Abstract  The latest pandemic influenza has compelled many business organizations to develop social media marketing strategies. This paper proposes how Facebook can be used by companies for providing brand information and brand interactions at the time of global inflectional disease outbreak. The behavioral outcomes can be measured with the variables such as like, share, and comment. The abundant data which is available on Facebook is impossible to manage manually; therefore, the study also analyses the effective method of handling the big data with the help of machine learning techniques which is an effective approach for sentiment analysis. The paper at hand highlights the key findings and scope for further research.

Keywords Pandemic influenza · Facebook · Sentiment analysis · Social distancing · Behavioral outcome

1 Introduction

The novel corona virus (Covid-19) has profoundly changed the work culture, at least for a period of time. This pandemic influenza which has adversely hit the business forces the brands to engage consumers digitally. As a part of this confrontation, brands have aggravated through brand pages and community interactions, where organizations prefer employees to work from home or give a break to their work life routine and to encourage social distancing. The conventional gathering during fetes, religious rituals, entertainments and other celebrations have come to a phase of pause during this time period. The physical distancing which is inevitable to prevent
the spread of the virus has created all the social community gathering to a standstill, which one way or the other has made the gathering confined to a digital world. The consumption communities came into existence with the introduction of mass media and modern marketing, which is now existing with this virtual presence.

The peer-to-peer communication, business communication, and all other means of communication were made easy due to the proliferation of Web 2.0 technology. Social commerce is now a tipping point for the E-commerce, where most of the brands have their social presence. Social networking sites play a crucial role during this scenario by serving as a major pastime for entertainment and gathering information. Among the available social networking sites, Facebook is more accepted among public according to We Are Social (2020) statistics, and there is more than 3.8 bn active social media users worldwide, approximately 93% of these being active mobile social media users.

Understanding their customers is very critical for the brands and market researchers. The company-generated contents and user-generated contents have equal importance in social networking sites mainly in brand fan pages and brand communities. The positive and negative valance creations will directly affect the purchase intention (Hajli 2019). Different tools from netnography to machine learning techniques are available for companies to serve this purpose. To address these challenges, we try to create a conceptual model useful for the brands to understand their customers by analyzing their opinion which is being shared through Facebook.

The remainder of this paper is organized as follows. First, we provide the literature review on need to fill acc to lit review. Second, the conceptual framework and why we have chosen machine learning tools despite of other techniques available. Finally, we provide concluding remarks and suggest directions for future research.

2 Literature Review

2.1 Uses and Gratification Theory

Despite the arrival of many studies on uses and gratifications theory, the first advanced study was introduced in the 1940s by [1] the study of [1] made an effort to describe why users depend on different mass media for deriving different gratifications. And those include television, radio [2] Internet [3], and other social networking sites [4–7]. On the other hand, the introduction of social media technologies revamped the way people use mass media as it is dissimilar in frames and backgrounds. So the way people use social networking sites (SNS) is very much unrelated from the conventional media users who relied on specific media contents [8]. Social networking sites users enjoy the merits of getting information and interesting activities that benefit them. The explanation regarding uses and gratification through Social networking sites has been given by some researchers [4–7]. For raising brand awareness, page
engagement and for increasing communication of the company brands and products, digital marketers are widely incorporating SNSs as an essential key of their online brand strategy. For fulfilling certain needs and wants, people actively seek out different media is what Uses and Gratification Theory explains [9].

Facebook is one social media that has dominated its growing preference over other social networking sites by the users. For some businesses also it has created dynamics in consumer engagement by promoting their products and services. A user will receive updates when they “like” and “follow” a brand. When the users “like,” share, or comment on the post, it would further propagate to their friends and followers. Hence, brand content is transmitted through these Facebook pages at a faster rate and also to a larger audience at a lower cost [10]. The uses and gratifications theory (UGT) which was developed by [11] is been followed in the present study to understand why brand interaction and brand information are important for users which is helpful for brands.

2.2 Relationship Building and Behavioral Outcome

Facebook users will receive information about brands and also they are getting a platform to interact with their favorite brands by doing “like” or “follow” a brand. According to [12], the important drivers for continuous involvement in a brand page is through the likes, comments, and shares. Then, the particular brand followers can “like,” share, or comment on the pages. And through a continuous involvement with the contents of the page makes it easier to communicate and also to create a brand reputation within the audience than any traditional media at a less cost [10].

2.3 Gist of Observations

The term “usual business” does not fit these days. The era of social distancing is creating new online behavior among societies as they are not used to sit at home without any social interactions in work life and outside. With the population inside home turned to social media as an outlet that connects family, friends, and work. Social networking sites and issues connected with various crises have been studied, but there are no studies evaluated with a social distancing scenario. Considering the issue, a conceptual framework has been proposed with elements of brand interaction and brand information in regards to uses and gratification at the time of social distancing which has not been studied. For brands at this time of social distancing, social media delivers an opportunity to establish brand reputation by acting as a platform to interact with customers and also to provide a deeper level of information and instant solutions to its customers. Brands are trying to make the interactions with the customers to another level through video interactions, live Q&A sessions, games, and more live time activities. With these interactions, customers are feeling
a close relationship with their favorite brands than ever before. Continued involvement and brand reputation are the relationship outcome of the proposed study and the behavioral outcome being the “like,” “share,” and “comment.”

3 Proposed Conceptual Framework

In this section, the three major parts which are: Uses and gratification during social distancing, relationship building, and behavioral outcomes are been discussed in the conceptual framework. In Fig. 1, the model shows that brand interaction and brand information are antecedents to comment, share, and like in social media. It further states that continued involvement and brand reputation create a bonding between these antecedents and behavioral outcomes. At the time of social distancing, Facebook is the main social networking site which the organization uses to enhance their brands to consumers. Through brand interaction, there is a continued involvement happening among the customers along with the creation of brand reputation. Brand information on Facebook also leads to generate brand reputation among the followers. Thus, continued involvement and brand reputation bond the user with the respective Facebook page.

The measurement of behavioral outcomes can be done with the “likes,” “shares,” and “comments” on Facebook. The users will leave a “comment” on the Facebook page when a brand is most respected. Users will “share” the page when the intensity drops to a moderate level and the users “like” when the vigor is dropped from the middle level. Machine learning is used to study the sentiment or opinion mining.

3.1 Why Machine Learning?

Machine learning, the subfield of artificial intelligence, emerged as a way of problem-solving technique. It is used by various businesses as it enhances user experience through social media, which is one of the largest platforms for various marketing purposes like brand creation, business expansion, and promotion. Running a business efficiently on social media is almost impossible without the use of data science.

![Conceptual framework during social distancing for opinion mining for brands in Facebook](image_url)
technologies like machine learning and big data. The purpose of social media which was to provide a connection with friends has changed into serving various brands to advertise and also to expand their customer base. From the likes, comments, and shares, accessing social media profiles made it easy to learn about consumers and consumer behaviors. Big data is helping the organizations to manage the huge data they get from social media for actionable insights. It analyzes a user’s social media usage by scrutinizing the posts and pages they like, share, and follow. It thus helps marketers to know what products and services are the individuals likely to be interested in and also in tracking the purchases pattern.

3.1.1 Other Tools Used

The abundant data which is available on Facebook is impossible to manage manually. Tools like netnography are also used to understand the customers as it is very critical for researchers and practitioners. Along with that, other tools like google alerts, google analytics, Facebook insights, tweetstats, people browser, brandwatch, and sematrica’s lexalytics are been used by researchers.

3.1.2 Netnography Versus Machine Learning

Netnography is a very useful tool for service research. It is very similar to other qualitative research methodologies for the online environment, such as digital ethnography, online ethnography, virtual ethnography, and cyber-ethnography [13–15], but during the usage of this method, several dilutions are made which does not provide the actual result as more quantification done is considered as one of the main controversies raised on this method. Where in netnography being more into qualifying the digital data, but machine learning is more into the quantification of data which will provide better results. Therefore, an effective method of handling big data with the help of machine learning techniques is an effective approach for sentiment analysis. The positive, negative, and neutral opinions can be mined with the sentiment analysis. Support vector machines (SVMs), Naive-Bayes, and decision trees are predominantly used for sentiment analysis in social media marketing [16, 17].

4 Conclusion and Scope for Further Research

The use of Facebook during the time of social distancing is loud which will be propitious for the brands being digital and frequently interacting. The consumers gradually co-create the contents for the brands through the bonding they have, which leads to electronic word of mouth on Facebook by commenting, sharing, and liking. It will result in positive and negative valance creation through the media. Amidst the
several tools available to measure this opinion mining, we can use machine learning tools which will deliver the essential data for the brands to analyze the sentiments.

Future studies could replicate the conceptual framework to other social networking sites like Instagram, WhatsApp, Twitter, and other more. In addition to this, an empirical study on this model can be used for further validation. More aspects like brand equity, brand loyalty, and customer satisfaction can be included. Furthermore, the sentiment analysis in positive and negative facets can be studied for brands when the situation demands.

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