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An analysis of UK Policing Engagement via Social Media

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Abstract. Police forces in the UK make use of social media to communicate and engage with the public. However, while guidance reports claim that social media can enhance the accessibility of policing organisations, research studies have shown that exchanges between the citizens and the police tend to be infrequent. Social media usually act as an extra channel for delivering messages, but not as a mean for enabling a deeper engagement with the public. This has led to a phenomena where police officers and staff started to use social media in a personal capacity in the aim of getting closer to the public. In this paper, we aim to understand what attracts citizens to engage with social media policing content, from corporate as well as from non-corporate accounts. Our approach combines learnings from existing theories and studies on user engagement as well as from the analysis of 1.5 Million posts from 48 corporate and 2,450 non-corporate Twitter police accounts. Our results provide police-specific guidelines on how to improve communication to increase public engagement and participation.

Keywords: Social Media, Evidence-based policing, Engagement

1 Introduction

During the last decade, police forces all around the world have started to invest in the use of social media as a basis for engagement with the public, and guidelines have been created to train officers and to support this process.[1] However, while guidance reports claim that social media can enhance the reputation and accessibility of police staff to their communities,[2] research studies have shown that exchanges between the citizens and the police are infrequent. Social media often works as an extra channel for delivering messages but not as a mean for enabling a deeper engagement with the public [5].

Police organisations are generally very cautions when publishing in social media due to reputational risk [5]. Several research works, particularly those centred around US police, indicate that police organisations focus their efforts on posting about crime and incident-related information, but lack responsiveness when it comes to establishing dialogues with the citizens [9] [10] [4].

[1] https://policemediablog.files.wordpress.com/2016/01/social-media-handbook-europol.pdf

[2] http://connectedcops.net/wp-content/uploads/2010/04/engage.pdf

As in the Netherlands [12], policing organisations in the UK are moving towards a more decentralised style of social media usage. This has led to a phenomena in which police officers and local teams have started to use social media in a personal capacity (creating non-corporate accounts) in the hope of getting closer to the public.

In this work we aim to study the landscape of UK policing engagement via social media by analysing both, corporate as well as non corporate Twitter accounts. Previous studies targeting citizen engagement towards police forces have been mainly focused on studying the different social media strategies that the police uses to interact with the public [6], [10], [4]; and on analysing the characteristics of police accounts' messages that are attracting higher attention levels [7], [16]. Our work aims to advance these studies by combining learnings from existing theories on user engagement with the analysis of 1.5 Million posts from 48 corporate and 2,450 non-corporate UK Twitter police accounts. Our results provide specific guidelines on how to improve communication by the UK police to increase public engagement and participation. The contributions of this paper are as follows:

- Provide a deep state of the art analysis on social media engagement theories
- Explore engagement dynamics for both, corporate and non-corporate, UK Twitter police accounts
- Produce a set of guidelines to increase public engagement and participation based on a combination of the lessons learnt from the literature of social media engagement and from the results of our analysis

The rest of the paper is structured as follows. Section 2 presents our analysis of engagement theories, a summary of the works focused on police engagement, and an exploration of some of the key challenges faced by the police when engaging with the public via social media. Section 3 summarises our approach for analysing engagement dynamics across corporate and non-corporate accounts. Results are presented in section 4 followed by a set of recommendations (section 5) and a discussion on the implications and limitations of this work (section 6). Conclusions are reported in Section 7.

2 Understanding Engagement

In this section, we first take a look at theoretical studies to better understand the communication strategies and methods that have been proposed to influence people's awareness and engagement via social media. We dissect the more general studies, and then explore studies focused on social media police engagement. We conclude this section by highlighting some of the key barriers faced by policing organisations when trying to promote awareness and increase engagement using social media as a medium.

2.1 Social Media Engagement

Social media engagement has been studied through multiple lenses including (e.g., marketing, economics, social sciences, psychology, etc.) and within multi-

ple scenarios (product selling, elections, environmental campaigns, etc.). These studies, which are frequently based on the concept of 'social epidemics' (products, ideas, and behaviours diffuse through a population) aim to understand, among others, the following questions: how do we get people informed? How do we get people to talk (word of mouth)? How do we make people feel connected to a cause? How do we get people to act in new ways? Since our aim is to provide guidelines for the police on how to increase engagement, in this section we take a look to those works on engagement that take the perspective of the sender,[3] the one with a product to sell, and/or the information to give.[4]

The first important aspect to achieve engagement and impact is that the sender needs to have a clear message to tell with a very concrete action connected to it [1]. Policing organisations generally communicate many different stories (patrol or frontline policing activity, reports about incidents, missing persons, the development of partnerships with local authorities or emergency services, etc. [5]) and these stories can be connected to multiple types of actions from the public. Often it is unclear what people can do about these messages and how can they be involved. A user not only needs to be aware of the subject, she also needs to be aware of the various options to act.

The second important aspect of impact is the social transmission (word of mouth or social influence). Marketing professor at The Wharton School (University of Pennsylvania) Jonah Berger, lists three reasons why some products or ideas become more popular than others: quality, price and advertising. But he also claims that focussing solely on these properties will not make something catch on per se. Contrary to what a many media specialists say, Jonah Berger claims that virality is not born, it is made (i.e., there are many factors in a story that you can manipulate to enhance the possibility of something getting viral). Berger and his colleagues analysed many viral campaigns, messages, products and ideas, and extracted six principles of contagiousness or STEPPS[3]: *Social currency* (people share things that make them look good); *Triggers* (it is part of the users' everyday life, and on top of their minds); *Emotional resonance* (when users care about something, they share it with others); *Public* (the idea or product is built to show and built to grow); *Practical value* (people like to share practical or helpful information); and *Storytelling* (people tend to share stories, not information).

Vaynerchuk [17] emphasises the issue of differentiating each social medium when communicating a story, since different social media platforms are generally used for different needs and use different algorithms to promote content in the users' news feeds. A clear message is not enough. Senders also need to pay attention to context (which platform is being used? what is happening in the world?), timing (what are the circumstances?) and audience (to whom is the message target? how are they called to action? etc.)

[3] The term 'the sender' would cover all parties trying to 'sell' a product or idea. This would include a person, a company, an agency, etc.

[4] The term 'product' in this context is used as a placeholder for all things that you could 'sell' such as an idea, information, a story or an actual product.

2.2 Social Media Police Engagement

Studies targeting citizen engagement towards police forces in social media have been mainly focused on studying the different social media strategies that police forces use to interact with the public. An example of such studies is the work of Denef and colleagues [6]. This work studied the tweeting practices of British police forces during the August 2011 riots by performing a qualitative analysis of 547 tweets as well as multiple workshops and interviews with the police. They distinguish between two types of approaches: an *instrumental approach*, in which the police aimed to remain in a controlled position and keep distance to the general public, and an *expressive approach*, in which the police actively decreased the distance to the citizens. The study concludes that, while an expressive approach requires high maintenance, it generally leads to a closer relation with the public and to an increase in the number of followers.

Albert Mijer and Marcel Thaens [11] studied the differences of communication between North American police departments and identified three different types of social media strategies used by these departments: (i) the *push strategy*, in which social media is predominantly used to broadcast existing web content, (ii) the *push and pull strategy*, in which social media is used to provide citizens with information but also to get specific information from citizens, and (iii) the *networking strategy*, in which social media is used to build networks between individual police officers and citizens. Other works focused on US police departments ([9], [10], [4]) conclude that more social media interaction is needed. Police departments do not generally use social media to converse directly with members of the public, and they need to be more responsive in order to enhance engagement. They also highlight that police departments tend to focus their efforts on generating posts about crime, incidents, and public relations announcements, instead of using social media to mobilise citizens and enhance community engagement.

In addition to these works, Rudell and Jones [15] have explored the type of audience that responds to the messages posted by the police, focusing their research on Canada. They conclude that social media consumers tend to be younger and better educated. Older citizens, by contrast, saw little value in the use of social media.

In the context of the composite project,[5] Bayerl investigated the acceptance of social media in European Police forces [2]. This study concludes that, while acceptance of social media among police officers is generally high, perceptions vary significantly depending on the country and task. For example, officers in community policing judge the usefulness of social media more positively than officers in emergency help.

While all these works focus on understanding the different approaches of police communication, other works have focused on understanding what are they characteristics of those messages that get shared by the public (how are they written? when are they posted? which topics they talk about?).

[5] http://www.composite-project.eu/

Crump, J. [5] conducted a study over UK policing accounts and investigated, among other aspects, the key categories of topics posted by the police: *patrol* (reports from police patrolling), *information* (police requesting information from the public), *partners* (messages associated with emergency services or local authorities) and *other* (messages that did not relate to any of the above categories). In a more focused study of the *@dorset* Twitter account, our previous work [7] shows that posts about missing persons, road problems or weather conditions are more likely to be retweeted, since by sharing these messages users feel they are helping others. On the other hand, posts about crime are less likely to be shared.

Focusing on different content and user characteristics, Albert Mijer and colleagues performed a study over 1,000 Dutch policing Twitter accounts [16]. This study concluded that longer posts including URLs, mentions and hashtags, posted in the afternoon or evening are more likely to be retweeted. This study also analysed the authorship of the posts and observed that (a) having more followers is good but it reduces the effect of replies and mentions, (b) posting a lot reduces the chances of getting retweeted, and (c) older accounts have less chance of getting retweets, unless they have enough followers.

In line with these works, our purpose is to analyse engagement by observing the characteristics of those Twitter accounts and posts generating higher attention levels. Multiple key differences however can be highlighted. First, we aim to differentiate between corporate and non-corporate police accounts and observe the key differences in their engagement patterns. Secondly, we aim to complement our findings with existing theories of social media engagement and reflect on how these theories can be applied to police communication.

2.3 Barriers of Social Media Police Engagement

Different organisations face different challenges when it comes to engaging users via social media. In this section we summarise some of these challenges that we collected from the literature,[6] and from dialogues with members of the Centre for Policing Research and Learning.[7]

- *Reputational risk:* Reputation is a key element for multiple organisations, but particularly for the police. A post of an offending nature, such as the one from the Bordesley Green Police's official twitter account, where a female passenger was silence by a seatbelt,[8] can damage the reputation of the police and it is unclear if, and how, this reputation can be recovered.
- *Official communication channels:* Events and questions reported to the police need to be registered via the official channels, such as 911 calls. Nowadays, the public is getting used to seeing companies and organisations using

[6] http://www.theiacp.org/Portals/0/documents/pdfs/2016-law-enforcement-use-of-social-media-survey.pdf

[7] centre-for-policing.open.ac.uk

[8] http://www.birminghammail.co.uk/news/bordesley-green-police-twitter-cartoon-7469583

social media 24/7 as communication channels,[9] and have started to expect the same coverage and behaviour from the police. However, social media is not the main policing communication channel, and the police social media accounts are not active 24/7. There is therefore a mismatch between what the public expects, and what the police provides.

- *Surveillance*: Multiple studies have shown that an increase in the number of followers helps to increase engagement [14]. To gain more followers, one of the most common strategies is to pro-actively follow other accounts. This action however is easily misinterpreted, since some users may feel surveyed if a police account is following them.
- *Variety of topics*: Police communication messages span many different topics, such as traffic, crisis, public events, and crime prevention. However, different topics may require different types of communication [1]. It is therefore important to identify these different topics, understand their audiences, and shape the messages accordingly.
- *Legitimacy*: For the police to be effective in performing their duties they need the trust and confidence of the communities they serve [13]. Studies have shown that establishing a direct channel with citizens via social media and using it to communicate successes does help the police in strengthening their legitimacy, but only slightly and for a small group of interested citizens [8]. Random videos and images captured by the public about its actions can also help to enhance legitimacy (see for example this image of a police officer in the UK helping an old lady who lost her way[10]) as well as to decrease it (as it happened with the NYPD social media campaign in New York when people started posting images of police brutality.[11])
- *Budget*: For engagement as a subject, there are often no, or limited, budgets allocated. This limits the potential training of police staff as well as the organisation of concrete campaigns to engage the public more closely.

3 Engagement Analysis

In this section we present an overview of the data that have been collected for both, corporate and non-corporate police Twitter accounts and we present an overview of the methodology used to analyse these data.

3.1 Data Collection

We collected a total of 154,679 posts from 48 different corporate Twitter accounts[12] and 1,300,070 posts from 2.450 non-corporate Twitter accounts.[13] These

[9] https://searchenginewatch.com/sew/study/2304492/brands-expected-to-respond-within-an-hour-on-twitter-study

[10] https://twitter.com/CoastInspector/status/833665602850062336/photo/1

[11] http://www.nbcnewyork.com/news/local/NYPD-Twitter-Backlash-myNYPD-Fail-Negative-Photos-Flood-Social-Media-256275661.html

[12] https://twitter.com/nickkeane/lists/uk-police-force-twitters

[13] https://twitter.com/nickkeane/lists/ukcops-who-tweet

data was collected during January 2017 and goes back the maximum limit for each account, which Twitter establishes as the 3,200 of a user's most recent tweets. This is translated into tweets that went back to January 2014 in some cases. Twitter IDs for both, corporate and non-corporate accounts were extracted from the following Twitter lists generated by Nick Keane;[14] senior policy advisor on digital engagement and social media for UK policing.

3.2 Engagement Indicators

In the Twitter platform, retweeting, favouring and replying are actions that require an explicit interaction from a user towards another one. These actions have been repeatedly considered in the literature of social media as engagement indicators [14]. Note that when users retweet, they spread the message to their followers (as opposed to favouring or replying), leading to a potential stronger involvement and engagement. In this work we consider retweets as indicators of engagement for the rest of our analysis, leaving favourites and replies for our future lines of work. Tweets that have been retweeted at least once are considered seed-posts. Those tweets that have not been retweeted (i.e., have not obtained any direct engagement from the citizens) are considered non-seed posts.

All corporate accounts except two (@sussex_police and @ASPolice) have more than 60% of their tweets retweeted. Figure 1 displays the average number of retweets received, with most organisations receiving an average of 10 retweets per tweet. Among the top we find the Metropolitan police (MET), with more than 60 retweets per tweet, followed by Jersey, the National Crime Agency, West Midlands and Scotland. These organisations follow different strategies when it comes to achieving engagement. While some of them post original messages, others gather messages from relevant sources and retweet them. Figure 2 shows the top organisations in following this strategy. For example, more than 65.49% of the tweets posted by Northumbria are not original but gathered from other sources. A similar trend can be observed for Nottinghamshire, Jersey, Durham and North Yorkshire police. Note that most of the times these tweets are originated from a police-related Twitter account. The most retweeted account is Action Fraud (@actionfrauduk), retweeted 1,200 times between the 48 corporate accounts, followed by CEOP (@CEOPUK), GetSafeOnline.org(@GetSafeOnline), The National Crime Agency (@NCA_UK) and Prevent Tragedies (@PreventUK). The most retweeted non-corporate account is Stephen Martin (@ACCMartinPSNI), assistant Chief Constable of the Police Service of Northern Ireland.

A higher variance can be observed for non-corporate accounts, with 50% of them having more than 60% of their tweets retweeted. Figure 3 shows the top 47 non-corporate accounts, with some of them showing a ratio of retweets of more than 80%, and a much higher number of retweets on average (more than 150 for all of those 47 accounts). Note that not all tweets from these accounts are original. As for corporate accounts, non-corporate accounts also retweet heavily from other police accounts (either corporate or non-corporate), however, a wider

[14] https://twitter.com/nickkeane

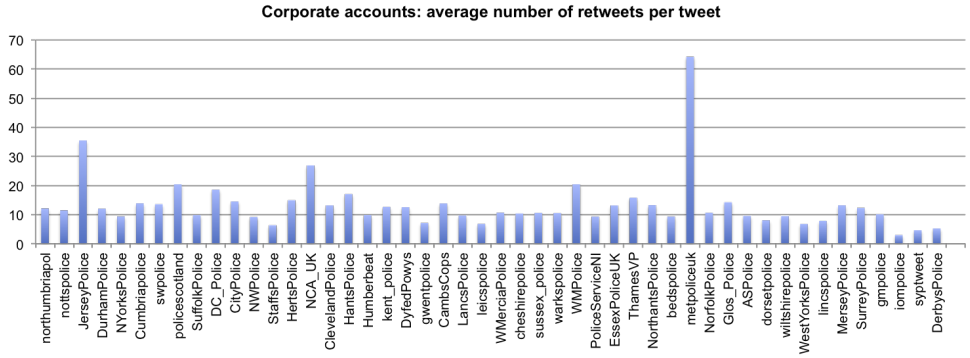

Fig. 1: Average number of retweets per tweet posted by corporate accounts

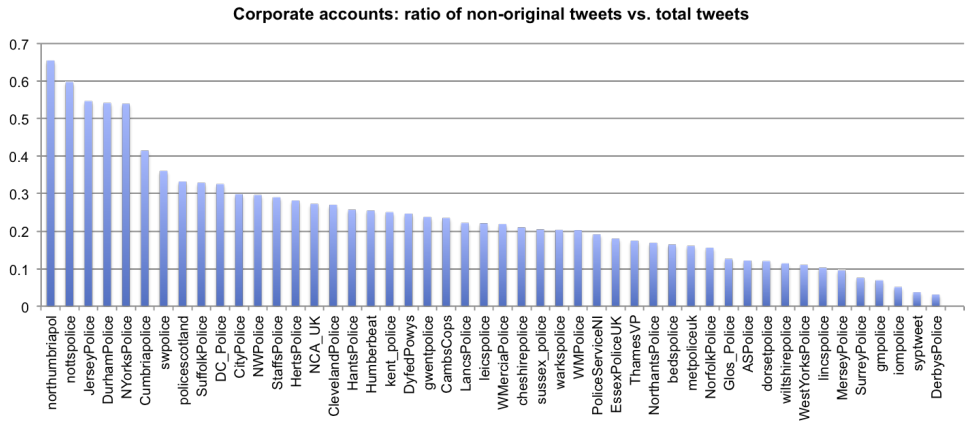

Fig. 2: Ratio of non-original tweets posted by corporate accounts

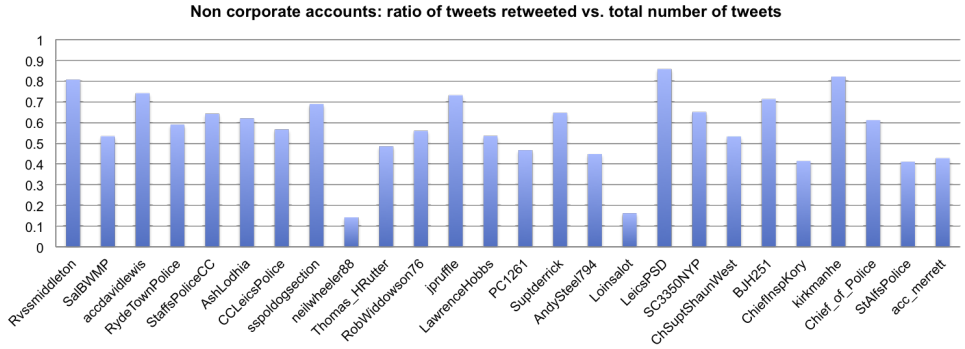

Fig. 3: Ratio of retweets retweeted per non-corporate accounts

range of sources (citizens, politicians, councils, and non policing organisations) can be observed among the authors from which non-corporate accounts retweet.

3.3 Engagement Dynamics

To analyse engagement dynamics for both, corporate and non-corporate accounts, we use a combination of qualitative and quantitative approaches. We first make use of our previously developed Machine Learning approach [14] to identify which factors correlate with engagement and how they differ across corporate and non-corporate accounts. We then explore a random set of 2,000 tweets from each group and perform a manual analysis to observe any additional differences. Identifying which factors correlate with engagement requires the examination of the impact of individual analysis features on the performance of our retweeting-prediction model, and then inspecting the effects of those features. The features used for our analysis are summarised in Table 1. Our approach consists of a two-stage process that functions as follows:

1. *Identify Seed Posts:* we first detect what are the most discriminative features that characterise seed posts - i.e. yield a retweet - vs. non-seed posts - i.e. posts are not retweeted. We implement this step by generating a Machine Learning (ML) classifier and performing feature selection over the model. Classifiers are created using balanced datasets. These datasets are balanced by performing random undersampling from the dominant class (seed or non-seed), resulting in a 50:50 split between seeds and non-seeds.
2. *Predict Activity Levels:* secondly we predict the level of activity that seed posts will generate - i.e. predicting a ranking based on the expected number of retweets that each post will yield. For performing this prediction we induce a logistic regression model and then inspect the coefficients of this model to see how a change in each feature is associated with the likelihood of engagement.

4 Results

Table 3 shows a summary of the datasets used for this analysis, including the total number of posts and the total number of posts after filtering. Note that, in order to focus our analysis on those tweets generated by either corporate or non-corporate accounts we are eliminating from our dataset all of those posts that are retweeted, but not original, from these accounts. After filtering, we report the number of seeds (tweets that received an engagement action) vs. non-seeds.

We begin our analysis by examining the performance of different feature sets on predicting seed posts and how these feature sets differ between corporate and non-corporate accounts. Table 2 presents the performance of the J48 classification model when trained on isolated feature sets (social features, content

[15] https://en.wikipedia.org/wiki/Gunning_fog_index
[16] http://sentistrength.wlv.ac.uk/

Table 1: Social and Content Features

Social Features	**Description**
In-degree	Number of incoming connections to the user
Out-degree	Number of outgoing connections from the user
Post Count	Number of posts that the user has made since being a Twitter member
User Age	Length of time that the user has been a member of Twitter
Post Rate	Number of posts made by the user per day
Content Features	**Description**
Post Length	Number of words in the post
Media	Indicates if the post contains a picture or a video
Complexity	Measures the cumulative entropy of terms within the post to gauge the concentration of language and its dispersion across different terms. Let n be the number of unique terms within the post p and f_i is the frequency of term t within p, therefore complexity is given by: $$\frac{1}{n}\sum_{i=1}^{n} f_i(\log n - \log f_i) \quad (1)$$
Readability	Gunning fog index using average sentence length (ASL) and the percentage of complex words (PCW): $0.4 * (ASL + PCW)$ This feature gauges how hard the post is to parse by humans.[15]
Referral Count	Count of the number of hyperlinks within the post
Time in the Day	The number of minutes through the day that the post was made. This feature is used to identify key points within the day that are associated with seed or non-seed posts.
Informativeness	The novelty of the post's terms with respect to other posts. We derive this measure using the Term Frequency-Inverse Document Frequency (TF-IDF) measure: $$\sum_{t \in p} tf_{t,p} \times idf_t \quad (2)$$
Polarity	Assesses the average polarity of the post using Sentistrength.[16] Our inclusion of this feature is to assess whether either positive or negative post polarity is associated with seeds or non-seeds, or whether subjective or objective posts also have an association.

Table 2: Performance of the J48 classifier trained over different feature sets

corporate	P	R	F1	MCC
Social	0.678	0.670	0.666	0.348
Content	0.819	0.816	0.815	0.635
Social+Content	0.872	0.872	0.872	0.745
non-corporate	P	R	F1	MCC
Social	0.948	0.946	0.946	0.894
Content	0.688	0.686	0.686	0.374
Social+Content	0.958	0.957	0.957	0.915

features) and then all features together. Performance is computed using 10-fold cross validation and considering Precision, Recall, F-1, and the Matthew's correlation coefficient (MCC) as evaluation measures. We can observe for both, corporate and non-corporate accounts, that the combination of features exceeds the performance of using solitary feature sets. However, for corporate accounts content features perform better than social features, while the opposite happens for non-corporate accounts. This indicates that, *for non-corporate accounts the user that posts the message is key to generating engagement, while for corporate accounts the content of the tweet is more relevant*. When performing feature selection over the generated models (using subset selection with best first search) we observe that, for corporate accounts, the most discriminative features to differentiate seed vs. non-seed posts are: informativeness, media and in-degree, i.e., engaging posts from corporate accounts are informative, usually contain images or videos, and tend to originate from accounts with a high number of followers. Engaging posts from non-corporate accounts are also informative, usually contain URLs, images or videos and are posted by active accounts (i.e., accounts with a high post rate) but not necessarily popular accounts (i.e., accounts with a high number of followers).

Table 3: Statistics of the social media datasets used for these experiments

Dataset	Total	Filtering retweets	seeds	non-seeds
corporate	154,679	118,220	91,758	26,463
non-corporate	1,300,070	939,776	375,988	563,788

Figure 4 presents the plots of the feature coefficients in the logistic regression model. A positive value coefficient for a given feature (i.e., appearing above the x-axis) indicates that an increase in the magnitude of this feature has a positive bearing on the probability of a post initiating engagement. Conversely, a negative value (i.e., appearing below the x-axis) indicates that the feature has a negative effect on engagement probability, in essence the coefficients are log-odds ratios. Therefore by inspecting the coefficients of the model we can examine how engagement dynamics differ between corporate and non-corporate accounts and across the features. The logistic regression model also includes significance probabilities for each calculated coefficient.

Figure 4 indicates that there are similarities in engagement patterns between the examined groups (corporate vs. non-corporate). We can observe that for both type of accounts, tweets receiving higher engagement present the following patterns: they are longer, easy to read, have low complexity (i.e., avoid the use of complicated terms) and high informativeness (present new information). They have urls and media (pictures or videos) associated with them. Interestingly, mentions present a negative coefficient, indicating that the presence of mentions negatively impact engagement levels. Due to the nature of police communications, messages also tend to be more negative than positive (i.e., contain words associated with negative sentiment, such as crime, injury, accident). The key differences between the engagement patterns of these two groups can be observed

in the social features. While tweets receiving high attention levels come from active corporate accounts that have been established for a longer time and have a high number of followers, for non-corporate accounts the authors of highly retweeted posts tend to have a high number of followers but they also follow many others.

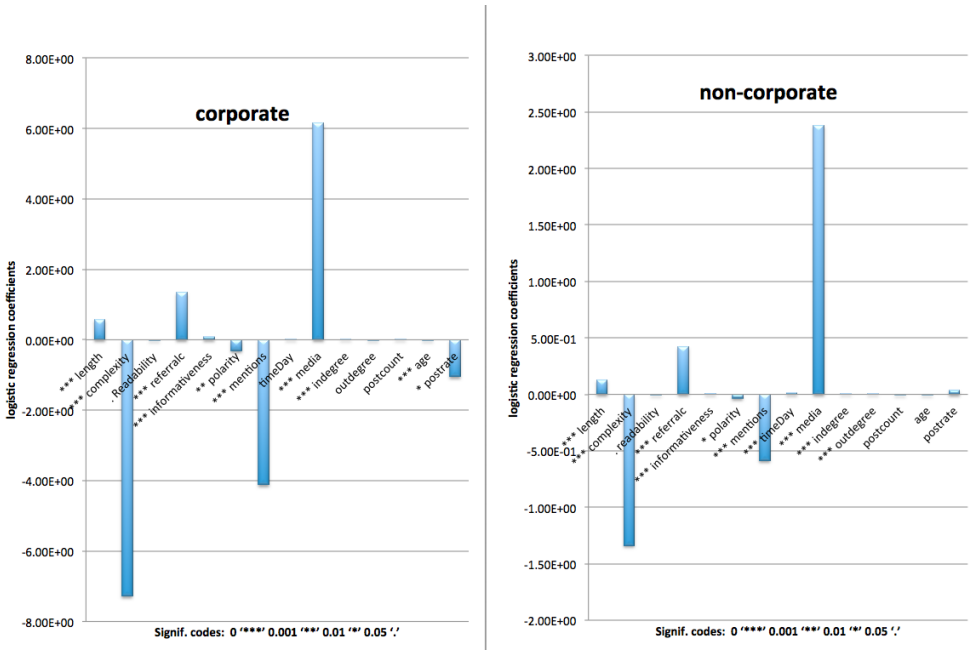

Fig. 4: logistic regression coefficients

Regarding the discussed topics, by performing a frequency analysis of hashtags and manual analysis of 4,000 posts we observed that, for corporate accounts, tweets receiving higher engagement talk about roads and infrastructures, events, missing persons, and tend to mention locations. They also aim to raise awareness about important problems, such as domestic abuse, hate crime, or modern slavery. On the other hand, tweets receiving lower engagement talk about crime updates: such as burglary, assault or driving under the influence of alcohol, following requests (#ff) and advices to stay safe. In the case of non-corporate accounts, one of the key popular hashtags is #wearehereforyou. Seed posts tend to be those in which police officers communicate with the public to offer or ask for help, provide guidance, reassure safety, and advise on local issues. Non-seed posts, on the other hand, are also focused on crime reporting. From our manual analysis of content we have also observed that, while the tone tends to be more formal for corporate accounts and more friendly for non-corporate accounts, tweets receiving higher engagement levels for both, corporate and non-corporate are frequently humorous. See as example this tweet from Chester Po-

lice about parking problems outside the university,[17] or the following about a robbery posted by Northants police.[18]

5 Engagement Guidelines

Our analysis of content and literature have provided us with many useful insights that are summarised in the following guidelines:

- *Focus*: Police organisations deal daily with multiple different issues and may want to communicate with the public for a wide range of purposes (alert them about emergencies, advice them on strategies to prevent crime, request their help to find a missing person, establishing collaboration initiatives by local teams, etc.). When communicating to the public it is important to bare in mind, the key goal to achieve, the type of audience that needs to be engaged (general public, local communities, teenagers, etc.) and provide a clear message with a very concrete set of actions connected to it [1].
- *Be clear*: Complex messages full of police jargon are difficult to understand. Messages should be simple, informative and useful. Additional information such as URLs and images/videos also help to make the message more attractive. An emotional undertone and talking about concrete stories (e.g., success stories of community members and police staff) can also help to maximise the STEPPS criteria [3] and enhance dissemination. Respectful and sensitive humour can also make the message more engaging.
- *Interact*: Communication for corporate accounts generally functions as broadcasting, or a one-way communication, from the organisations to the public. One of the key elements that can be observed from our manual analysis of tweets is that non-corporate accounts are more interactive than the corporate ones. Another observation is that although non-corporate accounts may not have a large number of followers, they tend to have some key followers (e.g., local neighbours). They know their communities better and they manage to engage their community members by participating in discussions and providing direct feedback to users. Corporate accounts could benefit from identifying highly engaging police staff members and community leaders, and involve them more closely in their social media strategy.
- *Stay active*: Out analysis shows that having an account for a longer time may not be helpful if the account is not sufficiently active. Engagement should therefore be adopted as a long-term commitment.
- *Be respectful*: As we pointed out in section 2.3, reputation and legitimacy are extremely important factors for the police. The content that is posed should be polite, safe, and respectful.

[17] https://twitter.com/PoliceChester/status/649264215455363072/photo/1
[18] https://twitter.com/NorthantsPolice/status/788406138597441536

6 Discussion and Future Work

This paper presents an analysis of policing engagement via social media. The aim of the work is to understand the current landscape of UK police engagement via Twitter, particularly the key factors that differentiate engagement via corporate and non-corporate accounts, and to complement the lessons learnt from a data analysis perspective with insights derived from existing theories of engagement. In this section we highlight some limitations of this study and multiple directions for future work.

While multiple engagement indicators can be explored (particularly retweets, replies, and favourites), this work focused on retweets as a key indicator. When retweeting, the user is sharing content and making it her own, which can be interpreted as a stronger sign of engagement. However, it is part of our future work to capture replies and favourites to provide a more comprehensive overview of engagement. Our future work also aims to assess variances of engagement dynamics across disparate social media systems since our current study focuses only on Twitter.

A phenomenon that we have observed when conducting this study is that corporate and non-corporate accounts tend to heavily retweet from each other and from other police-related organisations. Our study therefore reflects not only what attracts citizens to social media policing content, but also what attracts other police accounts to this content. Our future work aims to differentiate among the engagement actions performed by citizen accounts, versus the engagement actions performed by police-related accounts.

While multiple relevant observations have been extracted from our data analysis approach and the manual assessment of posts, our work will strongly benefit from conducting a series of interviews with citizens to better understand their motivations to engage with the police via social media, and the factors that attract them to the policing content. Moreover, it is important to understand who is attracted to this type of content and communication medium and who is not. Is the police reaching a wide set of the general public or only particular subsets of users?

Police engagement via social media is a complex topic that can be studied from multiple different angles and perspectives. We hope that our analysis will serve as a basis for future work within the social web and evidence-based policing communities and enable further research into the examination of policing engagement dynamics.

7 Conclusions

Pursuing engagement with their communities, UK police department, officers and staff are actively post via corporate as well as non-corporate social media accounts. In this paper we study the landscape of UK police engagement in Twitter by analysing nearly 1.5 Million posts from 48 corporate and 2,450 non-corporate accounts. We complement the findings of our data analysis with the

lessons learnt from a deep state of the art investigation on the different theoretical perspectives towards increasing engagement. Our results provide police-specific guidelines on how to improve communication to increase public engagement and participation.

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