a video of the women just outside their store. A few ducked to avoid being in the line of sight. Legally allowed? Was it okay to record without consent / informing them? #TheKhaadiSaleGames*

The above tweet shows privacy-related issues from the store's side. Making a video without the consent of the consumers is a violation of their rights. This could lead to the feeling of betrayal from the retailer's side. Grégoire and Fisher (2008) found that betrayal is the main stimulating factor that leads the consumers to retaliate against the organizations and forget all the justices and fairness. They also concluded that the relationship, strength, and quality of the consumer-employee relation significantly impact the betrayal the consumers experienced. This can most certainly make them furious and behave aggressively. The retail sector has been seen focusing on making the consumer in-store experience emotionally engaging.

In contrast, a negative experience reduces the consumers' satisfaction and makes them behave in a bad manner (Bäckström & Johansson, 2006). Thus, the privacy violation can be a factor stimulating consumer misbehavior. The factors impacting consumer misbehavior are listed in table 4.

Table 4 Triggering Sentiments of Consumer Misbehavior

No.	Factors
1	Superabundant
2	Shortage of Checkout Counters
3	Payment and Delivery
4	Violation of Corporate Social Responsibility
5	Privacy Violation

## 5. Discussion

The research goal was to know about the sentiments that prompt the misbehavior of the apparel industry consumers via their tweets. While the existing mainstream research on consumer misbehavior focuses on the service, hospitality, and supermarket context, this research identifies the features of consumer misbehavior from the apparel industry through machine learning. For this purpose, five themes were developed on the basis of the tweets.

The first theme talks about the superabundance of the consumers gather to do shopping. In the existing literature, retail crowding is expected to increase satisfaction, enhance an experience (Pons, Laroche, & Mourali, 2006), and produce positive emotions (Li, Kim, & Lee, 2009). But the findings of current research show the feeling of irritation that such big crowds create among the consumers causing them to misbehave eventually.

The second theme is about the shortage of the checkout counter presented in the shopping environment. Consumers are expected to misbehave differently based on the layout design, perceived employee service, crowding, and exterior environment (Daunt & Harris 2014). The findings highlight the significance of the need for more checkout counters. When a sale event with a superabundant crowd, it is necessary to have more checkout counters for the ease of shopping.

The third theme mentions how the gap between the payment of an online clothing item and its delivery can cause the consumers to snap and misbehave. The findings show the inability to keep up with the delivery can cause problems and lead the consumers to misbehave.

The fourth theme is related to the personality, beliefs, and values a consumer holds as an individual. The more moral a consumer is as a self-concept individual, the more he/she is to differentiate right from wrong (Dootson et al., 2016). The findings highlight that it is important how consumers perceive the retailers are treating their employees.

The fifth theme highlights the problem of how privacy concerns can cause consumers to misbehave. Consumers have been found to trust the retailers who they perceive value their privacy. The perceived privacy respect from the retailers leads the consumers to be loyal (Lauer & Deng, 2007). The findings highlight the retailers' inability to maintain the privacy of the consumers, thus the results in consumer misbehavior. To the researchers' best knowledge, this is the first research on consumer misbehavior that took the sentiment analysis technique to explore the stimulating factors of the consumers.

The gap from Pakistani consumers' perspective was also filled as Moschis and Cox (1989) suggested the consumer misbehavior differ on the basis of culture, time, and environment.

### **5.1. Theoretical Implications**

From a theoretical perspective, current research fills the gap from the sentiments' perspective of the consumers for the exhibition of their misbehavior. The emergence of five themes increases the understanding of consumer misbehavior in a discounted environment of the apparel industry. This research adds to the literature of disposition attribution theory from the perspective of consumer behavior. The concluded themes explain how consumers make judgments about the situation to experience discounted shopping. The consumers were found to be engaged in aggressive behavior due to not being able to achieve the desired results.

Jackson (2019) believed that the consumer or observer will evaluate the fellow consumer's standing on only a few dimensions as the occurrence of a consumer misbehavior event because of cognitive and time limitations. In the case of current research, the consumers were found to draw inference about the misbehaving consumers while considering factors such as the staff, insufficient checkout counters, and so on. These factors were found to play the part of making the disposition attributes in the consumers' minds that triggered them to make judgments and show it in the form of tweets. The current research explored how the consumers in a discounted environment made judgments about an event and the corresponding behaviors that ended with sentiment evaluation. This is the first research on consumer misbehavior that took the sentiment analysis technique to the researchers' best knowledge.

### **5.2. Practical Implications**

Consumer misbehavior has some severe consequences: Social and financial. The efforts to control such behaviors hold significance for both the consumers and practitioners equally (Fullerton & Punj, 1997).

The first theme of superabundant encourages the retailers to have more systematic ways to handle the huge crowd's hastiness. The second theme suggests the retailers have more checkout counters in their store to have a pleasant shopping experience. The third theme shows the existing gap between the payment and the delivery process. These outcomes cause consumers to have a negative experience online, which eventually discourages online shopping, causing companies to lose profit and revenue. This recommends the retailers to improve their online payment and delivery system through introducing a better distribution channel. Four out of five factors are related to the retailer's activities/actions, and they can control all these factors. Rummelhagen and Benkenstein (2017), in their study, found that observing consumers feel stronger and negative emotions when they perceive and see fellow consumers misbehaving rather than the employees. However, responsible employees who can produce higher recovery opportunities can observe consumer consummation satisfaction to a certain level (Rummelhagen & Benkenstein, 2017). Keefe et al. (2008) found that if sophisticated service recovery strategies are used in response to a service failure, it can reduce consumers' anger and retaliation towards the store. Thus employees play a significant

role in solving the problems consumers face and can lead to reducing consumer misbehavior.

### **5.3. Limitations and Future Research Avenues**

The research has its limitation, just like any other study. Future research can do a comparative analysis to know the difference in men's and women's behaviors because of their personality trait differences. Pakistan's consumers tend to behave differently based on their gender (Gilal N. G., Zhang, Gilal, & Gilal, 2020). The research was conducted on the tweets during the Mother's Day sale. For future research tweets from other sale events such as the Black Friday sale (Lennon, Lee, Kim, & Johnson, 2014), data analysis purposes can be extracted. The researchers can select other brands than the one under study. Pakistan's consumers have been found to purchase luxury brands depending on their intrinsic and extrinsic religiosity (Gilal, et al., 2020); future research can analyze the region aspect of the tweets in purchasing brands. Lastly, sentiment analysis on an industry apart from the apparel industry can be done. A more sophisticated tool for sentiment analysis such as R, RapidMiner, or Python can be used for future analysis. In the demographics section, future research can be done on a generational basis, such as generation x, generation y, and generation z, as all these generations have shown different emotions and behaviors as the response to the same presented stimuli (Gilal, et al., 2020).

### **AUTHOR CONTRIBUTION**

Nainan Nawaz: Conceptualization, Methodology, Software, Data collection and Analysis, Writing Original draft preparation.

Sadaf Kashif: Supervision, Validation, Reviewing and Editing.

### **DATA AVAILABILITY STATEMENT**

All data generated or analyzed during this study are included in this published article.

### **CONFLICT OF INTEREST**

No conflict of interest

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