

## Who is Influencing the #GDPR Discussion on Twitter: Implications for Public Relations

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### Abstract

*On May 25, 2018, the European Union (EU) implemented the General Data Protection Regulation (GDPR) to protect individuals' privacy and data. This regulation has far-reaching implications as it applies to any organization that deals with data of EU residents. By studying the discussion about this regulation on Twitter, our goal is to examine public opinions and organizational public relations (PR) strategies about GDPR. The results show that the regulation is being actively discussed by a variety of stakeholders, but especially by cybersecurity and IT-related firms and consultants. At the same time, some of the stakeholders that were expected to have a more active role were less involved, including companies that store or process personal data, government and regulatory bodies, mainstream media, and academics. The results also show that the stakeholders mostly have one-way rather than two-way communication with their audiences, thus fulfilling the rhetorical than relational function of PR.*

### 1. Introduction

On May 25, 2018, European Union (EU) has implemented the General Data Protection Regulation (GDPR) with the main goal to protect individuals' privacy and data [22]. And even though the regulation's jurisdiction is only over the European Economic Area, it has far-reaching implications for organizations outside EU as well. This is because the GDPR covers any organization that stores or processes data of EU residents, even if it is located outside EU. One of the main provisions of GDPR is that organizations (controllers and processors of personal data) must use effective safeguards to protect individual's data (for example, by anonymizing records). Furthermore, following the privacy-by-design concept [10], GDPR calls organizations to ask for users' explicit consent before collecting their data, and once collected, to use the "highest-possible" privacy settings by default. Under GDPR, individuals (i.e., data subjects) now also have the right to request a copy of their data collected by an organization or request their data to be deleted.

Organizations have to report any data breaches related to user privacy within 72 hours. If an organization found to be non-compliant, it may face a steep penalty (up to 4% of the annual worldwide net sales or up to €20mm, whichever is greater). While only in effect since May 2018, GDPR has already impacted many organizations and how they conduct business online and offline [39], including organizations that extensively collect and process personal data for their services and that largely base their business on such data in the areas of social media, healthcare, mobility and financial services [58].

The International Association of Privacy Professionals estimates that Fortune's Global 500 companies will spend close to \$8 billion to guarantee compliance with the GDPR, and that at least 75,000 privacy jobs will be created worldwide as a result of the regulation [46]. This is because many organizations have to create new positions to ensure ongoing compliance with the regulation: from hiring a Data Protection Officer to conducting internal privacy impact assessments, to having a team of developers redesign information systems in order to ensure maximum privacy protection. Organizations also have to implement mechanisms to collect users' consent and process users' requests to access, delete or correct their own data.

Organizations might have to turn to third party vendors or build in-house capabilities to secure their digital infrastructure and follow security best practices, which may involve staff taking appropriate cybersecurity training and information security certification such SOC2 or ISO27001 [12]. Finally, organizations may need to seek legal experts who are knowledgeable in issues related to GDPR compliance to update current legal documents such as privacy policies or in case of legal trouble. Considering the complexity and resources required to become and stay compliant with GDPR, it is expected that small- and medium-sized enterprises (SME) would face the most challenges in this area, especially information-intensive SMEs that drive their revenue growth from online advertising [57]; while larger organizations with larger budgets may view this challenge as an opportunity to achieve a competitive advantage [12].

As the implementation of this ground-breaking regulation is affecting multiple stakeholders, it swiftly became a worldwide topic of interest. Its implications are discussed in various venues [17] and especially on social media. The present study aims to contribute to the public relations (PR) literature by examining public opinions around GDPR shared on Twitter with the primary goal of identifying social media influencers on this topic and the PR functions they fulfill through participating in the #GDPR hashtag. In doing so, we aim to highlight how organizations and major stakeholders manage their public relations' strategies on social media at times of implementing a new policy regulation, an area that we believe has not gotten much attention in PR-related research.

## 2. Literature review

### 2.1. PR and social media influencers

This work contributes to the growing body of PR literature related to social media usage by organizations including studies that examined how organizations use social media to communicate and influence their target audiences and other stakeholders [19], how different managers use social media for PR [11], how non-profit advocacy organizations make their voices heard on social media [31], and how an agreeable corporate character enhances public engagement and organizational public relations on social media [47]. While not directly, our work also expands the Social-Mediated Crisis Communication model [36], originally proposed to guide organizational responses on social media during a crisis, to include cases of how social media can be used for public relations during the implementation of a far-reaching regulation, such as GDPR.

We also build on the early work related to the role of social media influencers in PR campaigns. Social media influencers are prominent individuals or organizations who set agendas and can sway others [38]. These are experts, celebrities, micro-celebrities, early adopters, market mavens, enthusiasts and others [43], who are capable of starting a viral spread of information and memes in social media [66]. Social media influencers are thus considered a vital capital for organizational public relations [18]. Consequently, monitoring and integrating the influencers become one of the most important PR strategies on social media [3]. In this study, we examine social media influencers among Twitter users (individual and organizational) in the context of implementation of the GDPR regulation. To identify the influencers, we need to first define the

various categories of stakeholders who engage on Twitter.

### 2.2. Expected stakeholders on Twitter

Considering the prevalence of digital enterprise across different sectors, we expect a wide range of different stakeholders to engage in discussions on Twitter, including: consumers, customers and members from the public whose data is being collected by third parties, businesses affected by this regulation (controllers and processors of personal data), businesses offering GDPR compliance services (from legal advice to digital services), government agencies (e.g., data protection and information privacy offices), and news media (considering the significance of this regulation). This section briefly reviews the previous studies to determine whether and how the above-mentioned stakeholders use Twitter in general. We will use this information to contextualize our results when analyzing the actual influencers engaged in the #GDPR conversations on Twitter later in the paper.

**Consumers and customers:** Social media platforms have become hubs for consumers and customers to seek information about brands, products, and services, rate them, and communicate their experience with these products [13]. By following a brand's social media account, consumers may subscribe to the latest updates and discounts shared by the brands [50]. Consumers also use social media to recount their consumption choices and sometimes to complain about a product or service [6]. Thus, social media has increasingly changed the role of the public from passive receivers of information to active opinion shapers [60].

**Businesses:** Organizations consider public involvement with stakeholders an integral part of their PR strategy [56]. As more and more people are joining various social media platforms and publicly sharing their opinion about events, products and services, an increasing number of CEOs and companies are also turning to these platforms to market their products and services, engage with customers and understand their needs as well as conduct competitive intelligence [35, 40]. As of 2015, over 96% of businesses use social media to market their brands [55]. Many companies also view social media as a platform for building reputation and trust with their stakeholders, including current and prospective customers [49].

**Governments and regulators:** Social media platforms have increasingly become the new public sphere. Citizens use features offered by these sites to communicate their messages to politicians, raise complaints and express their opinion about politics or new regulations [59]. Subsequently, governments and politicians have increased their presence on social

media to raise public awareness about various regulations and policies [4], enhance public diplomacy [14], set policy agenda [53], address citizens' concern [27], and engage voters during elections [63]. Social media has also become a crucial tool for governments to reach the public during a crisis [51].

**Academics:** Academics and academic institutions use social media [30], and especially Twitter, to promote their own research or increase awareness about particular areas of research [24], to network with peers and online research communities [45], and to interact with and facilitate students' engagement [26]. Social media accounts of academics have also become sources for people from the general public seeking experts opinion on issues of public interest [23]. An increasing number of university professors also use their social media accounts as advocacy platforms to raise awareness and promote social change about issues such as social justice [24]. Moreover, universities use Twitter to share their news with the general audience [44].

**Mainstream media:** Social media complement mainstream media by offering new channels to access the latest news and share them with one's friends and followers in real-time [33]. Realizing the effectiveness and efficiency of social media in news sharing, mainstream media agencies have turned to these platforms to broadcast their own news and connect with their readers. Journalists also turn to social media to identify sources and better understand citizens' voices, trending topics, and public opinion on different issues to enrich and inform their own reporting [15]. Traditional media and social media outlets have, thus, become largely interrelated and they reinforce each other in setting the news agenda [32].

**Advocacy groups and activists:** Non-profit organizations use social media for advocacy work and to influence the policymaking process. Twitter and other social media platforms offer advocacy groups a low-cost means to swiftly disseminate information, build relationships, and mobilize supporters [31, 42]. Twitter, in particular, has become an established platform for activists to raise awareness and mobilize about various issues ranging from environmentalism [64] to protests during the Arab Spring period [2].

Based on the literature, we expect a wide range of stakeholders to be active on Twitter, including consumers, businesses, governments, regulators, academics, mainstream media, advocacy groups and activists. To confirm their presence and use of Twitter when discussing GDPR, our first research question (RQ) is:

RQ1: Who are the social media influencers in the #GDPR Twitter discussion?

## 2.3. Performing PR functions on Twitter

Broadly speaking, PR supports the following two functions: a *rhetorical* function that focuses on establishing one-way communication from the stakeholders to the public, and a *relational* function that focuses on building mutual relationships between the stakeholders and the public [34, 62]. Social media is an extremely valuable information and communication tool as it is capable of facilitating both of these functions [65]. To study how exactly social media facilitates the rhetorical and relational PR functions in the context of this case study, we turned to *social media listening* techniques (also known as *social media analytics* or *monitoring*). Unlike more traditional data collection instruments of public opinions such as surveys and interviews that have shown to produce partial or inaccurate responses [5], social media listening enables an unobtrusive collection of public opinions on a particular topic.

For the purposes of our research, we will use Twitter to gauge public opinions. Among many available social media platforms, Twitter has emerged as one of the most popular platforms to share news, opinions and comments on a variety of topics [1, 41]. As of 2018, Twitter has 326 million monthly active users [54]. Due to the public nature of posts on Twitter (also known as tweets) as well as its powerful API mechanism that provides access to tweets via a machine-readable protocol, Twitter is now a go-to data source for social media listening. From a PR perspective, Twitter is an example of a platform that offers the affordances to realize both the rhetorical and relational functions. In particular, organizations or CEOs can use their own Twitter handle to share important announcements with their followers, but they can also use Twitter's hashtag, retweet and reply mechanisms to engage in two-way conversations with different stakeholders on the platform [35]. Thus, we ask:

RQ2: What types of PR functions (rhetorical vs relational) do the stakeholders fulfill in the #GDPR discussion on Twitter?

With this in mind, we turn to the collection and examination of tweets about GDPR to identify social media influencers and stakeholders among various Twitter users and to investigate the PR functions they fulfill while engaging with this topic.

## 3. Methodology

Using Netlytic, a cloud-based tool for social media data collection and analysis [25], we collected all public tweets mentioning the #GDPR hashtag during a period of 6 months. Relying on Twitter's Search API, Netlytic

collected up to 1000 most recent relevant tweets every 15 minutes. The data collection period was from the time GDPR was enacted on May 25 to November 25, 2018 (6-month study period). In total, we collected 738,824 tweets and retweets shared by 246,862 unique accounts, with 8,920 accounts posting or retweeting more than 10 tweets over the studied period.

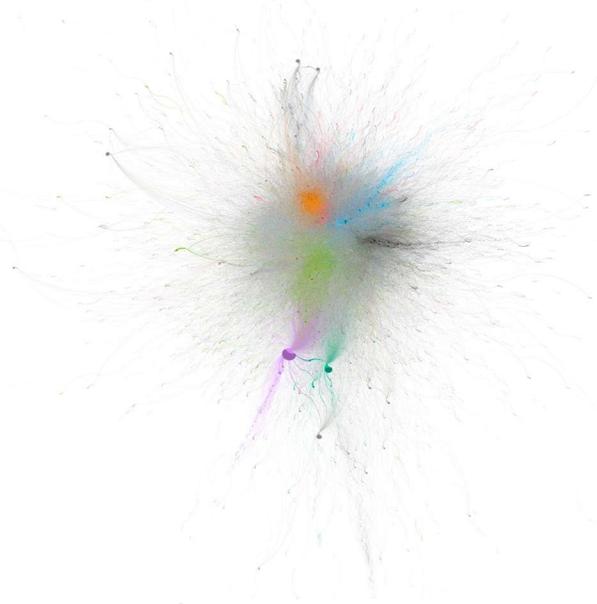
To answer our first research question and to identify social media influencers, we use a Social Network Analysis (SNA) approach, a popular method to study opinion leaders on social media [1, 28]. In accordance with SNA, different accounts may exert different types of influence in an online network. In case of Twitter engagement, there are three common types of influencers that can be operationalized:

- 1) *Most Active Posters*: Twitter accounts who are actively posting using the GDPR hashtag.
- 2) *Most Engaging Accounts*: Twitter accounts who frequently mention, retweet or reply to many other accounts.
- 3) *Most Mentioned Accounts*: Twitter accounts who are mentioned, retweeted or received replies from many other accounts.

To identify the first type of Twitter influencers (most active posters), we ranked all Twitter users in our dataset based on the number of posts they shared. To determine the second and third type of influencers, we turn to two popular SNA metrics: *out-degree* and *in-degree* centralities [20, 61]. For a given account, the *out-degree* centrality counts the number of other accounts that this account mentioned, retweeted or replied to. In contrast, the *in-degree* centrality counts the number of accounts that mentioned, retweeted or replied to a given account. To calculate these centrality measures, we created a communication network by connecting accounts that engaged with one another on Twitter (either mentioned, retweeted, replied to). The resulting network consists of 255,745 nodes (Twitter accounts) that are connected to at least one other node, and 519,212 connections among them (see Figure 1).

To understand who these social media influencers are and why they are engaged on this topic, two independent coders manually examined how the top users self-identified themselves on Twitter through their public bio information. If the bio information was ambiguous, the coders followed links to external websites provided on the profile page (e.g., LinkedIn or personal homepage). In rare cases, the coders searched for more information about a particular user on Google to confirm their professional role and affiliation. The manual coding also allowed to confirm whether or not it is an individual or organizational account. During the coding process, both coders regularly met to discuss cases of disagreement in coding until consensus was reached. For the purpose of our research, we only

focused on the top 100 influential accounts determined based on the three metrics mentioned above. Table 1 lists the account categories that emerged from our manual coding.



**Figure 1. #GDPR Twitter communication network (May 25 – Nov 25, 2018)**

Note: Nodes = Twitter accounts; Connection = mention, retweet or reply; Colours are assigned automatically based on the Louvain community detection algorithm [9].

To answer our second research question and to determine whether Twitter was primarily used to support the relational or rhetorical PR function in this case, we examined the types of interactions that dominated the #GDPR discussions on Twitter. In particular, we used an SNA measure called *reciprocity*, which indicates the amount of mutual relations in a network, to determine the prevalence of one-way versus two-way interactions among users [21]. We also used another SNA measure called *modularity*—a measure of the strength of division of a network into groups [48]—to see if these interactions are formed around one coherent group of accounts or if they are scattered across loosely-connected/disconnected groups of users. Generally speaking, a high level of one-way interactions in a network with many clusters would suggest the fulfilment of the rhetorical PR function; in contrast, a high level of two-way interactions in a highly interconnected network would suggest the fulfilment of the relational PR function.

**Table 1. Twitter account categories in #GDPR**

| Category                          | Description   |
|-----------------------------------|---|
| News (IT-specific)                | News agencies, journalists or bloggers, who cover IT-related topics.  |
| News (General)                    | News agencies, journalists or bloggers, who do not exclusively cover IT-related topics.   |
| Events                            | Accounts related to specific events such as conferences.  |
| Cyber-security Services           | Firms or individuals who work primarily in cybersecurity.   |
| IT Business Consultancy           | IT business consultancy firms or individuals who offer digital marketing, web development, or related services.                                 |
| Big Technology Companies          | Major IT or social media firms.   |
| Data Storage & Analytics Services | Firms or individuals who offer data storage or data analytics services.   |
| Government Bodies                 | International or national government bodies.  |
| Politicians                       | Politicians (elected or appointed).   |
| Academia                          | Organizational or individual accounts in Academia.  |
| Advocacy                          | Organizational or individual accounts that advocate for people's rights to privacy, online security, data protection, or other public interest. |
| Bots / Suspended Accounts         | Automated accounts or accounts subsequently suspended by Twitter.   |
| Other/General                     | Accounts that do not fit in the above categories (mostly individuals).  |

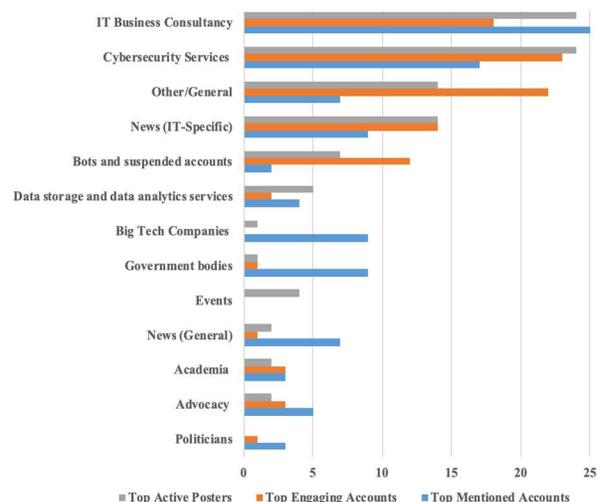
## 4. Results

### 4.1. Influencers and stakeholders in #GDPR

The first research question sought to identify the stakeholders who participated in the #GDPR discussion on Twitter. Based on the analysis of the top 100 influencers (see Figure 2), the most influential accounts in our dataset belong to firms and experts that offer either cybersecurity services or IT business consultancy, as represented by nearly half of the accounts on the top 100 active posters list (48%), and close to 40% of accounts on the top engaging and mentioned lists.

While the accounts offering cybersecurity services are about equally divided between organizational and individual accounts in the three lists, the individual

accounts are more likely to offer IT consultancy services than organizational accounts (with the ratio of 2:1). They are mostly accounts of CEOs, corporate directors, or founders of cybersecurity companies. Based on a manual review of the types of tweets posted by these accounts, they tend to share information about a broader impact of GDPR on businesses, especially on big technology companies. They also share advice on how to be GDPR compliant. Some of these accounts use #GDPR as a place to market their services by posting links to their websites. A few accounts in these two categories also post about related regulations outside of Europe such as California’s Consumer Privacy Act in the US, showing an international interest in the topic. Other IT-related firms and services in the general area of data storage and analytics are also present in all three top lists, but are not as prominent. Our finding that cybersecurity services, IT business consultancy and data storage/analytics firms are among the most active and influential users in the #GDPR discussion is in line with the expectation that the most affected entities by the regulation would be controllers and processors of personal data and firms offering data storage [7]. This finding also indicates a new growing market of consultants in this area in response to the growing need for organizations to be compliant with this regulation.



**Figure 2. Top 100 #GDPR influencers by account type**

The Other/General category is the third largest group of accounts. This category includes users whom we broadly characterize as the general public; that is, those who are not necessarily professionals in the IT or cybersecurity areas, but are interested in their own data protection and in consumer privacy rights. Tweets from these accounts tend to express enthusiasm and positive feeling about the new GDPR regulation, but most of the times, this group of users simply retweet other accounts

(in fact, 71% of their posts are retweets; 19% are mentions; and only 10% are original posts). This result suggests that social media is increasingly becoming a rich arena for the public to voice their opinion and to participate in information diffusion even for topics that used to be discussed primarily by experts, which represents a great opportunity for PR professionals to increase organizations' outreach through getting involved in these topics and engaging interested publics.

Accounts sharing IT-related news are prevalent in the #GDPR chatter more than accounts sharing general news. While posts by both types of news accounts are frequently retweeted by other users, the IT-specific news accounts are more likely to post, retweet, or mention others than being mentioned or retweeted, indicating that they are more active than the general news accounts. This finding is somewhat expected considering the technical focus of the regulation.

International or national government bodies, politicians, and privacy advocates are more mentioned than they post or retweet, showing less participation from these categories than what we expected based on the literature review. Government bodies and privacy advocates appear in the top mentioned list because they are largely retweeted, which shows that people trust them as reliable sources of information about GDPR. These accounts are also mentioned in the tweets in the context of news stories about them, or people sometimes mention them in the GDPR related conversation to get their attention.

Big technology companies mostly appear in the top mentioned list. Many of the tweets mentioning big technology companies, like Facebook and Google, were posted by individuals who expressed their enthusiasm about the GDPR's promise to protect their privacy online. There were also tweets that speculated about the implications of the GDPR on these firms in general but also when the actual data breaches happened. For example, many tweets mentioning Facebook on September 28<sup>th</sup>, 2018 referred to the news about the Facebook's security data breach that affected nearly 50 million of its users.

The top active posters list includes four accounts of specialized conferences on data privacy, data protection, and management of electronic records. Even though we expected that academics would be active in discussions about GDPR, only few Twitter users who are academics appeared on the top lists.

Finally, the three top lists also include bot accounts. Bots are automated accounts created by people or organizations. In our dataset, most of the bots in the three top lists can be categorized as "good" bots because their main function was to share GDPR or technology-related news in general.

## 4.2. PR functions exhibited in #GDPR

The second research question asked whether the stakeholders who participated in the #GDPR discussion on Twitter use the platform to primarily fulfill PR rhetorical or relational functions. To answer this question, we examined the structural characteristics of the #GDPR communication network. The network exhibits properties similar to other hashtag-driven communication networks on Twitter [see, for example, 28, 29]. That is, a relatively low value of *reciprocity* (0.06 out of 1) –a measure of the amount of mutual relations among users– shows that only 6% of connections among Twitter users are bi-directional. This, in turn, suggests that users are mostly engaged in sharing information related to GDPR rather than having a two-way conversation on this topic. Furthermore, a relatively high value of *modularity* (0.72 out of 1) –a measure of the strength of division of a network into groups– indicates that the network consists of disconnected and some loosely connected communities of users. These communities are represented using different colours in Figure 1.

Coupled with the fact that most of the #GDPR discussion comprises of original posts or retweets that do not engage the audience directly (only 18,219 or 2.5% of all 738,824 tweets were direct replies), we can conclude that the topic of GDPR is of interest to many different groups of users who do not necessarily follow nor interact with users from other communities on the platform, supporting the observation that Twitter is primarily being used to fulfill the rhetorical function of PR rather than the relational.

## 5. Discussion

Cybersecurity services, IT business consultancy, and the general public are the entities that showed an expected level of interest in GDPR by their respective volume of engagement on Twitter. They post and engage others through retweeting, mentioning, or replying to their tweets. Many accounts from these categories belong to CEOs or founders, suggesting that the c-suite are embracing the new role of "Chief Engagement Officers" to support their organization's PR efforts on social media [35].

While we observed some presence of mainstream media, activists and advocacy groups, academic researchers, regulators among the social media influencers on this topic, most of these entities showed a much more diluted presence in our dataset. We also expected to see a higher level of engagement (other than being mentioned on Twitter) from data handlers and companies who are more directly affected by the GDPR,

that is organizations of every size and nature who collect and process personal data of their customers. A GDPR compliant status may be used as a good public relations strategy by a for-profit organization as an opportunity to differentiate itself from its competitors, which in turn can be communicated to their customers via Twitter and other channels. In the absence of such posts, observers are left to speculate whether the companies realize the significance and implications of GDPR. However, their lack of activity is not necessarily indicative of a lack of awareness or priority. On the contrary, it could be a sign that organizations are wary of the magnitude of the potentially grave consequences of non-compliance and are concerned about the reputational and financial impacts. Previous research has shown that there are both risks and benefits when using social media for PR campaigns [52]. It could be that data handlers and organizations who are directly affected by GDPR see that the PR risks involved in participating in the #GDPR discussion are greater than the emerging business opportunities.

Also, there was lack of presence from firms that were involved in an ongoing data breach-related crisis during the studied period. For example, in September 2018, Facebook experienced a data breach of 50 million of their users. While Facebook promptly notified the EU regulators about this breach following the GDPR requirements, the firm did not directly discuss this crisis on Twitter. Instead, they reported the breach publicly in a post on their own Facebook page [16]. Their decision not to engage on this topic in the new “public square” such as Twitter might have been a missed opportunity for Facebook to demonstrate that they were listening to public’s concerns [8]. But at the same time, it could be a well-thought strategy on the Facebook part, since as research in public relations has also shown, engagement on social media at times of crisis can exacerbate a crisis situation [52].

Another user group from which we expected to see more activities on Twitter was Government Agencies. Given the increased interest in using social media by government departments and politicians around the world to reach their citizens, we similarly expected that regulatory bodies would show a strong presence among the most influential accounts. However, we did not observe any regulatory bodies lead conversations about GDPR on Twitter. Given the technical nature of the regulation and its impact on ordinary citizens who might not have the technical background to fully grasp its reach and mandate, we expected to see more activities from the regulators. And, while regulators did not show the expected volume of activities among the top 100 influential accounts across all three lists, those agencies that did tweet were retweeted frequently, cf. Government Bodies in Figure 2. This is an indication

that the public is looking for trusted and authoritative sources on this subject on Twitter.

Our findings also showed that while news media (both mainstream and IT-focused) covered GDPR, IT-focused news accounts were more involved in the #GDPR conversation than mainstream news accounts. Given the high level of interest from the general public, popular mainstream media might want to consider increasing their coverage as this topic is definitely of high interest to ordinary citizens.

Finally, our results confirmed that in the context of the #GDPR discussion, Twitter was primarily used for one-way communication; thus, supporting the rhetorical function of public relations as opposed to the relational function. This finding is in line with some previous research showing that social media is often used for information dissemination purposes rather than as a platform for dialogue, at least in cases of social media use by organizations [44, 62]. The lack of relational-type posts suggests that organizations identified in this research might be missing an opportunity to engage the public and other stakeholders on this key regulation in their industry. In addition, there may also be other incentives for organizations to be visible on this topic in public online spaces such as Twitter. For example, highly engaged organizations on social media were found to achieve 4.5 times greater revenue growth than low engaged firms [37].

## 6. Conclusions

Many groups could directly benefit from the research and analysis herein, including: the general public and privacy advocacy groups, mainstream media, IT-specific media, regulatory bodies and government organizations, tech and academic researchers, as well as GDPR affected companies and those providing services around GDPR compliance. Our research shows the general public’s interest and attention towards the GDPR discourse on Twitter. This, in turn, ought to encourage other stakeholders, such as those listed in Table 1, to rethink their PR strategies and approaches with respect to GDPR discussion on Twitter. For instance, big technology companies are not posting on Twitter much using this hashtag, but are being mentioned often (Figure 2). We suggest companies that are classified as data controllers or data processors under GDPR to develop a more active presence on Twitter and specifically contribute to the #GDPR conversations with frequent updates about their GDPR compliance status. Furthermore, mainstream and IT-specific media can use this work to better frame the relevance of GDPR and its significance from the

perspective of end-users who have taken to Twitter to express their opinions about this new regulation.

Moreover, the privacy activists and advocacy groups could also benefit from the insight of this research. Due to the nature of GDPR and its privacy implications, we expected to see more activity from privacy activists among the three top 100 influential accounts. However, this group of users was uncharacteristically inactive in this conversation and did not show much presence among the three top 100 influential accounts. Moving forward, advocacy groups could benefit from this research and materialize the momentum created organically by the general public and firms in order to achieve a better buy-in for their privacy causes. Similar to advocacy groups, academic researchers and other non-profit entities whose aim is to increase public awareness can better utilize Twitter's effectiveness as a platform to discuss emerging topics such as GDPR. Considering the rapid growth in the number of academic and industry publications on this subject, authors might be missing an opportunity to connect with potential end-users of their research via Twitter.

Lastly, our research could benefit for-profit entities and investors who want to learn about an emerging market of GDPR compliance services, and how to brand their existing services in such a way that it effectively addresses the new wave of public's sensitivity towards privacy steered by the GDPR discourse. By studying a single Twitter hashtag, this research elucidated a plethora of activities social media influencers belonging to various categories of stakeholders engage in, which can be used to guide public relations strategies on social media.

Since the current study only focused on measuring influence among accounts who contributed to the #GDPR discussions on Twitter, future work may incorporate additional information about the number and the types of followers each account has to develop a more "global" index of influence. Another area of future work is to apply topic modeling techniques to determine not just the types of influential accounts but also the types of topics these accounts are most likely to contribute to.

## 7. Acknowledgements

This research is supported in part by the Canada Research Chairs program (PI: Gruzd, A.) and the Ted Rogers School of Management at Ryerson University. The authors would like to thank Philip Mai and Lilach Dahoah Halevi for their feedback and help with the project.

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