

THE EMOTICONS BEHIND VIRALITY - A STUDY OF NON-VERBAL RESPONSE TO NEWS CONSUMPTION ON SOCIAL MEDIA USING BIG DATA

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Abstract: Social media has permeated almost all walks of life in the last half-decade. In addition to being connected socially to friends, people use social media feeds for news and entertainment consumption. The incidences of news going viral through social media have been reported increasingly. This paper aims to study the most popular way people interact with content on social media - likes and shares. One of the popular social media platforms was selected for the study along with four international media houses. 4000 news contents were collected from the four media houses and a total of 53.5 million reactions mostly expressed as emoticons were collected. It was then analyzed and checked for correlation with the number of times it is shared or viral reach. The analysis was done to understand the kind of content the users are more likely to share. It was found that news content meeting both the extremes of satisfaction - positive or negative are shared more than the others. The reasons and implications are discussed along with the scope for future research.

Keywords: Virality, Social Media, News, Online Content, Big Data, emoticons, shares.

1. Introduction

Social media has become an integral part of this generation's lifestyle. People use it for various purposes, like communication especially to a large volume of contacts. Social Media is no longer the domain of individuals alone. In addition to the traditional ways of communication, organizations have included social media increasingly to reach out to its audience. Many studies revealed that to enhance the value proposition, customer engagement at different levels is essential. This has been time-consuming and costly traditionally. Social media provides a cost-effective and measurable solution for customer engagement. News organizations have made it a practice to use social media to deliver news coverage in addition to their traditional channels of delivery.

In this paper, we try to find out the correlation between the emotions, a content evokes and the probability of virality of the same content. Here, we have taken

content from four international media houses which are posted on a popular social media platform. The reach of this content, which is often called as virality and the reason behind is what we analyze. Virality is often connected with emotions a content evokes in a user's mind. It can be happiness, sadness, surprise, anger, anxiety, and awe. This along with activations/arousals caused by different emotions result in deciding whether content would be shared or not. Virality can be defined as the number of shares a particular content gets. It is directly proportional to the number of shares. More the number of shares, higher the virality. The social media platform that we analyzed has a set of emoticons and we study the relationship between those emoticons and virality.

2. Literature Review

Reference [1] the paper defines social media as a platform where a large number of users has access to user concentrated platforms that enabled them to create original content populated by themselves. The paper further talks about the emergence and popularity of social media and states that it is the consequence of web 2.0 and the reduced costs for online data.

1. Application of Social Media

Reference [2] this paper talks about the application of social media in various online portals such as blogs, microblogging sites, co-creation, social bookmarking, social networks, video and photo sharing, product reviews, etc. It goes on to say about the objectives of social media and mention 3 important factors: Brand awareness, Word of mouth and Brand Engagement.

Reference [3] Virality of online content through news website's social media pages result in more media engagement and eventually causes a prospect to a recognized brand idea. Engagement here can be defined as the collective experience the users have while interacting with the media

2. Virality

Reference [4] Amidst all the content that goes through

various social media platforms, some content tend to absorb more attention in terms of popularity and hence making it viral. Reference [5] defines virality as the probability that the content online is passed along. Higher it is passed across, higher the probability of content going viral. Reference [8] the concept of virality can be explained as a sudden large-scale adoption that is caused by mostly if not exclusively by the user to user sharing. Reference [6] discuss that in-order for a particular content to go viral, the content should evoke emotions which are having high activation/arousal. A content having a high activation/arousal in the user's mind tends to become viral more often than the content that has less activation/arousal. Also, the content which has got a positive reinforcement can become more viral than a content which has negative reinforcement. Emotions like Anger, surprise, anxiety, and awe are having high arousals and activations, whereas emotions such as sadness and love have fewer activations/arousals

3. What makes people share online content?

Reference [7] explains why users generally share a content online. It goes on to find out the reasons such as the users want to be associated with a group, to be individualistic, to be altruistic and for their self-growth. Also, people tend to share online content to help others also who are seeking information.

4. Applications of Non-Verbal Cues

Reference [9] the paper defines verbal communication as a method to communicate ideas whereas non-verbal communication is used to express emotions. People tend to have more satisfaction when they express their opinions in emoticons rather than text. Non-verbal cues such as emoticons also help users to convey the message directly and clearly and can be easily interpreted by the receiver. Reference [10] describes that emoticons have an impact on interpreting a message and it compliments the verbal messages which may be used along with it. Also, it helps the users to create ambiguity and at times express sarcasm while reacting to content.

3. Data Collection

Data was collected from Facebook API on 4 major news media pages, namely BBC, FOX news, CNN and Al Jazeera English. The news media were selected based on the followers each page is having. BBC is followed by 46 million people, FOX news – 16 million, CNN news- 29 million, Al Jazeera – 10 million. Also, news pages were specifically selected for the analysis, since most of the news contents posted on their respective pages will be real life happenings and hence

will not be biased. Also, different news contents can create different emotions in the mind of users. Thereby we would be able to absorb and collect a varied range of emotions. A total of 4000 contents uploaded in the above mentioned Medias Facebook pages which they posted at different times of the year 2017 were analyzed. Individually analyzing each media house, for BBC the total reactions for the 1000 contents were found to be 16261825 which were distributed to “likes” (8472114), “love” (1072797), “HAHA” (597421), “Wow” (571675), “Sad” (966921), “Angry” (444448), “Shares” (4136449). For FOX news, total reactions for 1000 contents were 16017696 were “likes” (9062723), “Love” (1253113), “HAHA” (916086), “Wow” (350999), “Sad” (493872), “Angry” (1100246) and “Shares” (2840657). For CNN News, total reactions for 1000 contents were (16158456) which were distributed to “likes” (7685432), “love” (1265349), “HAHA” (725489), “Wow” (551378), “Sad” (463973) “Angry” (1245765), “Shares” (4221070). For Al Jazeera, total reactions for 1000 contents were (5119817) which were distributed to “likes” (2445688), “love” (173362), “HAHA” (120102), “Wow” (119104), “Sad” (314062) “Angry” (228650), “Shares” (1718849).

4. Hypothesis

H1: Emoticons having high activation/arousal impact virality

H2: Emoticons having high activation/arousal does not impact virality

5. Methodology

Correlation is a statistical technique used to find out the extent to which two variables fluctuate with each other. Correlation can be classified into two types. Positive correlation and negative correlation. Correlation ranges from -1 to +1. Perfect negative correlation means if one variable goes up, the other comes down. Perfect positive correlation means if one variable goes up, the other also goes up. In this paper, we discuss the correlation between shares and the total number of each emoticon a content gets in the social media platform. Higher the coefficient of correlation higher the dependency. We could find that there was no negative correlation and the difference was only the range at which positive correlation varied. The number of shares was kept as one variable and correlation was calculated by plotting it against the six emoticons which were available on the social media platform that we selected. Equation for coefficient correlation:

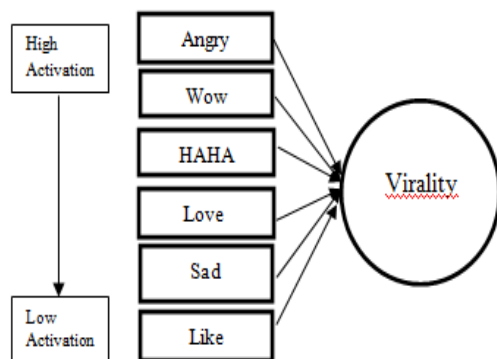
$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}}$$

n= number of pairs of scores

$\sum xy$ = sum of the product of paired scores

$\sum x$ = sum of x scores
 $\sum y$ = sum of y scores
 $\sum x^2$ = sum of squared x scores
 $\sum y^2$ = sum of squared y scores

6. Conceptual Model



7. Results

Table 1

vs SHARE	BB C	CNN	FOX News	Al Jazeera
Angry	0.29	0.33	0.28	0.36
Sad	0.22	0.32	0.16	0.58
Wow	0.31	0.45	0.59	0.39
HAHA	0.47	0.27	0.24	0.22
Love	0.61	0.67	0.48	0.52
Likes	0.81	0.81	0.60	0.80

Above is the table, which shows the correlation between the numbers of shares, a content gets and its corresponding correlation with the emoticons.

8. Analysis and Findings

From the table, it is clear that for “BBC”, “Love”, “HAHA” and “Wow” had the highest correlation with the number of shares. This goes against the theory that suggests, content that evokes negative emotions tend to go more viral. In fact, the results from BBC points to us that the positive emoticons such as “wow”, “HAHA” and “love” which can give a high activation/arousal to the users tend to go more viral than the negative contents.

Moving on to analyze the results of CNN and FOX news, the story remains almost the same in such a way that emoticons such as “wow” and “love” had a direct positive connection towards the number of shares a content gets. However, when we analyze Al Jazeera, the only Asian news channel that we considered, there is a strong correlation between the sad count and the

number of shares that the content gets. That is, the people who follow Al Jazeera tend to share the contents that evoke negative emotions that have less activation/arousal. In fact, analysis of data of Al Jazeera shows that the theory of negative content impacting positively on the number of shares stand true.

Hence, our hypothesis of online content that evokes the emotion of high activation/arousal positively impacts virality stands for BBC, FOX News, and CNN. But it failed for Al Jazeera.

It is important to note that emoticon Angry, which is highly negative and highly activating has got lesser influence on the number of shares. I.e. The content which evokes anger is less likely to go viral since people share it less. Since the motivation for a user to share online content is to become part of the group and create an identity, the user doesn't want to have an image of someone who shares content that can upset a larger audience.

9. Limitations and Future Scope

We defined and related online virality with the number of shares, a content receives. However, we were not able to give a specific number or an index which can act as a slab that determines whether a content can be called as viral or not.

The emoticon “like”, which has the highest correlation with shares, however, we are not considering. This is because we couldn't fit “like” into a positive or a negative emotion.

Also, the results showed that the contents which evoked negative emotions received a higher number of shares than the positive content. Though, studies prove that negative content tends to be more viral than the positive, it is important to see the fact that the other three news pages had viral contents which were more positive in nature. Also, negative contents they had were far less shared compared to positive contents. Studies can be conducted in which the demography of the people can be considered and can identify whether geographical and cultural factors play an important role in deciding whether a user share a particular content or not.

10. Conclusion

From the analysis, it is clear that users tend to share more positive news content than negative in the online platform. This can be read along with the study that suggests users want to share more positive information among the peers. People want to be messengers of good news and contents rather than one who spreads negative contents. A point to note here is the users of Al Jazeera, where most of them are largely from Asia. The users here tend to share content that has got negative emoticons such as sad and angry. We could interpret

this in the context of demography, which was different in the other three cases. Also, along with the positive reinforcement in the content, if it provides an activation then there are high chances of the content going viral.

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