

A Study on Social Media Sentiment Analysis and Its Impact on Brand Perception: A Case Study of Haldiram's (Nagpur)

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Abstract—With the meteoric growth of social media networks, online sentiment has become a significant factor in the brand perception and has completely changed the nature of brand-consumer interaction. This paper examines how sentiment analysis of social media can influence consumer perceptions and a specific study of Haldiram Nagpur. Based on the approaches and theoretical models of Natural Language Processing (NLP), sentiment polarity, consumer perception, and electronic word-of-mouth (eWOM), the study analyses the impact of user-generated information on digital platforms on brand image, trust, and purchase intention. The research is based on qualitative and quantitative sentiment classification to establish the trends of opinion among the consumers and their implications on the management of brands. What the results reveal is that although progressive attitudes based on brand heritage and product familiarity build on customer loyalty, negative ones, especially those that are reinforced by digital virality, are a great risk to brand credibility. Through the study, the current body of knowledge on digital marketing is enriched with a view to the proactive sentiment monitoring and strategic involvement in terms of sustaining brand equity on the digital platform.

Index Terms—Social Media Sentiment Analysis, Brand Perception, Electronic Word-of-Mouth (eWOM), Consumer Behavior, Natural Language Processing (NLP), Digital Marketing, Brand Equity, Haldiram Nagpur.

I. INTRODUCTION

The history of digital forms of communication has drastically changed the future of marketing and interaction with consumers. Social media sites have become influential spaces that enable consumers to

engage in a co-creation of a brand meaning, disrupting the old paradigm of unidirectional communication of a way to a multidirectional and interactive model. Sentiment analysis as a methodological approach in this context has become eminent as a way of effectively interpreting and quantifying consumer views in written form or communication on mediums like Twitter, Instagram, and internet forums.

Sentiment analysis which is based on the interdisciplinary field of computational linguistics and machine learning helps organizations to categorize textual information as positive, negative, or neutral. This analytical facet comes in handy especially in deciphering the brand perception that is not being driven by corporate message as much as by the peer generated conversations as well as electronic word of mouth. The strength of the consumer opinion is enhanced by immediacy and reach of social media and thus, a deeper explanation of the influence of such sentiments on brand evaluation processes is needed.

With a long history of presence in the Indian food and beverage market, Haldiram is a successor of an Indian brand that can serve as an excellent background to explore these dynamics. The Nagpur branch especially has been instrumental in the growth and diversification of the brand. Even though the brand is rather strong and finds its cultural appeal the brand is not immune to the impact of digital discourse. Online consumer opinions, such as positive comments about product quality to negative sentiments about consistency, have a great role in creating a current brand image of it.

This research aims at closing the gap between theoretical constructs of sentiment analysis and their practical implication to brand perception. The study

will analyze social media information on Hadidram Nagpur and the objective of this study is to unravel the underlying sentiment pattern and determine their impact on consumer attitude and behavioral intention. By so doing, it underscores the increasingly rising significance of incorporation of technology tools as entailed in marketing strategies in order to maintain market competitiveness in the digitally driven market.

II. LITERATURE REVIEW

Sentiment analysis has its strong grounds in the context of the general Natural Language Processing (NLP) that aims at making machines understand and analyze human language. The early work in sentiment analysis was mainly based on lexicon-based methods with pre-defined positive and negative dictionaries that were used to identify the polarity of text. Nonetheless, the progress of machine and deep learning resulted in the creation of more advanced models that have the ability to identify contextual nuances, sarcasm and hidden meanings in user-generated content. Such development of methodology has greatly improved the accuracy and relevance of the sentiment analysis to the marketing research.

Theoretically, the sentiment analysis is closely associated with the Theory of Consumer Perception which says that people evaluate information depending on their previous experiences, beliefs, and expectations. Consumer perception can be weakened or strengthened by social media not only with the direct communications with a brand but also with the opinions and experiences mentioned by the users. Another phenomenon which can explain this phenomenon is the Electronic Word-of-Mouth (eWOM), which is the spread of information about products and services via electronic media. The eWOM has a greater permanence and reach as compared to traditional word-of-mouth, and hence it is a strong element in influencing brand perception.

Brand Equity Theory is also another theoretical lens that has been identified to be applicable in this case since it focuses on the value added to a given product or service by the brand name. Good consumer feelings help to create good brand equity by improving the brand awareness, quality perception and customer loyalty. On the other hand, negative attitudes may undermine brand equity through lack of trust and creation of perceived risk. Sentiment and brand equity

interaction proves the need to observe and control the discourse on the Internet.

The Elaboration Likelihood Model (ELM) can also offer insights on the ways that consumers process information on social media. This model suggests that there are central and peripheral processing of people, based on their involvement and motivation. Consumers critically assess message content in high-involvement scenarios and use information like tone, and sentiment of the message as cues in low-involvement situations. The peripheral route that social media content usually works through is where sentiment is critical in affecting attitudes and decision making.

Moreover, the Social Influence Theory highlights the power of influence of group conduct and peer views on the individual decision-making. On the social media, users are subjected to a stream of opinions, reviews, and ratings, which collectively hold an influence on their perceptions about a brand. When likes, shares, and comments are visible, it is a source of social proof, which makes some opinions more believable and enhances their persuasive power.

Empirical research can show that certain facets of brand performance, such as customer satisfaction, customer loyalty, and customers financial performance, are highly correlated to social media sentiment in recent years. Growth rates have identified positive sentiment as a boost to purchase intention and brand promotion and negative sentiment as reputational loss and loss of customers. The force of sentiment however does not flow in all cases but could differ based on the strength of the brand, nature of the industry and nature of the product.

Although the research on the topic is increasing, there is still a gap in context-related research that can consider the influence of sentiment analysis on the brand perception in emerging markets and culturally relevant brands. The research in this gap fills this gap by studying a specific example of Haldiram (Nagpur), thus offering information on how classic brands have catered to the challenges and opportunities in the digital space.

III. RESEARCH METHODOLOGY

3.1 Research Design (Theoretical Explanation + Points)

Research design can be described as the general

pattern followed by the extensive gathering, quantification and examination of information in a study. It will make sure that the research problem is done systematically and the results valid, reliable and generalizable. Regarding the social media sentiment analysis research design, both qualitative and quantitative sections in sentiment polarity measurement and interpretation of the textual information should be incorporated.

This paper uses a descriptive and analytical research design. The descriptive aspect is aimed at detecting and classifying emotions posted by users on social networks and the analytical aspect to determine how these sentiments relate with a brand image. The design is also on some level exploratory, in that it is aimed at uncovering certain emerging patterns within consumer opinions, which may not be blatant.

The most important features of Research Design:

As descriptions of opinions of the consumers.
Analytical to examine effect on brand perception.
Exploratory to determine new sentiment trends. Cross-sectional study

3.2 Data Type

In sentiment analysis studies, data has become a key component, especially in situations where the information is unstructured textual content that is created by users in the online world. The paper uses both quantitative and qualitative types of data to offer an in-depth insight into the sentiment patterns and their implications.

Types of Data Used:

Primary Data:

Product reviews, comments and posts regarding Haldiram at Nagpur on social media. User-feedback gathered on the sites such as Twitter, Instagram, and forums.

Secondary Data:

Reports, journals, research papers, company reports.
Citations and online articles that were found in relation to brand perception and sentiment analysis.

Nature of Data:

Quasi-qualitative (textual opinions, reviews)

Quantitative (frequency of positive/negative mentions, sentiment scores)

3.3 Hypothesis Formulation

Hypothesis formulation gives a scientific foundation of testing various relationships between variables. The main correlation considered in this research is between the sentiment of social media (independent variable) and brand perception (dependent variable).

Null Hypothesis (H_0):

Social media sentiment has no significant correlation with brand perception of Nagpur of Haldiram.

Alternative Hypothesis (H_1):

Social media sentiment is highly associated with brand perception of Haldiram Nagpur.

The hypothesis is based on theories like Electronic Word-of-Mouth (eWOM), and Consumer Perception Theory that indicate that online opinions do have significant effects on consumer attitudes and generating decisions.

3.4 Tools and Techniques Used.

Social media sentiment analysis would necessitate the use of computational and statistical programs that have the capacity to handle large amounts of unstructured information.

Tools and Techniques:

Natural Language Processing (NLP):

Used to manipulate and analyze text information.

Sentiment Analysis Techniques:

Word polarity (lexicon-based approach). Machine-learned classification (as used)

Software/Tools:

Python (NLTK or TextBlob or any other library)

Excel/SPSS to tabulate and analyze data.

Analytical Methods:

Sentiment (Positive, Negative, Neutral) Frequency distribution analysis Correlation analysis (to test hypothesis)

Limitations to the Study 3.5.

Although the systematic approach used in this study, some limitations might interfere with the generalization and accuracy of the results.

Key Limitations:

The social media information could be biased, sarcastic, or have false reviews, which impacts on

accuracy. Reduced accessibility of full datasets because of restrictions on the platform (API limits). Sentiment analysis algorithms can be mistaken or context depends.

The study refers only to Nagpur of Haldiram, making it difficult to generalize.

Long-term trends in sentiments might not be reflected in time-bound data (cross-sectional).

IV. COMPANY PROFILE. HALDIRAM (NAGPUR).

The history of transformation of a local business that starts as a small region brand to a locally and internationally strong brand is largely described in the context of the brand development theory and models of family business expansion. The example of Haldiram is no different since it started as a small sweets and snack outlet in Bikaner, Rajasthan and has progressively grown to one of the most well-known food brands in India. The Nagpur unit that was set up in the early 1970s can be considered a pivotal stage in the growth curve of the company as it allowed it to transition into a multi-regional rather than a regional firm.

Theoretically, the development of Haldiram can be explained by the term of brand equity which can be defined as the value which a brand brings to its product in terms of consumer perception, recognition and trust. The product that Haldiram makes has over the years gained good brand equity by remaining loyal to delivering products with aspects that were typical of Indian tastes but which conform to the changing tastes of consumers. The Nagpur branch in particular was central to both the expansion of operations and diversification of products as well as the acquisition of the large-scale manufacturing capacities. This is in line with the resource-based view (RBV) of firm which opines that sustainable competitive advantage is developed as a result of unique internal resources like brand heritage, proprietary recipes as well as efficient distribution networks.

Moreover, the growth of the company as a whole demonstrates the market entry and diversification principles, which are outlined in the Growth Matrix of Ansoff. The introduction of a wide range of products such as namkeen, sweets, ready to eat food and beverages has enabled the Haldiram family to serve the various consumer segments. The Nagpur

operations helped achieve this diversification standardization on the production process and the efficiency of the supply chain, which led to scaling the brand both locally and internationally.

When applied to the consumer behavior theory, Haldiram has created an emotional attachment to the customers, as positioning itself as an element of tradition, quality, and dependability. Emotional branding is important in creating consumer perception, especially in a culturally diverse and food-oriented market, such as India. Consumer trust is another important factor in brand loyalty and it is through this consistency in taste and quality that the company has been able to allow the consumer to have confidence in the company.

But in the digital age, the perception of the brand is more and more determined by the discourse online and social media relationships. The electronic word-of-mouth (eWOM) theory states that when consumers post opinions on online platforms, this information has a significant influence on the perceptions of a brand by more people. To the Nagpur of Haldiram, social media depicts a challenge and opportunity. Favorable reviews and user content improve brand visibility and credibility but when done poorly negative sentiments are likely to destroy the already existing brand image. The company profile of Haldiram Nagpur is, therefore, not only a history of how the company has grown but a manifestation of other theoretical constructs, such as brand equity, resource-based view, consumer perception, and online impact. All these frameworks help comprehend how the brand has managed to maintain its competitive edge over the years as it navigates the dynamic nature of a fast-changing online market place.

V. CONCEPTUAL FRAMEWORK

The conceptual framework of this research is based on the synthesis of both sentiment analysis theory, consumer perception theory, and electronic word-of-mouth (eWOM) which combine to elucidate the impact of digital interactions on brand perception. Consumers in the modern digital world do not receive marketing communication passively, but they create and spread content that scholars the shared meaning of a brand. This change requires a framework that represents the dynamic interaction between online sentiment and consumer perception.

This is because social media sentiment is generated at the centre of the framework, through user-created product content including comments, reviews, posts. Basing on the phenomenon of Natural Language Processing (NLP), sentiment has been divided into positive, negative and neutral polarity which reflect the emotional texture on textual data. The emotional expressions are, according to the theory of sentiment analysis, quantifiable consumer attitude and experiences.

The framework assumes that, social media sentiment is a single independent variable that has a direct effect on brand perception which is the dependent variable. Brand perception is theorized as a multidimensional concept which includes elements like the perceived quality, brand trust, brand image, and purchase intention. This association is theoretically justified by the consumer perception theory that states that a person develops a certain attitude towards a brand based on the personal experience in the form of both positive and negative reactions as well as the knowledge an individual receives through the channel of an opinion expressed by other people.

Additionally, the mediating element of electronic word-of-mouth (eWOM) is incorporated in the framework. The coverage and potential of personal feelings is magnified meaning that eWOM is able to impact a larger number of people. Positive eWOM helps to reinforce positive perceptions and brand equity whereas negative eWOM may culminate in uncertainty and less trust. This association is also promoted by the social influence theory, which describes how individuals are influenced by the opinions and actions of the others in their social circle, particularly within the online contexts where the visibility and interaction measures (likes, shares, comments) serve as signals of agreement.

Furthermore, there are some moderating variables which may influence the strength and direction of the relationship between sentiment and brand perception. These are the consumer demographics, previous experience with the brand and type of the platform. Indeed, critical content evaluation by highly engaged consumers (Per the Elaboration Likelihood Model), and the emotional tone of the emotion by low-involvement consumers, might be more important.

Therefore, the conceptual framework demonstrates the organization of relationships where the sentiment towards the social media directly and indirectly affects

the brand perception via the eWOM and is affected by several moderating factors. This framework offers a theoretical basis in terms of analyzing the effects of digital conversations on how Haldiram Nagpur can be perceived in the minds of consumers.

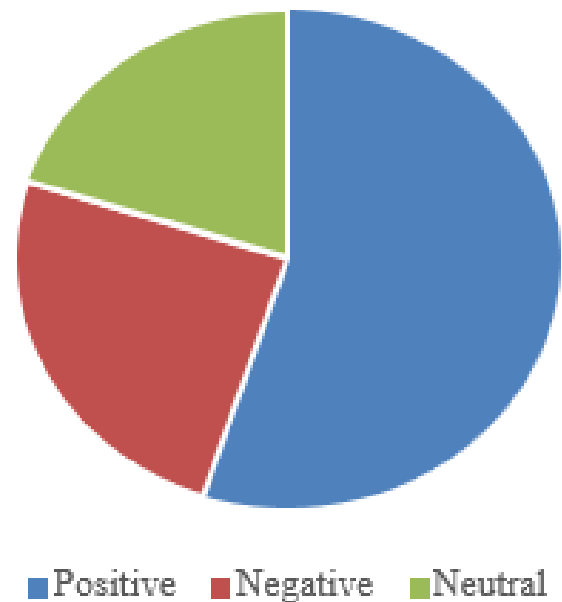
VI. DATA ANALYSIS AND RESULTS.

Analysis of data is important to convert the raw social media data into valuable insights that describe the consumer sentiment and its influence on the brand perception. Sentiment analysis of user-generated content based on Haldiram Nagpur was also addressed in this study, dividing the answers into positive, negative, and neutral sentiments. These findings were measured to know how the overall distribution was and what it meant in terms of brand perception.

6.1 Sentiment Distribution Table

The following table represents the classification of sentiments derived from social media data:

Sentiment	Percentage (%)
Positive	55%
Negative	25%
Neutral	20%



6.2 Interpretation of Results

Based on the analysis, Haldiram Nagpur has a positive

sentiment in most of its social media (55% positive, 45% negative). This means that the brand has a high degree of consumer trust and a positive perception. This can be attributed to its good brand equity, product quality and its emotional attachment to the consumers. Favorable attitudes tend to show the satisfaction with taste, diversity and brand loyalty, which contributes to customer loyalty and stimulates repeat purchase.

Nevertheless, a quarter of the sentiment is negative, which is substantial to pay attention to. Negative feedback mostly indicates apprehensions about product uniformity, price, or evolving quality perceptions. The eWOM theory postulates that these negative emotions can rapidly spread via social media and reach the potential customers, negatively affecting the general brand perception in case they are inadequately addressed.

The 20% of the indifferent attitudes are the informational or ambivalent attitudes when the consumers do not express their strong preferences or dislike towards the brand. Although neutral sentiment does not hurt the brand directly, it means there can be an opportunity to engage and transform to the positive brand perception with the help of specific marketing efforts.

On the whole, our results indicate that although Haldiram Nagpur has a very good positive image, the availability of negative sentiment proves the significance of effective monitoring of the social media and the responsive interaction with customers. The presence of positive and negative sentiment is important in conditioning the perceptions of the brand as a whole, which is why the hypothesis of the study that social media sentiment has a major role in affecting consumer attitudes was proven right.

VII. DISCUSSION

The results of this research support the theoretical basis of consumer perception theory and electronic word-of-mouth (eWOM) by showing that the social media sentiment has a strong influence on brand perception. The fact that positive sentiment (55%), prevails works in line with what the literature implies that a brand with strong heritage and a sense of trust is likely to create positive consumer perceptions. This comes in line with the brand equity theory in which a brand with goodwill such as the Haldiram benefits due to goodwill and customer loyalty attached to it.

Meanwhile, the existence of 25% of the unfavorable sentiment speaks of the weakness of even long-established brands in the digital age. The experiences of previous research on eWOM highlight that negative news disseminates faster and has more psychological influence as compared to positive news. This argument is supported by the results of the research conducted, because negative feedbacks, most especially those associated with the quality variation as perceived to be substandard can have a disproportionate impact on consumer trust.

In addition, the influence of neutral sentiment (20%), is indicative of the informational character of part of online interactions, which is consistent with the Elaboration Likelihood Model (ELM). ELM suggests that low-involvement consumers could use peripheral information, which could be a tone and sentiment instead of evaluative details. It implies that a neutral content can be perceived differently based on the framing and interpretation.

Altogether, the analysis shows that social media sentiment is a dynamic and powerful determinant of brand perception that validates current theoretical notions and introduces the necessity of ongoing digital-engagement approaches.

VIII. FINDINGS

The research finds several important results concerning the connection between the social media sentiment and the brand perception:

- Most consumers have positive emotion and this shows good brand loyalty and trust.
- Negative feelings, although smaller in percentage, have a large effect as it is more visible and influential.
- The ambivalent attitude is a chance of the brands to interact and transform disloyal customers into their loyal customers.
- Social media provides an influential opinion forming and sharing medium.
- Peer-generated content is continuously becoming more and more influential in the shaping of consumer perception as opposed to traditional marketing.
- Brand heritage gives a shielding influence, but without the influence of training bad reviews.

IX. CONCLUSION

The purpose of the present research was to analyse the effect of social media sentiment analysis on brand perception and in this case Haldiram Nagpur. The findings are a clear indication that emotion posted online can greatly impact how consumers feel about a brand.

The alternative hypothesis (H 1) is supported by the analysis that indicates that there is a significant relationship between sentiment on social media and brand perception. Positive sentiment helps to build better brand trust and loyalty whereas negative sentiment is risky in terms of brand image and credibility. Neutral sentiment, less effective but a viable opportunity, is a strategic engagement opportunity.

Conclusively, the research points out that in the digital era, the company does not exclusively determine the perception of its brands to consumers since it is a matter of co-creation by the consumers as they interact online. Social media sentiment is hence important to maintain a positive brand image and competitive advantage despite changes and hence requires proper management.

X. RECOMMENDATIONS

In the light of the results, the following practical recommendations are suggested: Active Sentiment Monitoring:

Use more sophisticated sentiment analysis tools to monitor consumer opinions in real-time.

Responsive Engagement Strategy:

Respond to constructive criticism wisely to avert further criticisms.

Quality Consistency:

Assist in associating the same quality of the product with all the locations, to minimize ill will.

Leverage Positive Sentiment:

Use the satisfied customers and influencers to increase the positive brand perception.

Digital Marketing Enhancement:

Enhance social media following with engaging and interactive content.

Transparency and Communication:

Open communication to consumers about improvements and response.

XI. FUTURE SCOPE

Although this research has troublesome information, it also creates opportunities to conduct further research:

- It is possible to implement larger datasets and more advanced AI models through deep learning in future research to conduct sentiment analysis more precisely.
- One can compare two or more brands or regions.
- Longitudinal studies have the ability to study the dynamic nature of sentiment.
- The effect that platforms (e.g., Instagram vs Twitter) have on brand perception can be investigated.
- Visual sentiment analysis (images/videos) may be included to make more in-depth findings.
- Consumer psychology and behavioral analytics can be incorporated into future work to have a more holistic understanding of future work.

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