

How ##MeToo Movement Became Global?

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ABSTRACT

##MeToo movement, which marks a movement against sexual harassment and sexual assault, has popularized and gone viral since late 2017. This project applies three interactive visualization approaches to investigate why ##MeToo movement became global. This project first visualizes why this movement could be defined as a success. Then this project encodes the underlying reasons to account for this success via sentiment analysis and streamgraph. This project ends up with the findings that people expressed trust in the victims at the beginning and the positive attitudes dominated the tone of discussion, which collectively boosted the transmission of the movement across the globe.

KEYWORDS

#MeToo Movement; Sentiment Analysis; Streamgraph; Global Impact

INTRODUCTION

On October 15, 2017, American actress Alyssa Milano posted a tweet which urged women to speak up and out about their experiences with sexual assault or harassment using the phrase “me too”. Overnight, social media erupted, as ##MeToo movement took hold in every corner of the world.

This project explores the question of how ##MeToo movement has achieved overwhelming success at the end of 2017. It deserves investigation in the sense that even though the civil rights activist Tarana Burke started the ##MeToo movement over a decade ago, this movement didn’t achieve overwhelming success till 2017.

This investigation draws upon an archive of over 390,000 tweets coded with the ##MeToo hashtag in December 2017 from Twitter. The sample tweets are as below.

text	favorited	favorite replyToSN	created	truncated
American Harem.. #MeToo https://t.co/...	FALSE	0 NA	11/29/2017 23:59	FALSE
@johnconyersjr @alfranken why	FALSE	0 johnconye	11/29/2017 23:59	FALSE
Watched Megan Kelly ask Joe Kee	FALSE	0 NA	11/29/2017 23:59	TRUE
Women have been talking about t	FALSE	0 NA	11/29/2017 23:59	FALSE
.@BetteMidler please speak to thi	FALSE	15 NA	11/29/2017 23:59	FALSE
We can't keep turning a blind eye	FALSE	0 NA	11/29/2017 23:59	FALSE
... The evidence that has been said	FALSE	0 NA	11/29/2017 23:59	TRUE

METHODS

Data Preparation

We pulled from the Twitter API to retrieve the tweets associated with ##MeToo hashtag in December 2017 and took advantage of an archive of tweets already coded with the ##MeToo hashtag downloaded from the data.world website.

World Graph

We developed two visualization procedures to present the global spread of the #MeToo movement. First, as days going up, the countries involved in the ##MeToo movement will be highlighted on the specific date. Second, users can also hover around the countries for

further details. Specifically, the essential news and link about the events in that country will show up on the left of the map.

Sentiment Analysis

We developed algorithms to disentangle each word in the ##MeToo tweets. Then we applied the NRC Emotion Lexicon to determine the tone of the content and presented the transition by bar chart race animations. The NRC Emotion Lexicon is a list of English words and their associations with eight basic emotions (anger, fear, anticipation, trust, surprise, sadness, joy, and disgust) and two sentiments (negative and positive), from which the annotations were manually done by crowdsourcing¹. The transition of sentiment was visualized on a daily basis through the animations of bar chart race.

Streamgraph

We then assembled a subset of tweets data spanning the top 6 hashtags associated with ##MeToo, which include #himthough, #mentoo, #feminism, #howiwillchange, #nomore, and #believeyou. Each hashtag was coded with the number of mentions on a daily basis.

RESULTS

World Graph

The world graph visualized the spread of #MeToo movement over 30 days. Twenty countries and regions were involved in the movement in a month. Canada was the first, followed by countries in the mid Asia and Europe. Japan and China engaged with this movement eventually in 2017.

Sentiment Analysis

The overall tone seems to be positive during the first month of the #MeToo movement. The rapid surge of the negative tone halfway implies the plausible exposure of some events or scandals. The feeling of anger, accompanied with trust, dominate people’s sentiment. These findings sort of denote that expressing sympathy and showing trust for the victims stimulate the global transmission of the ##MeToo movement.

¹ NRC Word-Emotion Association Lexicon could be accessed at this link:

<https://saifmohammad.com/WebPages/NRC-Emotion-Lexicon.htm>

Streamgraph

Streamgraph showed 6 important words appearances trend during the first month of the #MeToo movement. We saw #believeyou and #howiwillchange dominated the first few days and all the words died down after the first week.

DISCUSSION

While our dataset is still too small to predict the most up-to-date global transmission, it does point to trends given that 20 countries and regions have already been involved into the #MeToo movement even for the first month since its kick-off. This has also provided us with some insights on how the transmission of ##MeToo movement was at a sheer scale in late 2017.

We observed that in the first month from Nov 30 to Dec 31, #MeToo movement has spread to many countries in the world from North America to South America, Europe to Asia. The first responded country was Canada. We assume that such fast response is due to geographically vicinity of US and Canada. One week later, we found that many Asian countries in Mid Asian area like Pakistan, India and Afghanistan also responded. To our surprise, this response is faster than that in Europe from Finland, Italy and Norway. As those Middle Asian countries are less developed to countries in Europe, it is intuitive that more liberate and civilized European countries shall stand out faster to support #MeToo than those poorer countries in Asia. We believe that such faster response in India and Pakistan might be a result of great severity of sexual harassment in those countries. People's anger towards these violence accumulated for many years. We've found that in India, 20% women in rural areas got raped or sexual harassment. Indian government reacted poorly towards such violence. Therefore, #MeToo movement struck a chord with many female in those Asian countries. Their fast responses greatly showed their anger and hatred towards the issue. Two weeks' after European countries' response, #MeToo movement spread to China and Japan and South Korea. We argue that this relatively low response are due to two plausible reasons. First, people in those

countries are greatly influenced by a relative conservative culture. Basically, people prefer not to talk about their scandals to public, even though they were exactly the victims and were greatly injured in the incident. Such cultural influence might deactivate their willing to share stories in the first place, but in the end they still decide to stand out and support this event. The fast responses spread to many countries globally indicates the success of #MeToo movement.

As many people around the world responded to this event, we wish to know what their exact attitudes towards this movement. We also found that people's feeling towards the event gradually changed over the days. In the beginning of a few days, the amount of fear is more than the amount of anger. Later on we found people's anger overcome their fear towards the event. With that being said, people finally showed anger towards the sexual harassment and united together to fight for it. This feeling changed is another indicator of the success of the event.

The results of hashtags also confirmed the previous finding. As we can see from the streamgraph, the number of appearances of the #believeyou dominated the first two days of the event, indicating most of the people were actually showing trust and offering support to those victims. Then many people desired to get more involved into the affairs and try to help, the amount of #howiwillchange peaked in two days after. In general, people's overall attitude towards this movement is to give support and offer care, which again demonstrated the success of this movement.

FUTURE WORK

To begin with, it would make more sense of if we can include wider time scale to visualize the ebbs and flows of #MeToo movement by comparing a cache of tweets between the initial period and more recent time.

We could also delve deeply into the biographical information of the users. For example, we may visualize the demographics of individuals using the hashtag and see how different communities got involved in the discussion.

In addition to expressing trust in the victims, it would also be plausible that the social impact of #MeToo movement further drives or blocks its transmission. Given such, we could also visualize the people who were brought down by #MeToo movement and observe how this fueled or retarded the transmission.

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