Sentiment Analysis of #UniversalCredit & #ESA
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Abstract

This poster provides an analysis of Twitter comments focused on the two DWP benefits ESA (Employment and Support Allowance) and (UC) Universal Credit. The methods used were scraping social media data, followed by data-mining and sentiment analysis techniques. Results of the analysis revealed that: Authors of tweets were more likely to complain about how slow and error prone the Universal Credit system was than users tweeting about ESA. Tweets about UC often expressed concern that errors and the waiting period before the first UC payment were causing a rise in the use of food banks. Recurrent themes of austerity, poverty, and its effects (such as lack of food, and ability to care for oneself) can be found throughout both UC and ESA tweets, although were more prominent in the UC tweets.

Although this report compares the legacy benefit ESA to UC, it should be noted that it is hard to draw an equivalence between the two as ESA is one of several benefits that has been rolled into UC.

Objectives

The process aimed to investigate comments about UC and ESA on Twitter, to determine if there are any differences between perceptions of the two benefits, using sentiment analysis. Due to its open API, Twitter has become a popular space to perform sentiment analysis for business and research purposes. It has also become a prominent place for news outlets to share news and news-like media, particularly for the 16-24 age group (Ofcom, 2018, p22).

Methods

Data collection, sentiment analysis, and data visualisation were all undertaken in RStudio, utilizing the tidy method for sentiment analysis (Silge and Robinson, 2019). Tweets were scrapped from Twitter using their standard API service. Tweets collected from the #UC hashtag (N = 5000) were posted between 25/04/2019 – 29/04/2019, while tweets collected from #ESA (N = 1651) were posted between 20/04/2019 – 29/04/2019. Twitter's standard API both filters and limits the tweets that can be pulled from the site. All tweets were scraped on the 29/04/2019.

After the data was collected frequency tables were produced to explore the data and determine how the data would need cleaning, such as finding words which may not fit the context of DWP benefits. Retweets were removed from the dataset when performing sentiment analysis, as they heavily skewed the results towards one or two prominent tweets.

After cleaning the data, the tweets were filtered into smaller groups using the words which appeared most frequently. These tweets were then manually read to establish the in which context they had been used and look for themes which may not be apparent from frequency and sentiment analysis alone.

Results

When comparing them, mentions of foodbanks, austerity and homelessness are more likely to come from tweets with the hashtag #UniversalCredit than #ESA. Although this shows some strength of association between these words and that particular hashtag, this does not necessarily suggest that Tweeters perceive UC as being the cause of a rise in foodbank usage. As the tweets are from a very short timeframe, it is likely they are highly influenced by the news-cycle in which they were collected. The increased use of foodbanks has been widely reported in the news, and many of the retweets mentioned the Trussell Trust and their recent evidence on the increase of foodbank use due to UC (Trussell Trust, 2018). This possibly suggests that the Trussell Trust's reports have been influential in how news and social media have been speaking about Universal Credit.

Although Universal Credit aims to speed up and simplify the process of applying for benefits, some of the top words which contributed towards the overall sentiment of the tweets were 'errors', 'slow', and 'issues.' This may reflect increased difficulty with the new system compared to the old, but it could also be due to Tweeters being more likely to share stories focusing on these difficulties. Although the reason for this pattern is uncertain, it is interesting to note these terms don't appear within the sentiment contribution towards the ESA hashtag. There has been a lot of discussion around the problems with the five weeks wait before claimants receive their first UC payment (on the hashtag #FiveWeeksTooLong), and Trussell Trust has linked this wait to the increase of foodbanks (Trussell Trust, 2018). This may suggest there is a stronger association between UC and operational difficulties than the legacy benefit ESA within the Twittersphere.
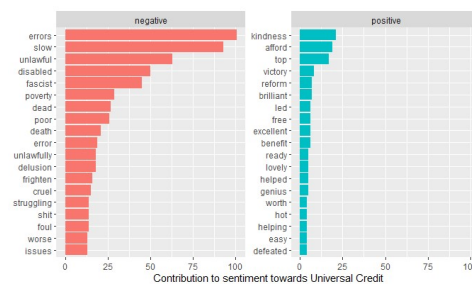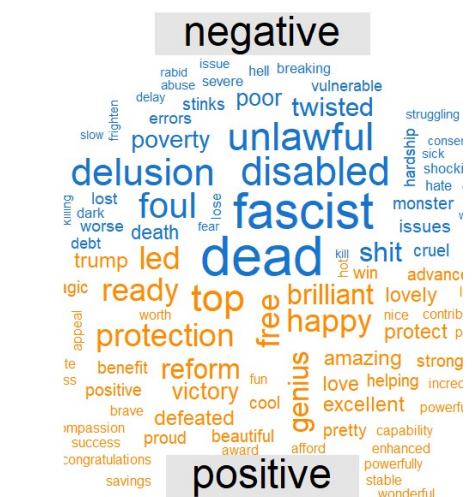
Fig. A

Fig. B.

Conclusion

Tweets about UC were more focused around impact of poverty and operational errors than tweets about ESA. A common theme which appeared within the tweets were their relationship to news stories and current events – users seemed more engaged with DWP related hashtags when expressing themselves politically rather than sharing personal stories of their own experiences.

The representation of poverty related tweets in the dataset is likely in part due to the prominence of these subjects in the news. Tweets featuring the #ESA hashtag were more likely to reference sickness and death, and the tweets being retweeted were often human-interest stories such as the death of Stephen Smith and difficulties with WCAs (Work Capability Assessments).

This tentatively demonstrates that there may be differences in how the public talk about the two benefits on Twitter. There may potentially be a link between how people tweet about these benefits and public perception of the two benefits. However, due to the demographic, technical, and conceptual limitations of sentiment analysis this can not be confirmed.

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