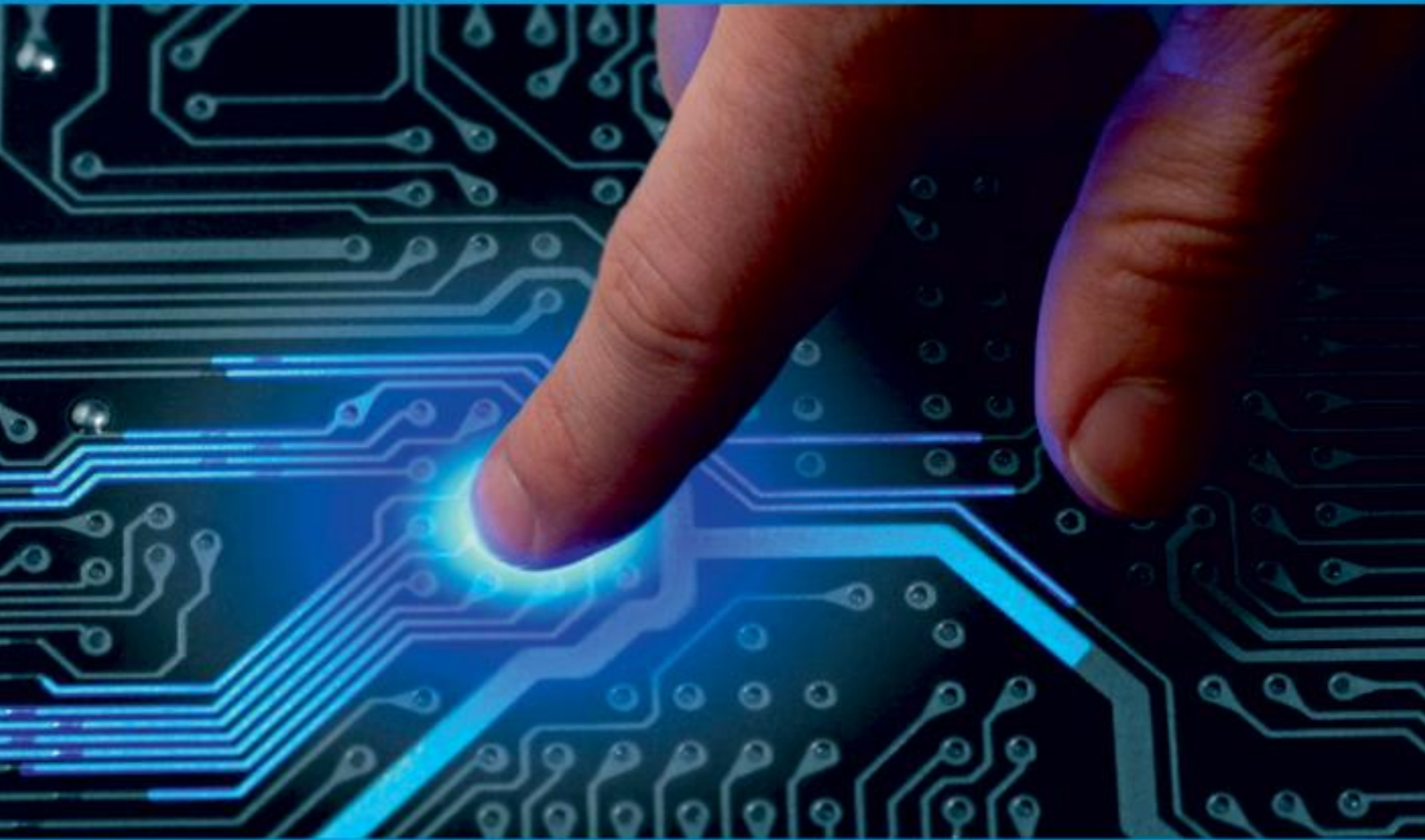




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Sentiment Analysis View for Brand Reputation Monitoring on Social Media

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ABSTRACT: A comprehensive examination of brand management and reputation in the digital era, highlighting the significance of creating a distinct identity for companies or products to stand out in a crowded market. The emphasis on brand credibility as a key factor in consumer choice environments underscores the necessity for companies to establish and maintain a positive image. The role of online reputation management, particularly on social media platforms, is rightly spotlighted as a critical aspect of modern brand strategy. This approach not only involves monitoring and influencing how a brand is perceived across various online channels but also leveraging the power of social media influencers and internal stakeholders to enhance brand image and credibility. This paper exploration of how companies co-create and manage their brand image and reputation through strategic engagement with internal stakeholders and social media influencers, alongside the use of sentiment analysis for brand reputation analysis, offers valuable insights into effective brand management strategies in the digital age. This comprehensive approach to understanding and influencing brand perception online is crucial for companies looking to maintain a competitive edge and foster positive relationships with their consumers.

KEYWORD: Brand reputation, product reputation, social media, sentiment analysis, opinion mining, machine learning.

I. INTRODUCTION

User-generated product reviews are becoming a more important source of information for consumers who are shopping online. The extant literature often takes into account the effect of product reviews on sales by utilizing numerical variables that indicate the number and valence of reviews. In this study, we propose that a single scalar number cannot represent the information contained in product reviews. Rather, we contend that because product reviews have multiple dimensions, their textual content rather than just their number and valence plays a significant role in influencing buyers' decisions. In order to illustrate this, we break down textual reviews into sections that describe various product features using text mining, and then incorporate the review text into a customer choice model.

Our model is estimated using a special data set that we obtained from Amazon. This data set includes sales and customer review data for two distinct product categories digital cameras and camcorders during a 15-month period. By offering two experimental techniques clustering uncommon textual opinions based on pointwise mutual information and employing externally enforced review semantics we mitigate the issues of data sparsity and omitted variables. A corporation with strong brand equity has several benefits over its competitors. Strong customer brand awareness, performance, quality, reputation, and loyalty are attributes of a strong brand.

Network communication is replacing human social communication as digital technology advances. Social network service providers of choice nowadays include Facebook, Twitter, WeChat, and other social sharing platforms. A social network is an online community built around user relationships that serves as a platform for content production and exchange. Many network users upload files on social media platforms like Facebook, WeChat, microblogs, and vlogs on a daily basis. Users post, arrange, and distribute multimedia content such as images, videos, and audio—to certain people or groups on the social network. Online retailers like Amazon and Taobao allow brands to set up official websites, communicate with different social media platforms like WeChat, Microblogs, Facebook, and Twitter, and allow customers to build personal social media accounts.

In this setting, creators network with other individuals or groups in order to satisfy societal demands, gain access to information resources, enhance productivity, and potentially make money (Yuksel et al., 2016) [11]. Furthermore, the

social network's commercial potential has emerged as its legitimacy has grown. Popularity, quality recognition, and brand association increase consumer loyalty and, in turn, enhance the brand's premium ability, resulting in increased profitability for the company (Chunhua, 2018)[24]. The product's worth is determined by its brand. The stronger the brand's premium power and, consequently, the higher its profit rate, the more upscale and superior the brand image. This is another reason why a lot of fashion firms, particularly well-known global ones, spend a lot of money to.



Figure 1: Reputation managing Factors. [24]

One of a brand's key differentiators is its emotional appeal to consumers. In order to persuade customers that their brand is of superior quality and craftsmanship and that it has a positive reputation, brands establish numerous implicit brand associations and higher images than their competitors. The social network is now the place where people communicate with one other, express themselves, and share their emotions most frequently. The social network service brings the virtual network closer to reality by transferring interpersonal communication from offline to online platforms. Over 80% of human social connection is essentially "non-contact," therefore online social networks will significantly alter the old world. This indicates that social networks like Facebook and WeChat will become the emotional.

In the meantime, the representation of reality allows network viewers to have a deeper and more thorough understanding of others. Using the "Circle of Friends" photo sharing feature on WeChat as an example, when busy individuals exchange pictures whether they are snapshots of their daily lives or recreations of their personal lives they help others experience the moment vividly. After carefully tasting the precipitation, this form of repeated acknowledgment or expression will, to some extent, surpass genuine contact. The social network then approximates the emotional experience of real life rather than being fully "virtual." A picture can now be used to start a conversation, tell a story, and help shape one's own identity.

The social network's communication process is primarily made up of audiences, media, communicators, information, and other elements. On the one hand, "consensus" is used by the media to influence them. In the meantime, they make a positive effort to mold consensus (Hall et al., 1994)[15]. The brand's identity and reputation constitute the other side of this "consensus." Public acclaim can influence a brand's image through the gathering of "people." Consumer loyalty, identity, and reputation, as well as brand preference, are crucial routes for enhancing a brand's premium ability and value. The social network provides clear advantages for updating these indicators. The simplest method for determining a user's interests and preferences on a brand is sentiment analysis. Sentiment analysis allows for the recognition of every user's opinion regarding the product brand. Opinion mining or sentiment analysis is required to determine the product's reputation from user reviews. Each client has left both positive and negative evaluations, and these will be used as a guide when analyzing the reputation of the brand [10]. Positive customer reviews can reveal the benefits of the product, and bad reviews can reveal its drawbacks. It is challenging to forecast how interpersonal sentiment will influence a user's sentiment, which makes it challenging to explore social users. [6]

A sentiment-based brand reputation prediction tool is suggested to report these issues. This approach uses the sentiment of the social user to infer ratings. In order to accurately assess customer demand, this method estimates each user rating for the target items. The characteristics that characterize user feelings are several. First, brand-related reviews are gathered from various social media channels and evaluated according to user ratings. The sentiment words can be filtered by looking at these Brand attributes. Sentiment dictionaries are mostly used to determine a user's sentiment toward a certain brand item or product.

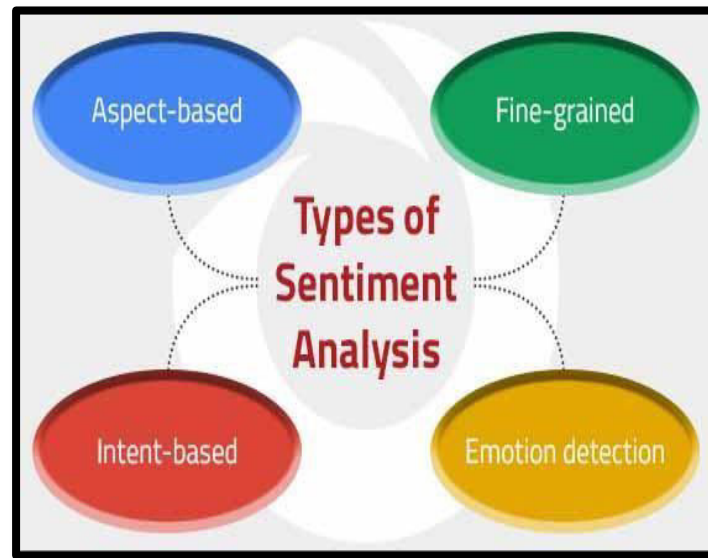


Figure 2: Types of Sentiment Analysis

The main objectives are as to study the different methods for Brand reputation based on user's review. The remaining part of this paper is structured as follows; Section 2 presents the related works. The performance analysis of some existing methods are analysed and presented in Section 3. Finally, Section 4 concludes the study with future aspects.

II. LITERATURE REVIEW

Reputation is an important asset for organizations in the cutthroat world of today. Businesses put forth a lot of work to establish and keep their reputations. Reputation management has gone online these days due to the accessibility of information and the widespread use of social media in our social relationships (Walker, 2010).[9]. Real-time input from users, suppliers, clients, and employees can influence a brand's reputation. In recent years, social media on the internet has emerged as the ideal setting for researching consumer behavior.

The "sentiment analysis" technique, which analyzes information using a variety of natural language processing techniques to determine user sentiment about an organization, has largely shaped previous research on assessing an organization's reputation on online social media platforms [18][16]. Relying just on a particular social network feature or element leads to distinctly partisan outcomes because social networks foster rich interactions that generate enormous amounts of raw data enriched by the customs, cultures, and behaviors of a diverse range of people.

The Research model in [23][24] presents Hybrid Model for assessing reputation of organizations in online social networks. To quantify reputation, this model integrates qualitative and quantitative aspects. It identifies and assesses the reputations by analyzing OSN Link Structures, Interactions, and User Sentiment. Using a dataset of over 1.4 million posts and 7.6 million profiles gathered from Twitter, the model has been put into practice and used to determine the reputation of 47 well-known international companies.

The sentiment of user-generated content (UGC) on social media following the cancellation of an international professional sporting event due to a crisis has been examined by the author [3]. The idea is to shed light on the brand implications for the host location as well as the sporting event. A year's worth of tweets from 5684 users were analyzed by Leximancer over three different time periods (before, during, and post crisis). The results showed that sentiment changed, with negative sentiment being more strongly associated with the outcome than the occurrence. The study adds to the body of research on how people react in real time on social media when faced with a crisis in the setting of sporting events.

The authors of study [7] carry out three experiments in succession and create a multi-dimensional brand scale based on reputation, trust, and performance. But the most recent development in the theory is brand acceptance. Data were



gathered from 462 Delhi and NCR consumers in the fashion, transportation, and technology industries.

A multidimensional model was suggested by the authors [8] to investigate the relationships between corporate social responsibility (CSR), reputation, and performance in hotel companies. For a causal-predictive analysis, data were gathered from 322 hotels in China and partial least squares equation modeling (PLS-SEM) was utilized. The authors contend that hotel brands' reputations are impacted by corporate social responsibility. Authors in [5] highlight challenges related to brands interacting with influencers, namely the inference of manipulative intent, by focusing on persuasion knowledge theory. However, marketers should make an effort to dispel any misleading assumptions when utilizing influencer support by outlining the values-driven goals of the influencer-brand alliance.

A regression model-based hypothesis was put up by the author in [22] to gauge the consumers' perception of the quality and reputation of airline services. According to the authors, consumers' judgment of a brand's image is influenced by their perception of the corporate reputation and service quality of the airline they are flying with, and this in turn influences their desire to purchase. Therefore, a key component of preserving a brand's reputation is client satisfaction. Sentiment analysis is employed to examine the perspective of airline customers.

The external expectations that prospective employees have for the reputation of the brand have been the author's attention in [2]. The study's primary objective was to advance knowledge of corporate reputation and the relationships it has with employer brands and perceived CSR. A sample of five hundred senior college business students were used to examine all three topics. The top twenty national organizations, as determined by a syndicated study on employer attractiveness, served as the analytical units. The findings demonstrate that students give firms with a positive employer brand and a reputation for social responsibility higher marks. Based on our findings, reputation appears to be the general term that includes both perceived employer branding and perceived corporate social responsibility.

[12] (Vidya et al., 2015) have put up a technique to gauge various firms' brand reputations for mobile devices. In order to measure brand reputation based on customer happiness, this article uses sentiment analysis of consumer data from Twitter. Three distinct methods are used to classify and compare the sentiments: Naïve Bayes, Support Vector Machine, and Decision Tree classifier method. This is done after the data has been cleaned and balanced.

Table 1: Below table depicts some of the work in the field of Brand reputation.

Author	Title	Method/Tools	Application	Context
Yuliyanti,Djatna&Sukoco.(2017)	Sentiment Mining of Community Development Program Evaluation Based on Social Media	Lexicon based and machine learning	Success level of the community development program	Twitter
MartinDomingo,Martin,&Mandsberg (2019)	Social media as a resource for sentiment analysis of Airport Service Quality	Machine learning	Analyse airport service quality	Twitter
Mansour.(2018)	Social Media Analysis of User's Responses to terrorism using sentiment analysis and Text mining	Lexicon-based	Most user view ISIS As a threat and fear	Twitter
Isah,Trundle&Neagu.(2014)	Social Media Analysis for Product Safety using Text Mining and Sentiment Analysis	Lexicon based and machine learning	Monitor brand in order to act in even of a sudden rise in negative sentiment	Facebook comment and Twitter
Mahtab, Islam & Rahaman(2018)	Sentiment Analysis on Bangladesh Cricket with Support Vector Machine	Lexicon-based and machine learning	Analyze people sentiment expressed towards cricket	Facebook Group- Bangladesh Cricket

III. CONCLUSION

In the pre-social media era, companies primarily focused on brand building through traditional advertising and sponsorship, viewing these efforts as long-term investments. Reputation concerns were often seen as short-term issues that could be managed or mitigated through tactical responses. This delineation between brand and reputation management reflected a time when information flow was more controlled and less immediate.

In summary, the rise of social media has blurred the lines between brand building and reputation management, making it clear that both must be managed with a strategic, long-term perspective. Companies must adapt to this new reality by embracing transparency, engaging with their audiences, and being prepared to address reputational issues swiftly and effectively to protect and enhance their brand.

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