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# 'BLOCKCHAIN GOOD, BITCOIN BAD': THE SOCIAL CONSTRUCTION OF BLOCKCHAIN IN MAINSTREAM AND SPECIALIZED MEDIA

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## ABSTRACT

Blockchain is one of the most widely debated technologies in recent years. Pundits and scholars have described it as a disruptive technology that will impact many sectors of society. Skeptics argue blockchain's popularity is fueled by the media's obsession for the 'next big thing' rather than the intrinsic potential of the technology. In this paper, we follow a social constructivist approach with the aim of explaining how different discourses are creating new meanings about this technology. As Communication scholars, we focus on the role media play in framing debates about blockchain. Our analysis relies on a human coding of the most popular news about blockchain circulating on Twitter from October 2014 to July 2018. The findings show the general attitude about blockchain is predominantly positive. The discourses developing around crypto technologies are complex and multifaceted and indicate a general transition in the rhetorical definition of blockchain.

Keywords: blockchain, Bitcoin, crypto, social media, Twitter, controversy frame analysis.

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## 1 INTRODUCTION

We are witnessing the discursive and material social shaping of blockchain. The first blockchain technology was released by Satoshi Nakamoto in the aftermath of the 2008 financial crisis in the form of the cryptocurrency Bitcoin. Blockchain elegantly used cryptographic algorithms and peer-to-peer technologies to solve the dual problems of double spending and verifying Bitcoin transactions without having to rely on a trusted third party (Garrod, 2016). It overcame the constraints that formerly limited the diffusion of digital currencies by decentralizing control over Bitcoin creation and exchange (De Filippi, 2013; Mori, 2016; Wang & Vergne, 2017). Today, blockchain has become a model for the development of new decentralized services across a wide range of sectors, such as trade finance, insurance, entertainment, and real estate (Swan, 2015).

Pundits and scholars have described it as a disruptive technology that is capable of radically reforming and reframing the financial sector (Guo & Liang, 2016; McCallum, 2015). Some crypto enthusiasts call blockchain a revolutionary technology that will impact many sectors of society including healthcare, business management and, eventually, democracy (Crosby, 2016; Tapscott & Tapscott, 2017; Underwood, 2016). Skeptics argue blockchain's popularity is fueled by the media's obsession for the 'next big thing' rather than the intrinsic potential of the technology (on the technical limitations of blockchain, see Lemieux, 2016; Tranquillini, 2016).

In this paper, we follow a social constructivist understanding of technology and conceive blockchain as a technical object still open to multiple interpretations (Bijker, Hughes, & Pinch, 2012; Ihde, 1990). We analyze technological controversies surrounding blockchain with the goal of identifying the discourses, beliefs, and persuasive arguments used to interpret blockchain and to describe its current and future applications (Green, 2004; Green, Li, & Nohria, 2009). We argue the media play an important role in framing debates and circulating imaginaries about blockchain.

We build on previous contributions on digital controversy analysis (Marres, 2015; Marres & Moats, 2015) and argue digital media are an effective tool for mapping and exploring public discourses on socio-technical issues. In particular, we view mainstream and specialized media as a way to sample the different discourses used to explain the development of blockchain technologies and foresee their social impact (Feenberg, 2002; Lane, 2016).

The analysis relies on framing and sentiment analysis (Babbie & Benaquisto, 2014; Creswell, 2014). We use Twitter data to observe the circulation of news stories and to track the evolution of the blockchain debate (Faris, Roberts, Etling, & Benkler, 2016). We human coded the most tweeted articles to identify the frames of meaning associated with blockchain, and their evolution over time.

## 2 FROM BITCOIN TO BLOCKCHAIN 2.0: 10 YEARS OF DISTRIBUTED LEDGER TECHNOLOGIES

'Blockchain' is a broad signifier used to indicate decentralized and distributed ledger technologies. The term itself started surfacing in the in the academic and public discourse in mid-2014 (Yli-Huumo, Ko, Choi, Park, & Smolander, 2016), although distributed ledger technologies have been used since 2009 in the field of cryptocurrency (e.g. Bitcoin). For example, the blockchain Wikipedia page was created in October 2014 ("Blockchain," 2014) although, according to Wikipedia history log, 'Block chain' was first mentioned on the Bitcoin page in April 2010 ("Bitcoin," 2010).

Blockchain-based applications usually involve a peer-to-peer network of mutually untrusting participants, each one recording and verifying all the transactions taking place within the network. Each participant is incentivized to supply the network with the computational power needed to confirm transactions and record them into a distributed ledger (De Filippi & Loveluck, 2016). In cryptocurrency applications, this participation is compensated with newly minted currency units. The resulting data structure is known as the blockchain, a ledger holding the historical records of all transactions conducted within the network. Through the use of cryptography and hashing algorithms, this distributed list of records cannot be modified, reordered or erased and all new transactions can only be appended to the ledger (Narayanan & Clark, 2017). In this manner, blockchain solves some fundamental issues which until the 1990s hindered the diffusion of electronic money, e.g. the double spending problem (De Filippi & Loveluck, 2016; Koeppl & Kronick, 2017; Swan, 2015).

Several other variations of blockchain technologies can be found in areas other than cryptocurrency and financial services. Often referred to as 'blockchain 2.0' (Garrod, 2016), examples of these applications include universal online identification systems (Koeppl & Kronick, 2017), blockchain-based decentralized models of crowdfunding and permissioned distributed ledgers applications that only operate within private networks (Swan, 2015).

Blockchain's technological and semantic flexibility is reflected in the proliferation of discourses used by different media outlets for describing the potential of this technology. In the following sections, we analyze mainstream and specialized media with the aim of identifying and mapping these discourses. Our goal is to understand how they might eventually generate a stable and shared understanding of blockchain.

## 3 COMMUNICATION AND THE SOCIAL CONSTRUCTION OF BLOCKCHAIN

This research is theoretically connected with previous contributions in the fields of Communication and STS. In particular, we study blockchain development through

the lens of Social Constructivism. Constructivism rejects instrumentalist and technological determinist ideas that technologies are socially and politically neutral and the ends pursued through their use are determined by human agency alone (Verbeek, 2005). At the same time, constructivist theories oppose the substantivist's argument that ends are immanent in technology and therefore humans can only pursue the finalities made possible by the available technical means (Feenberg, 2002; Winner, 1978).

The constructivist position addresses the instrumentalist-substantivist dilemma arguing that means and ends are inevitably inter-connected in and through technology. Constructivist scholars argue that such connections are agreed-upon at the societal level. Therefore, the ends pursued by technology are constructed through and by the interactions that social groups develop around new technical objects (Feenberg, 1992; Lane, 2016). These interactions often generate different and diverging interpretations about the meaning of an artefact. The heterogeneity between different interpretations is greatest when a new artefact is introduced in society and diminishes while the competition between different viewpoints unfurls (Feenberg, 2010). The controversy is eventually resolved when a group of actors is capable of strategically imposing their own interpretation of the object on others. In this moment, the artefact loses its interpretative flexibility, which previously allowed it to assume different meanings to different people (Bijker, Hughes, & Pinch, 2012). The closure of the controversy is not achieved by coercion, instead it is a rhetorical maneuver. (Bijker, Hughes, & Pinch, 2012). When a technology is no longer interpretatively flexible it becomes a black box and fades into the technological background (Latour, 1987). This institutionalization reflects that actors take the meanings and uses of the technology largely for granted (Green, Li, & Nohria, 2009).

The development and adoption of blockchain, like most technologies, has important rhetorical and social elements that will shape its meaning and use (Green, Li, & Nohria, 2009). In this paper, we rely on Twitter as a way to explore and analyze the discursive dimension of blockchain, which we conceptualize both analytically and empirically using the concept of technological frame (Bijker, 2012). Framing indicates the signifying work (Snow & Benford, 1988, p. 198) through which different social groups, in our case computer scientists, media, investors, private companies, and the 'public' (among other actors), construct meanings and circulate imaginaries of blockchain and its potential applications. Framing involves the production and maintenance of shared values, beliefs and meaning attributions about blockchain (Bijker, 2012, p. 168). The process underpinning the construction of frames also entails the active opposition to alternative meaning attributions (Benford & Snow, 2000), resulting in polysemic interpretations of the same technological artefact.

In the case of blockchain, its current multistability (Ihde, 1990) echoes the early diffusion stages of social media in 2004 and the Internet in 1994 indicating the technology's development and diffusion is in an early stage of adoption (Rogers,

1983). Like the Internet and social media before, the media play a critical role in shaping blockchain's future.

### 3.1 Studying controversies through social media

Scholars have shown digital media are a key site to observe the rhetorical and discursive maneuvering and meaning making about new technologies (Marres & Moats, 2015). Social media provide plenty of data for analysis through quali/quantitative methods such as automated/manual content analysis (Lewis, Zamith, & Hermida, 2013) and social network analysis (Himelboim, Smith, Rainie, Shneiderman, & Espina, 2017). Moreover, the availability of metadata-enhanced datasets facilitates researchers in the task of tracking controversies across time and (digital) spaces (P. Chow-White et al., 2018). However, the process of information production and circulation made possible by social media is increasingly complex and articulated. Within this process, sharing news on a social media platform often represents one among many steps involved in the construction and circulation of meaning (Carlson, 2016).

For this reason, we investigate the blockchain debate as it unfolds on Twitter and beyond. We gather data from Twitter as a way to measure the public interest in blockchain over time (Faris, Roberts, Etling, & Benkler, 2016). Instead of focusing exclusively on Twitter data, our analysis extends to the mainstream and specialized news websites constituting the blockchain mediascape. We describe and visualize controversies in the adoption and diffusion of blockchain technology as they develop in social and digital media by conducting a human-coded framing analysis of the most tweeted news stories about blockchain. Our goal is to contribute to our current understanding of social, financial, and technological antecedents and consequences of blockchain adoption and use within society (Crosby, 2016; Underwood, 2016; De Filippi & Loveluck, 2016). Our comparative investigation of discourses in the mainstream and specialized media is guided by the following research questions:

RQ1: How is the meaning of blockchain rhetorically constructed by mainstream and specialized media?

RQ2: What is the general sentiment towards blockchain in mainstream and specialized media?

## 4 DATA AND METHOD

The sheer amount of data made available by Twitter has recently fostered quantitative analysis in different areas, from studies about digital activism to investigations on public reaction to natural disasters (e.g. Chew & Eysenbach, 2010; Small, 2011). In this research we investigate the evolution of different blockchain discourses promulgated by mainstream and specialized media connecting the Twitter data with the thick qualitative findings emerging from a

framing analysis. Our goal is to demonstrate the possibility to combine the breadth of data-driven approaches with the depth of qualitative, idiographic, methods (Parks, 2014).

### 4.1 Research Protocol

We conducted a two-stage qualitative analysis of Twitter and the linked news articles (Creswell, 2014, p. 194). We collected tweets containing the hashtag '#blockchain' published between October 2014 and July 2018. The principal investigator and a multidisciplinary team of MA and Ph.D. students developed a Twitter data collection platform (GeNA Miner) in the GeNA Lab at Simon Fraser University. The GeNA Miner collects tweets 24 hours a day 7 days a week via Twitter's Stream API. The '#blockchain' query returned 516,200 tweets at the time of this study, complete with metadata such as username, date, location, tweet type (tweet, retweet, mention, reply) and language.

The first stage of the analysis involved the identification of all the tweets containing links to external resources. Two coders independently and inductively classified the most linked root domains (root domains linked more than 100 times in our dataset, n=136) into thematic categories (Creswell, 2014, p. 198). The final taxonomy is the result of the comparison, discussion and harmonization of the two independent classifications and comprises 11 categories (See Table 1).

*Table 1. Website categories*

| **Category** | **Description** | **Example** |
|---|---|---|
| Forums | Discussion boards for people interested in crypto-technologies | bitcointalk.org<br>cryptocurrencytalk.com<br>forum.lisk.io |
| Blockchain technology or service | Websites of blockchain products or services. Technologies making use of, or facilitating the use of, blockchain-based technologies. | alpha.wings.ai<br>bitcoinchaser.com<br>bitcoingarden.org |
| Specialized media | News websites focused exclusively on distributed ledger technologies. | bitcoinagile.com<br>bitcoinist.com<br>bitcoinmagazine.com<br>coindesk.com |
| E-commerce | E-commerce websites selling hardware, software, courses and other products related to, but not limited to, blockchain. | amazon.com |
| Mainstream media | Mainstream media news outlets. Both generic and finance specific. | businessinsider.com<br>bloomberg.com<br>fortune.com |
| Personal website/blog | Personal websites, managed by an individual. | briandcolwell.com<br>sebastienbourguignon.com |

| | | |
|---|---|---|
| Organization | Websites of private companies, either working on the blockchain (e.g. TokenMarket) or not (e.g. PWC) | zrcoin.io<br>pwc.com<br>ibm.com |
| | Websites of NGO or public organizations either directly working on the blockchain or not | weforum.org |
| User-Generated Content Platform (UGCP) | Platforms allowing individuals to publish contents (audio, text, video, slides, code, etc.). | reddit.com<br>youtube.com<br>github.com |
| Social Media | Platforms allowing individuals to create interpersonal relations. | vk.com<br>facebook.com<br>linkedin.com |
| Technology News Media | Technology-focused news websites. | futurism.com<br>venturebeat.com<br>techcrunch.com |
| Search Engine | Search engine websites | google.com<br>bing.com |

In the second stage of the analysis, we focused on two specific website categories: mainstream media and specialized media. We focused on these two categories as they play two different roles in the creation and circulation of blockchain discourses. Specialized media, as defined in our protocol, publish exclusively and extensively about distributed ledger technologies. They act as sources of information for people familiar with, and often involved in, the development of blockchain technologies. They represent the digital equivalent of printed professional and trade magazines. Mainstream media, instead, address a more general public who might, or might not, be familiar with distributed ledger technologies. Since our goal was to understand how these two types of media framed blockchain technologies, we extracted a stratified random monthly sample (7%) of all the tweets pointing to either a mainstream (n=663) or specialized media article (n=999). This sampling technique, also known as influence-weighted sampling (Faris, Roberts, Etling, & Benkler, 2016), enabled us to build a sample of news that better represents the evolution of the blockchain debate over time than a purely random sample of articles.

Next, a team of three coders analyzed the content of each article and inductively coded them for sentiment, frames, and keywords. Sentiment expresses the general stance that a particular article has with respect to blockchain. We coded sentiment as positive, negative or mixed. Frames express the concepts and the meaning of an article. Researchers identified frames through interpretative thinking, and asking themselves 'What is this article about?' (Strauss & Corbin, 1998). Keywords instead summarize in a succinct way (1 to 5 keywords per article) the content of the article and the specific issues discussed in it (Morse, 2008).

We visually explored the resulting dataset of frames, sentiment, keywords and linked articles using Tableau, which helped us in identifying trends and connections within the data.

## 5 RESULTS

This section is divided into three parts. In the first part, we discuss the results coming from our analysis of the Twitter dataset in its entirety (n=516,200). In the second part, we analyze the general attitude about blockchain as expressed by mainstream and specialized media. In the third part, we hone in on the socio, economic and technical discourses undergirding such trends and sentiments.

### 5.1 Blockchain on Twitter

The results of our investigation show a rapid growth in the number of tweets containing the hashtag #blockchain collected by the Twitter miner between October 2014 and July 2018 (Fig. 1). This finding is not surprising considering the many technical advancements, new start-ups, increased users, and the Bitcoin speculative bubble of late 2017 (Vergne & Swain, 2017).

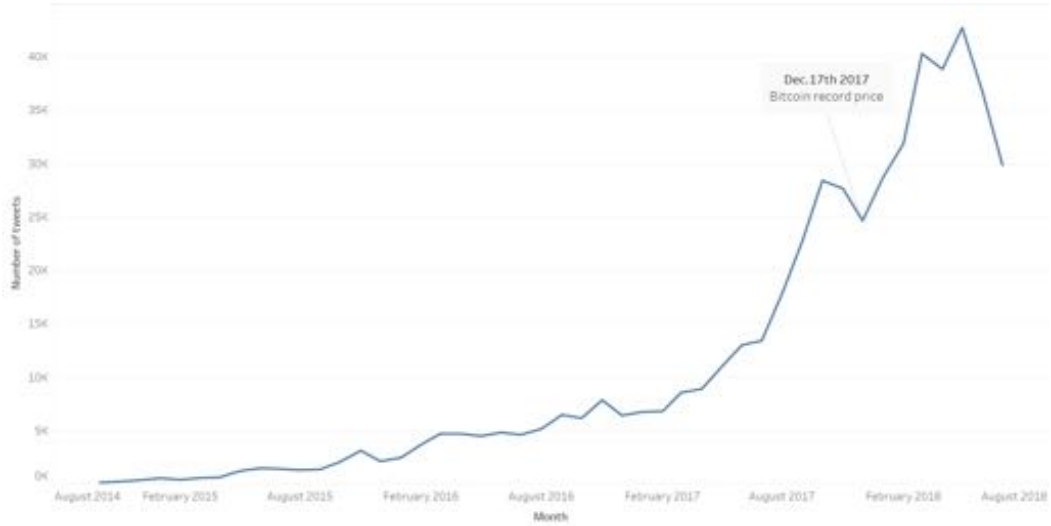


*Figure 1 - Number of tweets mentioning '#blockchain', Oct.2014 - Jul.2018*

The curve shows a rapid growth starting in January 2017, in the wake of Bitcoin's evaluation which culminated in December of the same year. Interestingly, the blockchain's media coverage continued to grow even after the Bitcoin price dropped in January 2018. As shown in Fig.2, the blockchain media coverage remained well above pre-December levels throughout the first seven months of 2018. However, as explained in the next pages, the Bitcoin crash affected how media talked about blockchain.

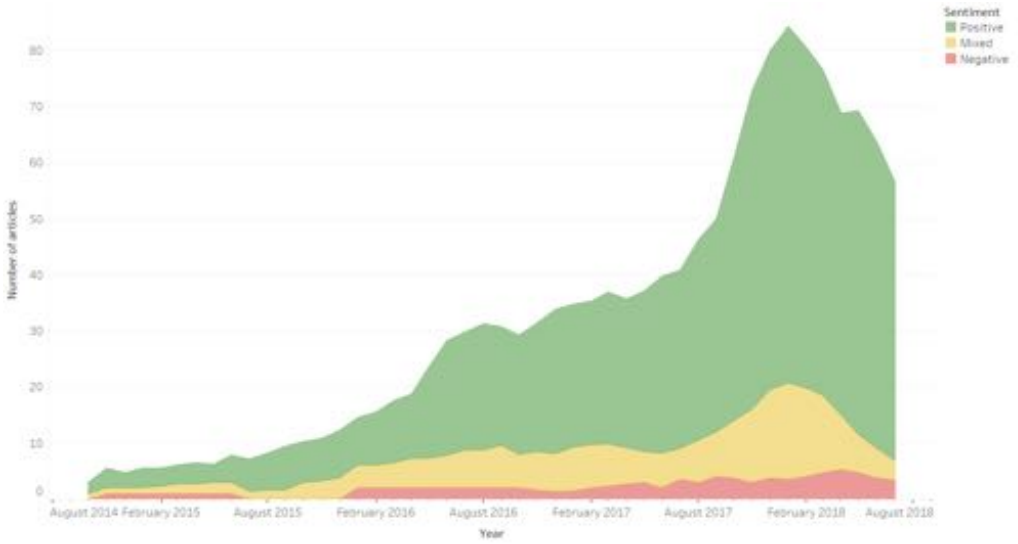


*Figure 2. Mainstream and specialized media articles sentiment over time. 3-month moving average from Oct.2014 to Jul.2018.*

### 5.2 Specialized and mainstream media attitude towards Blockchain

The general attitude towards blockchain is mainly positive in both mainstream (75.2%) and specialized media (79.3%). Analyzing the overall sentiment trend over time it is possible to notice how the positive sentiment has always been dominant, even during periods of crisis, such as after the bubble burst of December 2017. While specialized and mainstream both display a predominant positive attitude toward blockchain, they show different trends over time. In mainstream media we witnessed a pronounced decline of positive sentiment in the aftermath of the December 2017 Bitcoin bubble-burst (Fig.3).

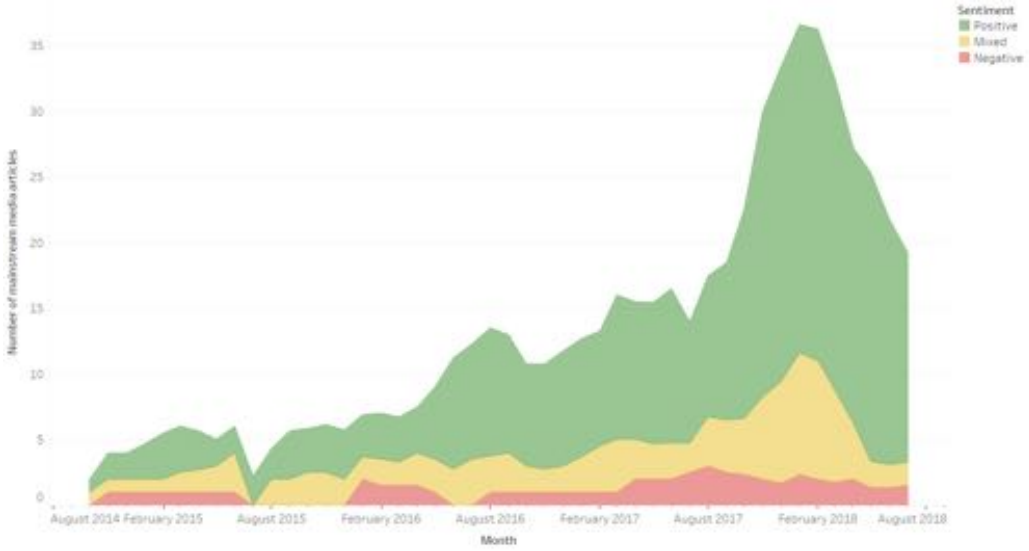


*Figure 3. Mainstream media articles sentiment over time. 3-month moving average from Oct.2014 to Jul.2018.*

On specialized media, instead, the positive sentiment remained almost constant even after December 2017 (Fig.4).

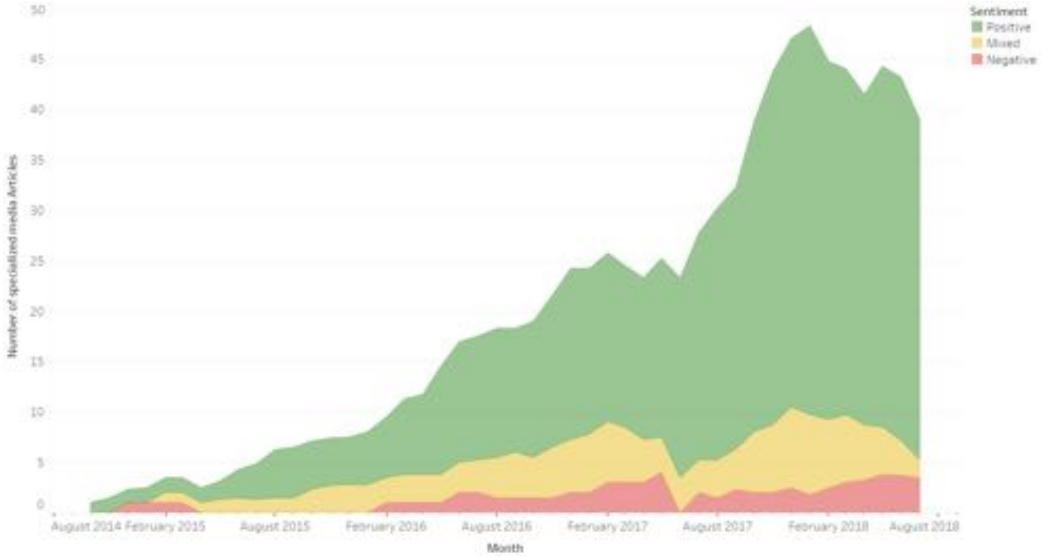


*Figure 4. Specialized media articles sentiment over time. 3-month moving average from Oct.2014 to Jul.2018.*

In order to address this discrepancy, in the following pages we analyze the discourses constructed and circulated by mainstream and specialized media.

### 5.3 Media discourses about Blockchain

In this section, we illustrate the qualitative findings of our framing analysis of 1662 articles. The six frames (F1 - F6) that we identified delineate a complex scenario. There are relevant differences in the way the different media frame crypto technologies that we cannot reduce to a boosters-skeptics juxtaposition. Instead, different media envision different futures for blockchain technologies and question their potential in relation to legal, economic, and technical contexts. We summarize these differences in this visual synopsis of mainstream and specialized media frames (Fig.5):


*Figure 5. Themes, top keywords and sentiments on mainstream and specialized media. Color ranges from green (positive sentiment) to orange (negative sentiment)*

***F1: blockchain as a revolutionary technology.***

The most salient discourse in mainstream and specialized media is the 'future of blockchain' (24% of the sample in mainstream media and 15% in specialized media). Both media types display a positive attitude with respect to blockchain: 82% positive in mainstream and 92% positive in specialized media. Despite commonalities, the two media types debated the future of this technology in very different terms.

Mainstream media. We found several mainstream articles published between 2014 and 2015 illustrating the Bitcoin-blockchain distinction and framing the latter in contexts other than cryptocurrencies. Mainstream media often described blockchain as an infrastructure and used the Internet/World-Wide-Web distinction as an analogy to explain how blockchain stands with respect to Bitcoin. An example from a 2015 Wired article illustrates the connection:

> Just as the TCP/IP-based internet led to a revolution in the way businesses functioned, the Block Chain protocol [sic] is repeating the same process all over again. Pundits even go so far as to say it is like watching the birth of the internet all over again. (Bheemaiah, 2015)

In 2016 and 2017, the mainstream discussion moved from the Bitcoin-blockchain distinction to future applications of cryptotechnologies. The articles identified the potential impacts the distributed ledger might have in different contexts, such as energy management (Cottrell, 2017), food safety (Bellavitis, 2016) and supply chain management (McKendrick, 2017). The disentanglement of blockchain from Bitcoin progressed in late 2017 and early 2018. In respect to the former, mainstream media wrote extensively about future blockchain applications in combination with AI and the Internet of Things (IoT) (e.g. Andriole, 2017; Mitchell, 2017). Most of these articles were speculative: they did not refer to specific or existing technologies, instead, they only envisaged potential future applications (Green, 2004).

Specialized media. Specialized media discussed blockchain's future widely as well. However, we noticed relevant discrepancies in the kind of futures portrayed by this type of media compared to mainstream accounts. The distinction between Bitcoin and blockchain was almost absent as a topic. Instead, 'revolution' and 'disruption' were the most frequently associated keywords within this frame. Specialized media described the distributed ledger as an oppositional, revolutionary technology rather than an infrastructure.

While mainstream media speculated about blockchain applications across a wide range of fields, specialized media focused mostly on financial applications until 2017. This media type envisaged a near future in which traditional financial institutions are substituted by decentralized technologies developed by fintech start-ups. While the mainstream media was speculative, the specialized media articles described actual projects developed by fintech start-ups in the field of banking (Palmer, 2016) and investments management (Redman, 2016). In 2017 and 2018

we noticed the emergence of the keyword 'interoperability', usually mentioned in articles about formats, protocols and APIs for sharing transactions across ledgers (Suberg, 2018). We also registered an increased skepticism toward over-hyped representation of blockchain technologies popularized by mainstream media (e.g. Meunier, 2017).

***F2: blockchain as a business.***

This frame collected all news dealing with the start-up ecosystem developing around distributed ledger technologies such as investments rounds, mergers, and acquisitions.

MAINSTREAM MEDIA. ICO was a very popular topic for Mainstream media. Initial Coin Offering (ICO) is a form of crowdfunding used by blockchain start-ups to raise capital. Mainstream articles expressed concern about the 'ICO bubble' but at the same time hyped up the data and dynamics of this form of crowdfunding as opposed to traditional investments. '25 million raised under 15 minutes' was, for instance, the way in which Aragon (a blockchain start-up) made it to the headline of Reuters.com (Chavez-Dreyfuss, 2017). Similarly, Bloomberg compared the 'Token bubble' to the Silicon Valley gold rush of early 2000s: 'In just five days, hundreds of contributors signed up for a piece of what they hope will be the next Silicon Valley unicorn' (Russo, 2017).

SPECIALIZED MEDIA. The term 'ICO' was also very prominent in specialized media. ICO-related articles announced new crowdsales, provided information on how to purchase tokens and analyzed the business models of the debuting start-ups (e.g. Coleman, 2016b; Suberg, 2017b). Interestingly, specialized media articles mentioning ICOs started appearing in 2015, well before the mainstream media started to pick it up in the spring of 2017 (Jenn, 2015; Kastelein, 2016; Wilhelm, 2017). In specialized media, the popularity of ICOs increased significantly in September 2016. This increase in saliency was an effect of notable events such as the post-ICO collapse of the Decentralized Autonomous Organization (DAO) (Vigna, 2016). ICOs relevance was also due to the amount of advertising published in the form of advertorials by specialized media.

We observed a decrease in the salience of ICO in the first months of 2018. Our data does not show the motives behind this decrease. However, two regulatory moves happened in September 2017: China banned ICOs and the US Securities and Exchange Commission (SEC) announced that Initial Coin Offerings may fall within the regulatory scope of federal securities laws (Deng, Huang, & Wu, 2018). Moreover, Google and Facebook banned ICO advertising from their ad-networks in early 2018 (Facebook, 2018; Google, 2018). These events could explain the decline of the 'ICO' hashtag in early 2018 and the emergence of new, alternative, acronyms such as Security Token Offering (STO) and Public Token Sales (PTS) (Sedgwick, 2018).

*F3: blockchain as an algorithm.*

Another difference was the way in which mainstream and specialized media represented blockchain as a technical, tangible artefact.

Mainstream media. Mainstream media rarely addressed the technical underpinnings of blockchain. Mainstream articles provided broad overviews of the technicalities of blockchain, explaining for instance concepts such as cryptography, decentralization, and security in peer-to-peer networks (e.g. Aitken, 2016). In 2017 and 2018 we noticed a proliferation of articles illustrating the differences between blockchain protocols (e.g. Mavadiya, 2017). It was interesting to notice, at the peak of the Bitcoin bubble, numerous links to articles about the Bitcoin-blockchain difference inviting readers to see the utility of distributed ledger technologies beyond the cryptocurrency hype (e.g. Butts, 2017; Culpan, 2017).

Specialized media. Specialized media often dug into the algorithmic details of the technology. Blockchain was questioned in terms of its technical qualities, as well as its promoted values (e.g. decentralization vs. centralization) and economic potential (e.g. disruption vs. reformation of industries). For instance, we found articles discussing the scalability of blockchain (e.g. Suberg, 2017a) and debating hard forking or splitting chain issues (Van Wirdum, 2017). In 2017, the specialized media attention was catalyzed by 'Bitcoin's greatest protocol update', i.e. the introduction of SegWit, a transaction format aimed at solving Bitcoin's scaling issues (e.g. Lyon, 2017).

These articles guided the readers through the technical details and limitations of algorithms and protocols. They also provided actionable information to those who wanted to learn how to tinker with blockchain technologies. For example, in 2014 Cryptocoin News published a beginner's guide for developing a Bitcoin parser, i.e. a software application for reading the Bitcoin blockchain (Gorale, 2014).

*F4: blockchain as a financial tool.*

This frame encompasses all the articles that examined blockchain applications in the financial sector. Both media types presented blockchain through two scenarios: 1) a substitute for traditionally used financial tools and 2) an entirely new technology. Articles from both media furthered the theme of blockchain as a technological infrastructure, whose elements can be recombined or substituted for carrying out traditional financial activities (Worstall, 2016). At the same time, both media portrayed blockchain as a technology with a revolutionary potential recognized by major financial players and banking institutions.

Mainstream media. Mainstream media were generally more cautious in predicting the implications of blockchain by mentioning issues of regulation, security, and privacy. Mainstream media emphasized the cautionary 'wait-and-see' approach by government and financial institutions (Narasimhamurthy, 2016) and their preference for using permissioned distributed ledger technologies over public ones (Berke, 2017; Tian, 2017). Moreover, when it came to discussing governance

initiatives led by national and regional institutions (e.g. in Senegal, Chutel, 2016), the sentiment was mainly positive in mainstream articles.

SPECIALIZED MEDIA. Specialized media expressed a more positive sentiment on the alleged disruptive potential of blockchain. Besides traditional articles, this media type also published research reports and white papers (Coleman, 2016a). While acknowledging existing privacy and security issues, specialized media presented blockchain-driven solutions developed by start-ups, such as in relation to illegal trade (Caffyn, 2015) or identity management (Cummings, 2017). We also noticed a predominant 'booster discourse' casting a positive light on those countries leading the blockchain revolution (e.g. Das, 2017). In 2018 specialized media focused on various US initiatives aimed at framing blockchain tokens as securities. The most prominent examples in our dataset were a failed legislative attempt in Colorado (Wood, 2018) and SEC's approval of Coinbase application to list digital coins as securities (Alexandre, 2018).

***F5: blockchain as Bitcoin.***

Mainstream and specialized media alike followed Bitcoin's daily price rollercoaster. Our data show mainstream and specialized media coverage of Bitcoin intensified exponentially starting in January 2017 and followed closely Bitcoin's price appreciation that peaked at almost $20,000 USD in December 2017. In both media types, the overall sentiment over the 46 months of our investigation was negative. Mainstream media articles tended to emphasize the dangers of Bitcoin in periods of appreciation and rendered a more positive image during periods of depreciation. Moreover, as we have seen in the 'Blockchain as a Revolutionary Technology' frame (F1), mainstream media articles were often of a speculative nature, whereas, specialized media articles paid more attention to the connections between geopolitical events and Bitcoin's value.

MAINSTREAM MEDIA. The Bitcoin issue was very controversial in mainstream media. In 2015, the general attitude was positive, despite the depreciation which hit the cryptocurrency in 2014. In January 2015, Fortune magazine predicted that cryptocurrency would experience 'big momentum' in the following year (Roberts, 2015). Business Insider argued that the 2014 depreciation was good news for Bitcoin, as it was the consequence of a mini-bubble which burst at the end of 2013 when the cryptocurrency hit the then all-time high of $1,240. The post-bubble period should create a new era of reconstruction and solidification of a technology now finally safe from the media hype, the article continued (Frisby, 2015). The positive outlook of mainstream media was quickly overturned by Bitcoin's appreciation which started in mid-2016 and grew exponentially into 2017. From 2016 to 2017, the keywords 'bubble', 'ICO', 'bitcoin cash' and 'hard fork' began to dominate the discourse. These keywords were also accompanied by mostly negative connotations. The press started writing again about the dangers associated with the irrational race to Bitcoin speculation and unsubstantiated faith in cryptocurrencies

(Kelly, 2017). In late 2017 the dominant keywords in our dataset were 'Bubble' and 'Hype'. They were associated with negative sentiment and pointing to articles reporting the daily records of Bitcoin and other cryptocurrencies (e.g. Browne, 2017).

SPECIALIZED MEDIA. Specialized media also covered Bitcoin's price very closely. Articles often associated Bitcoin's price movements to political events. Examples include the impact of China ICO ban (Dhaliwal, 2017a), SEC regulation of Bitcoin ETF (Rizzo, 2017), Trump election (Higgins, 2016) and Brexit vote results (Bovaird, 2017). Interestingly, in the late-2017 Bitcoin bull run, we found articles in our dataset that, appealing to the technology's supposed transparency and mathematical rationality, tried to counter the Bitcoin-bubble discourse promoted by mainstream and specialized media as well (e.g. Young, 2017).

*F6: critical aspects of blockchain.*

Four percent of the articles on our sample addressed critical aspects of blockchain (mainstream media 5.6% of sample and specialized media 2.7 %). These critical articles provided an important counterbalance in the discussion of crypto technology. As in previous discourses, mainstream and specialized media developed different critiques.

MAINSTREAM MEDIA. Mainstream media often emphasized the criminal applications of blockchain, such as 'dark' web transactions or the distribution of illegal content (Fox-Brewster, 2015), rather than pointing to specific technical problems (Greenberg, 2014). Mainstream articles often criticized cryptocurrencies and especially Bitcoin. The stigma associated with Bitcoin was particularly relevant in 2014 articles when negative events such as the alleged use of bitcoin in money laundering on the Silk Road marketplace prior to 2013 and the hack of the Mt.Gox exchange in 2014 reverberated through the pages of mainstream media websites. We also observed the gradual progress of mainstream media from 2014 onwards to discursively disentangle blockchain from Bitcoin and discuss it as an infrastructure on its own. In some instances, mainstream media articles questioned about the real utility of blockchain technologies, as in a widely circulated 2018 CNBC article asking to ditch trustless technologies and recuperate human trust (Stinchcombe, 2018).

SPECIALIZED MEDIA. Specialized media focused on the technical aspects of blockchain in relation to its possible use cases. For instance, while comparing blockchain's potential to the Internet, one article (Dhaliwal, 2017b) criticized the former for issues of interoperability, governance, and ease of use. Specialized media also published and debated possible solutions to technical problems. For example, a 2016 CoinDesk article criticized the proliferation of blockchain based private applications and their progressive departure from Satoshi Nakamoto's founding principles (Wolinsky, 2016). In 2017 and 2018 the focus moved to ICO-related

problems, such as the risk of frauds and the already mentioned ICO advertising ban from major social media platforms (e.g. Higgins, 2017).

## 6 DISCUSSION

The results of our investigation show the majority of articles circulating on Twitter about blockchain promoted a positive attitude towards crypto technologies (77.7% positive, 17.7% mixed, 4.6% negative). The findings show the general attitude about blockchain was predominantly positive in both mainstream and specialized media during the time period (RQ2). The discourses developing around distributed ledger technologies are complex and multifaceted and indicate a general transition in the rhetorical definition of blockchain (RQ1). As our framing analysis reveals, the discourses used by mainstream and specialized media to describe blockchain are not necessarily unitarian nor consistent with each other.

Specialized media framed blockchain as a technology capable of revolutionizing the world of finance and to expand beyond it. These websites depicted blockchain as a 'disruptive' technology as well as a business opportunity and an algorithm. Specialized media generates what we call a crypto-deterministic utopia (as found in F2, 'blockchain as Business' frame). This instrumental conception of blockchain promotes and naturalizes the idea that the optimal organization of resources is achievable thanks to the algorithmic rationality of the distributed ledger (Brett, 2014; De Filippi & Loveluck, 2016; Garrod, 2016). Media producers present blockchain as an inherently neutral technology capable of freeing people from oppressive government interventions (Karlstrøm, 2014). However, specialized media also focused on the sociotechnical and political contexts surrounding blockchain. As illustrated in our 'blockchain as a Business' (F2), 'blockchain as Bitcoin' (F5) and 'critical aspects of blockchain' (F6) frames, blockchain technologies are discussed in close connection with national regulatory frameworks and world geopolitical events. The image of blockchain rendered by these articles is of a technology embedded into the socio, technical, and economic fabric (Sassen, 2002). Specialized media also depicted blockchain as an open and participatory technology that everyone can use ('blockchain as an Algorithm', F3). The evolution of blockchain, as promoted by specialized media articles, is therefore less clear-cut than a purely crypto-determinist utopia would argue. Instead it is more prone to social, political, and technical contingencies.

Narratives of blockchain as a revolutionary technology continued on through the pages of mainstream media, although in more metered ways. Mainstream media presented a tamed version of blockchain as a 'flexible technology' whose elements can be re-designed and used to better serve the needs of established institutions. The most relevant findings from our research reveal a rhetorical shift in the meanings associated with blockchain away from the bitcoin stigmatization and towards a conception of the distributed ledger as infrastructure. This shift is evident

in the positive sentiment that characterized the 'blockchain as a Revolutionary Technology' (F1) frame in 2016-2017.

This study faced some limitations. Because of Twitter's commercial strategy, the amount of data freely available via Streaming API is capped at 1% of the entire Twitter stream (Dai, 2013). However, they claim it is a random 1%. Another limitation is due to the fact that we started collecting data from October 2014, when the term blockchain started surfacing on social media. Therefore, our analysis did not consider all the news about distributed ledger technologies circulating on Twitter between October 2009 (when Nakamoto published the Bitcoin white paper) and October 2014. Despite these limitations, we believe that a 46-months longitudinal study is both significant and extremely meaningful, especially in a field in rapid transformation such as blockchain.

## 7 CONCLUSION

Our analysis shows how a positive conception of blockchain as an 'enabling technology' is substituting the negative connotation deriving from blockchain's past association with Bitcoin. Dubbed as blockchain 2.0 and 3.0 (Swan, 2015), this new characterization of distributed ledger technologies unfolds around the idea of blockchain as an infrastructure (Star, 1999) that institutions can use and integrate into their operations. In contrast, specialized media foster what we have called crypto-deterministic utopias. Although positive, these discourses are also very critical and reflexive about the technical features and limitations of blockchain. Moreover, specialized media are more aware than the mainstream media of the influence that socio-political events can have over the development of this technology. Furthermore, by publishing tutorials and technical guides, specialized media create the conditions for the public to intervene in the actual development of the blockchain and to re-shape it at a technical level.

This inquiry informs communication and STS theory by showing how different media types interact in the process of rhetorical closure. Despite the recent attention of mainstream media towards blockchain, the most popular articles on Twitter come from specialized media. The two media types share the same frames but articulate them differently. The pragmatic, action oriented and participatory discourses of specialized media counteract the speculative narratives promoted by mainstream publications. These interactions between media types further complicate the process of technological stabilization. Twitter, and social media more in general, open the debate about technology to actors who rarely had the possibility to participate in the process of technological definition and diffusion in the past (Chow-White et al., 2018; Rogers, 1983).

We have shown the discourse on blockchain to be a lively site of social interaction and shared meaning-making. This discourse contributes to blockchain global diffusion, which is expanding at a rapid rate and, potentially, disrupting many aspects of economic and social life. The academy is not insulated from these

social changes as evidenced by the burgeoning literature on blockchain across fields. For example, Business has been quick to focus on what could be the third wave of the Internet. Frizzo-Barker et al. (2019) analyzed the first five years of blockchain research in the business field from 2014-2018. They found a richly developing field that was largely in the exploratory and conceptual stage with some empirical studies on economic and organizational impacts. Chow-White et al. (2020) explored blockchain research in the Communication field and found a less developed scholarship. However, the studies focused on critical issues such as social impacts, power and governance, privacy and identity, and healthcare among others. New studies could enhance the already existing research and explore new directions.

The discourses around crypto technologies circulating across specialized and mainstream media appear to be complex, multifaceted, and often not consistent with each other. Communication (e.g. Rogers, 1983), Business (e.g. Green, 2004), and Science and Technology Studies scholars (e.g. Bijker, Hughes, & Pinch, 2012) have explored how discursive dimensions of technological artifacts can impact the diffusion of innovations. This rich line of research argues discourse can have enabling and disabling impacts on the material development of new technologies such as blockchain. Digital research is well-positioned to explore this phenomenon because so much of social life can be captured online nowadays.

Future Direction: Further explore the role of discourse in the innovation and adoption of blockchain among actors and social groups such as practitioners, developers, the public, and decision-makers within and across a range of industries, such as energy, healthcare, supply chain, and fintech.

Digital media represent a rich context for analyzing the discursive dimension of technology, however, they also present significant challenges. Issues of accessibility (Snodgrass & Soon, 2019), data ownership, openness, and control might limit the amount and the quality of data made available by digital platforms for social research (Bucher, 2013). Moreover, an uncritical approach to digital media might lead scholars to further reify a western-centric perspective on innovations and technological diffusion. Therefore, we hope future contributions will investigate the social construction and adoption of blockchain in the Global South, among marginalized groups in the West (e.g. Adams et al., 2019).

Future direction: Investigate the social impact of blockchain in addressing problems and challenges specific to the Global South and among marginalized groups in the West, such as along racialized and gendered lines. Scholarship would be enriched through empirically based studies using qualitative methods (e.g. interviews, case studies, and ethnography) and data-driven quantitative approaches.

One of the major forces that impacts the development of blockchain globally is regulation. Each regulatory context, such as the nation-state, has its own laws and governance. Blockchain developers and users need to navigate these contexts at the state level and, often, at the intra-state level. The mechanisms of governance are formed, in part, through the negotiation of meaning by actors and social groups using discourse. Scholars can capture the evolution of blockchain governance and

contribute their findings constructively to these conversations. Further, scholars can play a critical role in the adoption process by investigating its positive and negative impacts and engaging practitioners, decision-makers, and policymakers.

Future direction: Conduct studies on the relationship between discourse and governance of blockchain at the state and global organizational levels such as the Securities and Exchange Commission in the United States.

One of the topics we found in our study concerns identity and privacy. Privacy has become a critical issue in social science research in the fields of Communication, Law, and Political Science because of the proliferation of individual's information online and the problematic or, sometimes, nefarious use of that information by organizations. Further, privacy is a shifting target in the digital age and difficult to capture in research and governance because of the dynamic nature of new technologies such as social media, big data, and AI. Users and developers view blockchain as an important tool for the management of privacy. We need to know more about how blockchain can be used to protect privacy, which applications are being developed for this purpose, and why.

Future Direction: Investigate the relationship between blockchain and privacy to understand how the technology is being shaped to manage privacy. For example, this research can be case studies of individual ventures, such as privacy coins like Monero and Civic, and/or interactions between blockchain and privacy regulations such as the European General Data Protection Regulation or local regulations such as Personal Information Protection Act in British Columbia, Canada.

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# THE CASE FOR DIGITAL ACTIVISM: REFUTING THE FALLACIES OF SLACKTIVISM

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## ABSTRACT

This paper argues for the importance and value of digital activism. We first outline the arguments against digitally mediated activism and then address the counter-arguments against its derogatory criticisms. The low threshold for participating in technologically mediated activism seems to irk its detractors. Indeed, the term used to downplay digital activism is slacktivism, a portmanteau of slacker and activism. The use of slacker is intended to stress the inaction, low effort, and laziness of the person and thereby question their dedication to the cause. In this work we argue that digital activism plays a vital role in the arsenal of the activist and needs to be studied on its own terms in order to be more fully understood.

Keywords: activism; resistance; protest; slacktivism; online activism.

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## 1 INTRODUCTION

Within liberal democracy the goal of political and civic engagement has always been held in great esteem; however, participation entails a number of barriers that must be overcome. Through the internet the ability of individuals to reach out and interact has radically changed and, consequently, social media has become a popular tool of anyone attempting to engage in political and civic discourse. This ability has impacted the ways and the paths into political participation and led, arguably, to an increase in participation (Bimber et al., 2015; Gerbaudo, 2012; Matich et al., 2019; Mendes et al., 2018; Milan & Barbosa, 2020; Minocher, 2019; Valeriani & Vaccari, 2016). However, the lowering of communication barriers has brought with it a criticism of those who use social media as a tool to affect societal change. This criticism can collectively be categorized under the portmanteau of slacktivism. Slacktivism refers to the idea that by attempting to carry out political acts online the individual is not participating politically but rather engaging in a form of meaningless, self-serving, and narcissistic acts. The use of the term 'slacker' in slacktivism is intended to denigrate the user, and through this, the term slacktivism is intended to discriminate against technology-based activism.

*The goal of this paper is to provide a counter-argument against the derogatory criticisms of slacktivism*. Our position is specific to western democracies in the northern hemisphere, and our argument is informed by and situated within critical media studies. The paper is organized into the following sections: Section 2 situates digital activism within internet-based politics; Section 3 provides a historical context of slacktivism and provides examples of how slacktivism is applied broadly to digital efforts; Section 4 presents the main arguments against digital activism found in academic and popular literature and our brief counter-argument for each; Section 5 is a discussion of the broader use of slacktivism and its need to be understood and studied as an important part of digital political activism.

In this paper we argue that the pejorative use of slacktivism is an attempt to demean digital activism and, furthermore, that digital activism is treated with undue harshness since those critiquing make no distinction between different forms of digital activism. When discussing political and civic engagement in the physical sphere, most are prepared to accept a wide range of activities and actions that more or less promote an overarching goal. The same is not true for digital activism. The term slacktivism therefore is used as a method for delegitimizing nascent political participation by attacking the intentions and actions of those involved.

## 2 POLITICS ON THE INTERNET

The internet in general—and the web in particular—has fundamentally changed the public sphere by allowing a wide-ranging popularization in production, dissemination, and access to political knowledge (Chadwick, 2013; Christensen, 2011; Fraser, 1990; Hogben & Cownie, 2017; Matich et al., 2019; Mendes et al.,

2018; Milan & Barbosa, 2020; Minocher, 2019; Mossberger, 2008). The internet-supported public sphere becomes both a hybrid space where the physical and virtual coexist, as well as a representational space accessible from anywhere connected to the internet. In the former we see how people in cities can augment their physical experience using internet connected devices, and in the latter we can see the experience of presence at a distance. In the context of a protest, the first can be exemplified by a protester transmitting a recording of police activities to the internet and in the second is the video being watched around the world and having the power to spark outrage and protest. The representation of the space is no longer within the power of those who control the space but rather "the process of formation and exercise of power relationships is decisively transformed in the new organizational and technological context derived from the rise of global digital networks of communication as the fundamental symbol-processing system of our time" (Castells, 2009, p.4). Arguably there are two processes at work: one where non-digital tools are being replaced by the digital and enhancing previously existing power norms, and a second disruptive process where the tools are disrupting established power relationships and forcing a redefinition of established concepts (Milan, 2015; Peña-López, 2013).

The central cultural processes of late modernity identified by Dahlgren (2007; 2009) are the value of personal autonomy, the erosion of traditional institutions, and an increasing cultural plurality in society. These processes are increasingly supported by the ready access to technology, the ease in which it supports personalized media choices, and algorithmic segregation through echo chambers and filter bubbles (Flaxman et al., 2016; Pariser, 2011; Sunstein, 2009). Private preferences and individual choices, supported and shaped by technology, are increasingly a part of social identity and relationship management (Schmidt, 2011; Shirky, 2009).

These processes of the reduction of the personal physical social network with its reduction of strong ties and increasing plurality of values (e.g., Putnam, 2000), supported by the wider array of information and choice, have disrupted the traditional distinction between public and private behaviors (Boyd & Ellison, 2010). The arena for political discourse has shifted from primarily face-to-face to online discussions (Wang, 2010).

In addition to these concerns, the platforms upon which digital political participation occurs should not be misunderstood to be neutral spaces. While they are publicly accessible, they remain privately owned platforms created for the purpose of generating profit for their owners and stockholders. This profit is made through the algorithmic analysis of large amounts of user generated data and subsequently turned into what Zuboff (2019) has called 'prediction products' that anticipate what users will do now, soon, and later. In her analysis of surveillance capitalism, Zuboff argues that surveillance capitalism is more than a marketplace for prediction products; it ultimately has the goal to change people's actual behavior by rewarding or punishing behaviors deemed profitable or not for the platform

owner. Similarly, in his study on content moderation, Gillespie (2018) demonstrates that the platforms make important decisions about the information that is available and therefore shape public discourse. Additionally, the users of these platforms internalize the platform norms and practices and create content aimed at succeeding in the specific environment of the platform (Klang & Madison, 2016; Gillespie, 2018).

For Couldry and Mejias (2018) these processes should be likened to processes of colonialism and are the foundations for a new social order "offering unprecedented new opportunities for social discrimination and behavioral influence" (p. 336). This data colonialism (Couldry & Meijas, 2018) entails the exploitation of people through the control of their data and, like Zuboff, they argue forms the basis for a new stage of capitalism, built on the control over personal agency.

However, this pessimistic view of technology should be tempered with the understanding that digital technology supports those who have an interest in political and civic discourse and through its reach has the potential to engage those who are disinterested (Asen, 1999; Bennett et al., 2009; Bimber, 2000). The ability to engage is provided by the ability of the internet to support niche discussion. Political participation must not be limited to a small set of actions but includes "any activity that has the intent or effect of influencing government action, either directly by affecting the making or implementation of public policy or indirectly by influencing the selection of people who make those policies" (Verba et al., 1995, p. 38). It is important to maintain that not all political activities are equal; some political acts are better suited to our established physical practices while others are better suited to the digital milieu (Christensen, 2011).

Indeed, the technologies that form the basis of surveillance capitalism and data colonialism also provide an intuitive and low barrier access to a large part of the global population (Gerbaudo, 2012; Matich et al., 2019; Mendes et al., 2018; Milan & Barbosa, 2020; Minocher, 2019; Valeriani & Vaccari, 2016). The platforms are arguably the only viable way in which massive scale activism and resistance can communicate. Therefore, digital activism plays a vital role in social movements, resistance, and activism. Taken from this perspective, the term slacktivism is used to discriminate against this form of activity in order to minimize the importance and impact of digital activism. It is a form of techno-pessimism that has become a common discourse within the study of online political communications (Fuchs, 2012). It is an attitude that discriminates against the technology and attempts to prevent an in-depth study of the efficacy of the technology before it begins.

## 3 SCOPE OF SLACKTIVISM

The term slacktivism lacks clear meaning or precise definition. The term didn't catch on until it was used pejoratively for the ineffectual forms of activism and

techno utopianism connected with Silicon Valley futurists (Christensen, 2011; Morozov, 2011). Therefore, to the supporter of digital activism, the term is pejorative for a legitimate form of activism. For those who criticize digital activism, slacktivism is the epitome of lazy, self-serving digital acts conducted by a narcissistic, tech obsessed millennial (Stein, 2013). Digital activism is all about reaching out, creating awareness, garnering support, and enabling asynchronous political discourse. Slacktivism is the belief that 'liking' a post on Facebook or changing one's profile picture constitutes a form of activism (Golsborough, 2011; Landman, 2008). In other words: slacktivism refers to an ignorant, low level participation which is more self-serving than of practical use (Halupka, 2014; Jovicevic, 2016; Landman, 2008).

No matter the position taken on slacktivism, scholars agree that the low barriers to entry, low transaction costs, and an easily navigated communication infrastructure has made an array of political acts more popular among youth (Neumayer & Schoßböck, 2011). Yet, the reality regarding digital activism is complex. There are studies that support the theory of the lazy generation of disingenuous slacktivists, and studies that show the practice leading to a better informed and more politically engaged population (Hogben & Cownie, 2017). Certainly, digital technology has altered the way in which activism is conducted.

A 2013 UNICEF campaign in Sweden referenced slacktivism and attempted to shame those who practice it online. With the text: "We have nothing against likes, but vaccine cost money", their campaign reminded consumers that it isn't enough to only like or share information (UNICEF, 2013). This form of slacktivist shaming has been rising. Since political campaigns increasingly use social media as arenas to reach their intended audiences, they actively compete with all other forms of information on these sites. As such, they must increasingly improve their production formats to gain attention (Klang & Madison, 2016). The success of campaigns such as the ice bucket challenge and KONY (Dennis, 2019; Herman, 2014) demonstrate that the message is not enough to break through the noise on social media. Conversely the right format can reach unexpected new audiences. There are fears that in the drive to gain ever-larger rates of participation the message will be lost (White, 2010) and activism will become fundraising and nothing more. We argue this view of digital activism is fundamentally flawed. Even without digital technology there have been attempts to streamline the process of activism into simple monetary transactions, such as pink ribbons for breast cancer or red poppies for veterans. The introduction of technology into the mix did not create slacktivism; rather, it allowed for a renewed and louder criticism of those attempting to participate in low levels of political and civic process.

The technology also creates new avenues of political participation. In their study of the use of WhatsApp for digital activism in Brazil, Milan and Barbosa (2020) argue that the technology affords the development of a new political subject they term the WhatsAppers, whose comfort with their technology in other areas allows them to develop their political identities and agency. Milan and Barbosa state

that users' "engagement with political activism emerges gradually in this intimate and familiar context and is facilitated by an omnipresent, personal device like the smartphone" (2020, para. 15). In this way the app enables the creation and expression of the activist identity in an accessible way to the individual.

> WhatsApp operates as a facilitator of political participation, able to involve also previously inactive people, bypass traditional movement organizations and break the correlation between a movement's material resources and its ability to mobilize people (Milan & Barbosa, 2020, para. 16).

The digital activism surrounding the Dakota Access Pipeline in 2016-17 provides an excellent illustration where technology allows for innovation in the forms of political participation. DeAtley (2019) demonstrates how protesters used Facebook check-in feature to sign-in at Standing Rock in order to jam police surveillance. This feature, developed as an attempt to create safety for the physical protesters, became a tool of political protest and signaling. In 2020, the organizers of a planned campaign rally in Tulsa were fooled into believing that attendance would overwhelm the 19,000-seat auditorium when 800,000 registered for tickets, but less than 6,500 showed up at the event. The discrepancy has been explained as digital activism carried out by TikTok users and K-pop fans (Andrews, 2020).

Considering the examples provided, ignoring acts such as these would ignore the political potential of technology, and dismissing them as unworthy of activism fails to take into account the reality of digital life. Slacktivism labels everyday digital political and civic acts the same even when those acts would not be designated as such in the physical space. By allowing a blanket criticism of all digital activism as slacktivism the whole discourse is harmed. Instead of allowing this weak term to be used, each act should be evaluated on its own terms.

## 4 CRITIQUES AND COUNTER ARGUMENTS

In this section we present the main arguments against digital activism found in both academic and popular literature, and provide a brief counter-argument for each. These arguments not mutually exclusive and often share similar attributes; however, we have identified six distinct critiques. These are presented as an introduction for further discussion.

**Digital activism is futile**: This argument suggests digital activism has no impact, or even potential, to bring about social change. For Morozov (2011), slacktivism is an expression of techno utopianism and as such has zero political or social impact. Either the digital environment, through its very design, lacks the hierarchy and strategy necessary to succeed (Gladwell, 2010; McCafferty, 2011; Morozov, 2011; Skoric, 2011), or any effect is could have would only be minimal (Christensen, 2011; Morozov, 2009a; Morozov, 2011; Shulman, 2009).

Counter: In order to accept this critique, the purpose of protest must be narrowed to an act that leads to a swift, clear, and direct solution of the issue. This

definition is not how success or failure is measured in social movements (Amenta et al., 2010; Bosi et al., 2016; Earl, 2016). Furthermore, this argument is focused on the ways in which digital activity is often dismissively seen as being ancillary to the real world and therefore less important (Morosov, 2009a; Twenge & Campbell, 2009). Jurgenson (2012) points out that the prioritizing of offline is a recent ideology while in reality the physical and digital states are inseparable.

**Feel good activism**: In these arguments, critics point out that the real intention of slacktivists is not to bring about social change but to make themselves feel good [e.g., Jovicevic, 2016; Klafka, 2010; Kristofferson et al., 2014; Lee & Hsieh, 2013; Morozov 2009a, 2009b; Schumann & Klein, 2015). An illustrative example can be seen when Morozov (2009b) writes: "Those who participate in the effort are not driven by helping the world and have a very selfish motivation" (para. 14). Feel good activism is supported by the ease in which social networking sites support the sharing of information and images. The argument is that this is not activism since the underlying goal is not to affect change. There are findings that support the argument that some activists participate in order to make themselves feel better (Hogben & Cownie, 2017).

Counter: The motivations for taking part in a protest, working within a social movement, or conducting any form of resistance can stem from a heartfelt desire to create social change. Participants in all forms of activism may often benefit socially from these communal acts (Boyle & Schmierbach, 2009; Schussman & Soule, 2005; Van Stekelenburg et al., 2011). This, however, does not change the fact that individuals participating in activism may be doing so to be social with others, to identify as an activist, as employment for political organizations to earn money etc. Suggesting that the feel-good benefits of participating in activism is different online unreasonably discriminates against the digital.

**Narcissistic activist**: A variation of the feel-good activism argument is the narcissist activist argument. The difference here is that those involved are all trying to focus the real attention back onto themselves by demonstrating traits about themselves or representing themselves in a better light. This argument builds on the ways in which the visual element of social media "rewards the skills of the narcissist, such as self-promotion, selecting flattering photos of oneself, and having the most friends" (Twenge & Campbell, 2009, p.110). Some authors argue that the individualization and need for personal expression among those joining online causes is a form of narcissism (Schmidt, 2011; Shirky, 2009; Skoric, 2012; Svensson, 2011). This argument aligns with a general critique of the millennial as shallow, lazy, infatuated with technology, and disinterested in politics. In 2013, Time Magazine's cover article about the millennial was entitled "Millennials: The Me Me Me Generation" and defined them as entitled, lazy, selfish and shallow (Stein, 2013). Morozov (2009a) states that slacktivism is the ideal form of participation for the "lazy generation."

Counter: This is similar to the counter to feel good activism above, as it presupposes one form of motivation and behavior then applies a different standard

judgment on the digital. We do not ask of the non-digital activist if they are truly committed for altruistic reasons or if they may derive self-serving pleasure from their participation.

**Barriers and transaction costs**: For some, the arguments as to why slacktivism is widespread are due to the popularity and eases of the technology. Many points to the fact that users are already online in the spaces where the political acts occur and thus the marginal costs for this form of activism are low (Morozov, 2009b). Additionally, it takes little or no effort or knowledge to be able to participate in digital activism if all it entails is posting information, liking someone else's post, or changing a profile picture. In the research on mass mailing, Shulman (2009) discusses the downside to technology making political participation easier and warns that it will lead to an increase of "low-quality, redundant, and generally insubstantial commenting by the public" (Shulman, 2009, p.26).

Counter: These arguments could be summed up with the idea that political activism must come at a cost to be meaningful. While critics point out that low barriers mean low levels of personal effort on the part of the activist, it could also be argued that these low barriers are more important because they increase inclusion. This is explored further in Section 5 below.

**No sacrifice**: The no sacrifice argument is an extension of the low barrier and transaction cost argument. In this argument, critics tend to point out that in order to be considered an activist the participant must take a risk or at least make a substantial effort. McCafferty (2011) goes so far as to argue: "In the end, activism has always been—and will always be—about people. Specifically, people who show up in person" (p. 18). Skoric (2011) argues that the element of sacrifice "which has characterized traditional activism and which helps members persevere in the face of danger, is likely to be absent in most Facebook campaigns" (p. 68).

Counter: These reductive arguments not only significantly limit the scope of activism, and romanticize 'traditional' activism, but also fail to recognize the enmeshed nature of the physical and the digital. Furthermore, while online activity does not entail the same form of sacrifice of bodies in the street, digital activism still requires moral, cultural, social-organizational, human, and material resources (Edwards & McCarthy, 2004; McCarthy & Zald, 1977). The deployment of these resources on an individual and group level is a choice to prioritize activism.

**Substitution**: One of the larger critiques against digital activism is that digital participation will replace all other forms of activism and once the digital act has been conducted the individual will feel no further need to engage (e.g., Christensen, 2011; Jovicevic, 2016; Morozov, 2009b; Shulman, 2009; Skoric, 2012; Vitak et al., 2011). This substitution is framed using the theory of moral balancing which argues that the reward one feels from a good deed enables the individual to ignore other actions that require attention (Festinger, 1962; Lee & Hsieh, 2013; Merritt et al., 2010; Sachdeva et al., 2009; Shulman, 2009). Studies examining the moral balancing effect have shown that people who made a prosocial choice are less likely to perform a different, subsequent prosocial action (Khan & Dhar, 2007; Mazar &

Zhong, 2010). The substitution argument builds on the idea that we have a limited amount of energy and empathy to engage and using it online will replace other forms of engagement; therefore, slacktivism gives us the false hope of change while creating political apathy (Jovicevic, 2016; Kristofferson et al., 2014; Morozov, 2011; Schumann & Klein, 2015). Morozov (2009b) captures this criticism: "Paradoxically, it often means that the very act of joining a Facebook group is often the end – rather than the beginning – of our engagement with a cause, which undermines much of digital activism (para. 4)

Counter: The substitution argument may very well be valid and a cause for concern within the realm of activism. The challenges to our attention brought about by information overload through digital technology are undeniable. While information overload occurs broadly, it is not specific to digital activism; however, there are several studies that show that online participation does not decrease offline participation. Shah et al. (2002) concluded that time spent online leads to engagement, rather than vice-versa. Therefore, claiming moral balancing causes slacktivism is a form of digital prejudice.

## 5 DEFENSE OF DIGITAL ACTIVISM

Since the popularization of the term slacktivism there has been an increased interest in the study of the concept in order to provide data on the impact of digital technology on activism. In this section we present four distinct categories that illustrate the potential power of digital activism to surpass its non-digital counterpart in extending participation, edification, visibility, and transformation. These illustrations center the role of technology as a tool within the activists' arsenal, as Peña-López (2013) suggested: "slacktivism does not define the activist, but, in general, the activist individually uses slacktivism as yet another tool to reinforce a much more comprehensive and collective strategy of political engagement" (p. 351). The digital and physical are deeply enmeshed and today it is largely impossible to think of activism without a digital component. Technology is viewed as a necessary element in organizing and documenting most forms of collective behavior and, as such, it would be strange if it were not part of the activists' toolbox. Some activists go even further. In their interviews with activists, Uldam and Askanius (2013) record this quote: "You can't have a demonstration without filming it. That makes it pointless ... If there are riots in Copenhagen, they'll only go global if there's video footage. Otherwise it's pointless; you may as well not bother" (Thomas, interview, February 2010, p. 171).

**Participation**: Many who argue against slacktivism and for the use of technology in activism point to the low barriers to entry and the low transaction costs as an advantage (e.g., Castillo et al., 2014; Christensen, 2011; Coleman & Blumler, 2009; Gladwell, 2010; Vitak et al., 2011). Since the political activity is happening in a space that is already comfortable to the users the ability to participate in political activity does not create a significant barrier to entry or to participating.

Within the area of social networking the barriers are further lowered since those communicating are already known to each other at some level (Ellison & boyd, 2013). The research by Milan and Barbosa (2020) on the use of WhatsApp in activism provides an excellent illustration of the ways in which everyday technology enables activism. As the users already have -and are familiar with- the technical and social infrastructure at hand, it becomes significantly easier for them to use it for activism than, for example, joining an organization or learning a new technology.

**Edification**: In their studies, Gil de Zúñiga et al. (2009) show that digital activism is beneficial for all forms of political participation and that digital activism supports and promotes physical activism and civic participation. In this way the digital activism with its familiar surroundings acts as a safe space in which the novice can learn the norms, processes, and forms of activism. Vitak et al. (2011) support this conclusion and point out that the digital arena allows young people to be able to learn civic engagement with little time and effort. Vissers and Stolle (2014) found this to be true in their study as well, where they show that political Facebook participation fosters other forms of political activity. Several studies confirm the role of digital activism as a space of education in a wider civic engagement (e.g., Bennett et al., 2009; Boulianne, 2009; Breuer & Farooq, 2012; Dennis, 2019; Drury & Reicher, 2005; Hogben & Cownie, 2017; Jones, 2015; Lee & Hsieh, 2013; Mano, 2014; Obar et al., 2012; Saxton & Wang, 2014, Vie, 2014).

**Visibility**: An area where digital activism has a huge advantage over its non-digital contemporaries is achieving visibility. The activist has the opportunity not only to do activism, but to be seen doing activism by a potentially larger audience. This visibility is important in the creation of the activist's identity (Bobel, 2007; Milan, 2015). Melucci (1989) and Milan (2015) argue that this virtual participation -or "politics of visibility"- strengthens the 'politics of identity' of social movements. This increased visibility also increases awareness. The ease of transmitting information and the ability to provide spaces for discussion greatly enhances the awareness of political and social issues, which can lead to social and political change (Dennis, 2019; McCafferty, 2011). It is easy to argue that awareness is not the same as change; however, as Selleck (2010) points out in her study of the pink ribbon campaign for breast cancer awareness, the act of wearing a ribbon cannot cure cancer but it leads to women being more likely to get a mammogram. The same can be argued is true of digital activism; it may not be able to directly bring about change, but it will raise awareness, which is a precondition for change (Conway, 2012; Golsborough, 2011). Visibility and awareness can be powerful tools in changing social norms. For example, hashtags such as #metoo and #blacklivesmatter have been instrumental in drawing attention to -and consequently changing- social norms (e.g., Mendes et al., 2018; Taylor, 2016).

**Transformation**: If, as the proponents of slacktivism argue, the poster is sharing information without significant emotional or psychological buy-in, the theory of cognitive dissonance would suggest that the poster will, over time, begin to accept these positions as her or his own. The theory suggests that the poster will

be motivated to reduce dissonance by altering their behavior, or cognition, to be consistent (Khan & Dhar, 2007; Mazar & Zhong, 2010; Merritt et al., 2010; Sachdeva et al., 2009). Therefore, even the slacktivist posting to either feel good or for narcissistic motivations is likely to eventually internalize their posted ideas and begin to act accordingly. Thus, we see that posting in digital media has a corresponding effect on beliefs and interests, as well as on participation in physical space (e.g., Chang, 2006; Johnson et al., 2011; Wang, 2010).

## 6 DISCUSSION

As we have seen in the arguments presented above, slacktivism is used by critics of digital activism to downplay widespread political participation online. While they argue their points forcefully, they all too often cherry pick examples and critique situations for not achieving rapid social or political change. By doing so they expect more of digital activism than offline activism. For example, there is a difference in the social impact of changing a profile picture or sharing information when the person doing it has a large or small digital presence. A celebrity with a large online presence may have a bigger social and political impact than a full-time activist with a small online presence. Additionally, someone with the "right" contacts may not need as large a presence to make social change.

In her study, Bobel (2007) points to an important piece missing in the literature on social movements and that is the way in which the work mostly considers activists as a collective and that the individuals making up that collective identify as activists. By making this assumption, the literature of social movements creates a barrier and also raises the interesting question: at what point does a person doing activism become an activist? In her studies of people doing activism in the physical space, Bobel notes that there are many people who carry out acts of activism but would prefer not to label themselves as activists (2007). She argues that the identity or label activist is linked to a 'perfect standard' and as such many people who are indeed carrying out social and political forms of activism hesitate to define themselves or let themselves be defined as activists.

By raising the bar to an impossible degree, the designation activist, and in extension the right to openly do activism, falls out of the realm of possibility to most people. This is particularly interesting when the available digital tools are greatly reducing the barriers necessary for the participation in activism. If this overly perfect norm is to be applied then only those who can devote their lives to being activists will have the right to carry the designation and the rest of us must per definition be slacktivists.

The moniker of slacktivist is seldom applied to individuals who are involved in mundane civic and political acts in the physical world; rather, it has been used exclusively in the digital realm. What does it mean when someone buys a pink ribbon to raise breast cancer awareness? It is doubtful that many would consider the

people wearing these in public to be self-serving narcissists; however, a similar gesture on social media seems to awaken the ire of critics.

During 2016 it was very popular on social media to demonstrate support through changes made to profile images or posting articles of remembrance. The causes ranged from memories of a dead celebrity to offering condolences to a city that had suffered a terror attack. Predictably there were several media articles discussing the meaningless of public grief and the shallowness of support expressed on social media. The media, acting as gatekeepers of mourning behavior, criticized the ways in which people mourn in the digital environment and called out users for being disingenuous in expressing their emotions towards violent acts.

There is a tendency to quickly attack acts taking place online as being insincere or carried out for ulterior motives. This is true also for digital activism. As the slacktivist arguments have shown, these are critiqued as futile acts carried out to promote the needs of the narcissistic poster that have no effect on the real world. Furthermore, the critics argue, these efforts would not have been carried out if they entailed any form of effort, knowledge or actual empathy on the part of the poster. In addition to the meaninglessness of the act of slacktivism, the critique is often aimed at the slacktivist. A slacker is per definition someone who does not do something – a slacker is inactive. Conversely, the concept of activism includes the need to be active. So how active must an activist be? Our cultural ideas of activism and activists are largely shaped by grand movements. While it is easy for us to identify Gandhi and Martin Luther King as activists, the concept must include a spectrum of activity.

In his work on everyday resistance, Scott (2008) makes the argument that with our focus on the big event we forget the need for everyday acts of protest: "Everyday forms of resistance make no headlines… There is rarely any dramatic confrontation, any moment that is particularly newsworthy" (p. 36). By only evaluating the dramatic event we forget the ways in which everyday actions were necessary to build up to the point where change could occur. The critique of digital activism demands that individuals without power either bring about major social change immediately or simply stop any attempt at activism. In reality activism cannot be understood in this simple binary. Political participation comes in all forms and the simple acts of everyday resistance are important for the growth and development of a healthy political discourse that may eventually initiate political change.

Not all political engagement is associated with activism. Within modern society there is a great deal of lifestyle politics, which is the attempt to advance social change by fostering ethically and politically inspired lifestyle choices (Bennett, 1998; Giddens, 1991; Micheletti, 2003). For instance, there is both boycotting and buycotting as low-level forms of civic activism. Boycotting is the refusal to buy products or services from a company while buycotting is choosing to buy from a company we wish to support. In our attempt to make our social and political views known to the corporation— and hopefully by affecting their bottom

line— consumers aim to change policy in some form. Copeland (2014) posits that boycotting is about dutiful citizenship as it is punishment oriented, while buycotting is all about engaged citizenship norms since it is more reward oriented.

As we recognize political and civic engagement in other arenas we should also be able to accept a varying level of digital activity without resorting to name-calling. The slacktivist is no different from the politically and socially engaged consumer attempting to make ethical choices in their consumption. In this paper we demonstrate the need to be more nuanced in our understanding of digital activism and guard against criticizing it for flaws that are already present in the non-digital activism realm.

## 7 CONCLUSION

The term slacktivism was adopted in an attempt to denigrate everyday digital political and civic participation. Those who wished to argue the pointlessness of such activity used it as a pejorative moniker. The term designates those conducting digital political and civic acts as slacker activists even though they themselves may not be calling themselves activists. As the digital world was unable to instantly and decisively resolve issues in the physical world, the efforts of digital activism were immediately seen as having no real effect by its critics. The critics continued by calling out the participants as lazy, technocentric, narcissists who were either delusional about the ability of technology to support change, or whose real interest in digital activism was self-promotion. This criticism, however, seems to intentionally ignore the reality of the interconnectedness of online and offline environments. Digital participation is here to stay, it is an inevitable part of social movements, activism, and protest. Moreover, the technology brings with it a range of benefits for the organization and dissemination of activism in addition to innovative forms of protest. It is therefore harmful to dismiss this technologically mediated reality and it is vital to consider its strengths and weaknesses for any given movement.

As originally stated: *The goal of this paper is to provide a counter-argument against the derogatory criticisms of slacktivism*. This work has presented a wide range of arguments against digital activism as slacktivism. The work has shown that the critique of digital activism is unduly harsh and that this harshness may also be connected with a wider antipathy towards the general social changes brought about by the ubiquity of digital devices. This paper has shown that the term slacktivism is largely used as a pejorative in an attempt to demean all forms of digital activism. On the contrary, we argue that digital activism plays a vital role in the arsenal of the activist and needs to be studied on its own terms in order to be more fully understood.

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# WHAT IS GLOBAL SPORTS LAW? THE VIEW FROM THE TWITTERSPHERE

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## ABSTRACT

Sports competitions are some of the oldest global activities and have been extensively organized and regulated on a global level. As a result, it is common to speak of global sports law. However, what is global about sports law and the extent of globalization of sports law's globalization process is unclear. This article sheds new light on these questions by studying conversations about sports law on Twitter. It confirms the parallel existence of local and global sports law and explores what constitutes each. Finally, it uncovers geography-based differences in the level of globality.

Keywords: global law; sports law; social media; Twitter; text mining.

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# 1 INTRODUCTION

## 1.1 Sports Law Between the Local and the Global

Sports competitions involving competitors from different nations and across the globe have been a key part of sports dating back to at least the ancient Olympic Games. The need to organize and govern global sports activities created a need for rules, principles, processes, and institutions that transcend national borders and when implemented these elements combine to form the backbone of what can be described as global sports law (Foster 2003, pp. 2–3; Nafziger 2011, p. 4). This process, the globalization of sports law, intensified in the late 1800s with the establishment of international sports governing bodies (SGBs),[1] institutions that today play a central role in the organization and regulation of sports. In this regard, the centralization and globalization of sports went hand-in-hand.

For as long as legal scholars have interested themselves in sports law they have disagreed about its nature. These disagreements run so deep that there has been real and extensive differences of opinion on what to properly call the legal sub-discipline (Latty 2011). However, since at least the 1980s the academic literature has recognized that sports law ought to encompass factors besides those that are purely local, which in a legal context primarily centers around the national and the national legal order. This resulted in the academic acknowledgement of international sports law (e.g. Nafziger 1988). More recently, Foster (2003) and Latty (2007) conducted pioneering work in framing sports law in pluralistic terms. Many have since followed in their footsteps and in the last decade it has become increasingly common to speak of and study global or transnational sports law (see e.g. Casini 2010; Casini 2011; Duval 2013; Lindholm 2019; Mitten 2014).

At the same time, it is clear that the process of globalization of sports law has not been completed, in the sense that all sports law is global, and it is not likely to be completed during the foreseeable future. A quick survey of leading sports law textbooks from different nations will reveal that most of them share certain topics that can fairly be described as global in nature, for example matters relating to the fight against doping, sport dispute resolution, and the organization of Olympic sports. However, those textbooks also differ in the topics they address and address a number of sports law topics using nation-specific sources. These textbook authors thus seem to claim, at least implicitly, that practicing sports law attorneys still need to be familiar with the territorial law of the jurisdiction where they practice (see e.g. Beloff et al. 2012 (UK); Buy et al. 2018 (France); Mitten et al. 2016 (US); Lindholm 2014 (Sweden)). The recent publication of an extensive anthology on

[1] The founding of the International Olympic Committee (IOC) in 1894 most likely made the greatest contribution towards the global regulation of sports. However, it was predated by the establishment of several international sports federations, including the International Gymnastics Federation (FIG) in 1881 and the World Rowing Federation (FISA) and the International Skating Union (ISU) in 1892.

American sports law provides an illustrative example of the present-day relevance of localized sports (McCann 2018). Thus, we currently find ourselves in a situation where local sports law and global sports law exist side-by-side.

It is less clear what in sports law is global and local respectively. Existing research provides no agreed upon answer of what constitutes global sports law or what distinguishes global sports law from local sports law. While there is a strong theoretical and normative discussion, that discussion employs at best a few examples. This article seeks to contribute to existing knowledge about to what extent and in which regards sports law can be characterized as global by taking an empirical approach.

This article seeks to explore the global character of sports law by studying local and global discussions about sports law on social media, more specifically Twitter. It seeks primarily to answer two questions: Who are the actors that drive global and local sports law discussions and which sports law topics are more globally and more locally relevant respectively?

The type of "globality" explored here relates to the global in the sense "of world-wide relevance". Thus, this contribution does not explore sports' and sports law's relative degree of detachment or independence from national law or the transnational character of sports law (compare e.g. Duval 2013; Foster 2019). Much like the aforementioned sports law textbooks, this piece approaches sports law as a body of discrete albeit elusive topics that in some way relate to the relationship between sports and law, such as for example doping, dispute resolution, civil liability, and criminal liability. However, at the same time it is acknowledged that no definitive list of sports law topics can be drawn up and that it is very difficult, if not impossible, to define or quantify all such topics. Finally, this article approaches sports law as a conversation that involves different types of actors (lawyers, non-profit organizations, sports-business people, fans etc.) across the globe and that these actors tend to cluster based on shared interests in particular topics.

The article explores two expectations. First, that the relative relevance of topics varies depending on geography. In other words, certain topics are more relevant in some countries or regions than others. For example, it is reasonable to expect that the legality of salary caps is a more relevant topic in countries where the dominant sports employ salary caps. Second, that topics vary in terms of how geographically extensively they are relevant. In other words, it is essential to give topics a geographical dimension.

As explained in greater detail immediately below, the article explores a unique set of 5,363 tweets about sports law (herein referred to as *Sports Law Tweets*) that were automatically extracted from Twitter over a six-month period. This data is combined with manually collected information about the Twitter users that produce and to some extent consume those tweets (herein referred to as *Sports Law Tweeters*).[2] After a brief description of tweets and retweets about sports law (Section

[2] Replication data is available at: <https://github.com/jojolindholm/sports_law_twittersphere>.

1.3), Section 2 identifies and distinguishes between local and global sports law tweets by studying how far away from their originating point tweets are retweeted.

Using this division between local and global tweets, the rest of the article empirically explores the two questions posed above. Section 3 explores whether there are significant differences between Sports Law Tweeters when it comes to them producing global Sports Law Tweets. In particular, it explores whether there are statistically significant differences in globality of Sports Law Tweeters based on the sector they belong to, their gender (for individuals), and where in the world they are based. Section 4 then seeks to identify global and local sport law topics. To answer this question, the paper explores difference in how often specific words appear both in global and local tweets (Section 4.1) and in tweets originating in different locations (Section 4.2).

This study demonstrates that Twitter contains a quite large, distinctly global sports law discussion but also strong local communities interested in local or even "super local" sports law issues. Neither of these types of sports law communities is inherently superior to the other and one finds active and influential tweeters that focuses on the local level, the global level, and everything in between. While many sports law topics are prominent in both local tweets and global tweets, some topics are more distinctly local or global in character. That a topic lands in either of these categories can often be explained by, first, whether a particular sport -- and the legal issues associated with that sport -- has a more local or global audience and, second, differences in how sports is organized in different countries. For example, this helps explain the study's finding that sports law tweets originating in North America are, in general, significantly less global than tweets originating in other continents.

### 1.2 Method and Data

In order to explore the extent and nature of globality in sports law, this article uses data from Twitter, including information about both tweets and Twitter users that engage with those tweets. Twitter is one of the most popular social media platforms and the relatively easy access to Twitter data has made it a favorite for researchers interested in using social media data (Steinert-Threlkeld 2018, pp. 2-4; Zimmer and Proferes 2014). Twitter is used by actors interested in and working with sports law, both individuals and collectives,[3] to communicate with each other by producing and consuming content relating to the field of sports law. One can in this sense speak of the existence of a *Sports Law Twittersphere* (cf. Bruns et al. 2014; Bruns and Enli 2018). It should be acknowledged that the choice of studying Twitter over another social media platform may have had an impact on the study's results, particularly as Twitter is not equally popular across the globe. Many of the countries where Twitter is most extensively used are Western and English-speaking

[3] Of all Sports Law Tweeters in the data, 34.5% of all accounts were owned by a legal person or collective, 19.9% by female users, and 47.5% by male users.

but there is also a large number of Asian users (see Java et al. 2014; Leetaru et al. 2013; Hawelka et al 2014). However, there is no obvious alternative platform with a more universal sports law user group that might provide a better understanding of global sports law. Also, this article uses approaches that should help mitigate differences in data by region. For example, the significance testing of regional differences takes sample sizes into account.

First and foremost, the data include a dataset with information about all 5,363 original tweets containing sports law hashtag (#sportslaw) posted on Twitter over a six-month period between 20 July 2019 and 19 January 2020. That is, all retweets were removed from the dataset. These tweets are herein referred to as the *Sports Law Tweets*. By selecting the data in this manner, the study targets the particular "hashtag public" (Bruns and Enli 2018, p. 130) or "legal sub-field" (Duval 2018a, p. 104) of interest for answering the research questions. The information includes, *inter alia*, the unique tweet identifier, the tweeted text, the posting Twitter user's username, and how many times the tweet had been retweeted.

The data collection involved some important methodological decisions. First, limiting the data to tweets containing "#sportslaw" exploits and relies on the posting users themselves identifying the topic of their tweets as dealing with a sports law issue, rather than making an independent classification. Obviously, many sports law-related tweets do not contain the hashtag and are therefore not included in the data. However, on the other hand, it is highly unlikely that the data includes false positives, i.e. that a tweet with the particular hashtag addresses a topic unrelated to what could reasonably be characterized as sports law. Also, adding additional hashtags or search terms, such as "CAS" or "doping + law OR legal OR court", would both bias the study towards a particular, preconceived notion of what constitutes sports law and risk the inclusion of false positives. There is also no obvious reason why #sportslaw-tweets would not constitute a representative sample of all tweets about sports law, such as the hashtag being used more frequently by tweeters of particular backgrounds or tweeters that are based in particular places or used more frequently for particular sports law-related topics.

Second, the obvious exception to this is that it biases the data, and therefore the study, towards English-language tweets and, consequently, English-speaking users. However, English is the de facto universal language and bound to be the dominant language of a global discussion about sports law, which is the object of examination. However, the analysis of the data and the findings is done with this in consideration.

Third, how many times a tweet has been retweeted depends in part on how much time has passed since the tweet was posted. Most obviously, a tweet that was just tweeted cannot have been retweeted. Moreover, the data collection process must accommodate the Twitter API which only allows for the collection of tweets during the most recent ten days. For these reasons, between one and nine days passed between when a Sports Law Tweet was posted and information about it was collected for the dataset. The mean time span between posting and collection was

2.9 days with a standard deviation of 1.7 days. Where in this time span a specific tweet is placed should have no significant impact on the data as retweets tend to decrease over time following a power law distribution: a tweet receives 75 percent of all its retweets in the first six hours after it is posted and retweets after twenty-four hours are rare (van Liere 2010; Mathews et al. 2017; Qingyuan et al. 2015).

The data also contains information about all 787 unique Twitter users that posted a Sports Law Tweet, that is any Twitter user that posted a tweet containing "#sportslaw" during the examined six-month period. These users are herein referred to as the *Sports Law Tweeters*. The Sports Law Tweeters dataset contains *inter alia* information about the Sports Law Tweeter's username; whether the account is a personal accounts or an institutional Twitter account managed by a collective;[4] in the case of a personal account whether the user is male or female; where the user is based geographically on the level of nearest major city,[5] country, and continent; where applicable, the professional sector in which the user operates;[6] and number of followers on Twitter. This data was primarily based on information posted by the users themselves on Twitter. That information was manually confirmed and standardized and occasionally supplemented by information provided by the user on other social media platforms, such as LinkedIn, and employer websites.

In the overwhelming majority of all cases there was no hesitation regarding the correct coding. In case of uncertainty values were left blank. The most difficult assessment concerned what city the user was based in but main country was almost always very obvious. Where country was clear but specific city was unclear, the user was coded as based in the largest city of the country. An exception for this was institutional accounts which, in case of doubt, was coded as based in the city of its headquarter or principle place of business.

Finally, the data includes information about connections and dissemination of information within the Sports Law Twittersphere. This more specifically includes basic identifiers regarding 5,959 retweets of Sports Law Tweets: the identifier of the original tweet, the username of the Sports Law Tweeter that posted the original tweet, and the retweeting user's username.[7] A large number of these retweets were made by Twitter users that are not themselves Sports Law Tweeter. For these retweets, the collected information provides limited information that can be used to answer the research questions. However, 1,973 of the retweets (33.1%)

[4] This includes e.g. universities, non-profit organizations, and law firms.

[5] The study uses data about metropolitan areas from United Nations, Department of Economic and Social Affairs, Population Division (2014). World Urbanization Prospects: The 2014 Revision, CD-ROM Edition, included in the package tmap for R.

[6] I identified and coded for five major sectors: academia, law, news, other business (e.g. SGBs, financial services, and sports agents), and non-profit, non-governmental organizations (NGO). In case of multiple possible alternatives, the one emphasized by the user was assigned.

[7] Metadata from Twitter indicates that the collected Sports Law Tweets were retweeted a total of 8,174 times. Thus, Twitter queries for specific retweets only returned information about 73% of the retweets. The reason for this is unclear. However, it is unlikely to affect the representatives of the data.

were made by Sports Law Tweeters. Such retweets within the Sports Law Twittersphere are of particularly relevance in this study: by combining data about tweeters and retweeters it was possible to identify for each retweet both the *geographic origin*, i.e. the geographic base of the Sports Law Tweeter posting the original Sports Law Tweet, and the *geographic destination*, i.e. the geographic base of the Sports Law Tweeter retweeting the original Sports Law Tweet. As explained in greater detail below, this information is used to determine with a high degree of specificity to what extent a Sports Law Tweet was retweeted by and therefore relevant to users far away from and outside the territory where the original poster was based, which in turn is used to distinguish between local and global tweets (see Section 2).

Section 3 seeks to describe and differentiate between Sports Law Tweeters that produce local and global Sports Law Tweets respectively. This is explored by studying whether the global character of a Sports Law Tweet (true/false) can be predicted by the Sports Law Tweeter's characteristics, i.e. the factors collected in the dataset described immediately above. To answer this question, we use a logistic regression model where the outcome variable is whether a tweet is global (dummy) and the predictor variables are the tweeter's sector, gender, and continent (categorical variables).

Section 4 seeks to identify global and local sport law topics. To achieve this, we employ automated text analysis and more specifically term frequency analysis. Word frequency comparison is a common, reliable, and straightforward approach for comparing different corpora (Java et al. 2014). A corpus consisting of all tweeted text was created and processed by removing usernames, weblinks, punctuation, line breaks, and numbers. Also, very common words, e.g. prepositions and articles, so-called stop words, were removed in the pre-processing of the corpus. Finally, all words were converted to lower case and stemmed. On the basis of this data, a number of sub-corpora were created distinguishing between, first, the text of local and global tweets and, second, the text of tweets originating on different continents.

These corpora were then summarized using term frequency, that is in terms of how frequently the different unique terms found in all Sports Law Tweets appear in each corpus. Term frequency is a simple way to describe a corpus, but it can also be used to distinguish corpora from each other. When a term appears more frequently in one corpus than another, this describes how the two corpora differ from each other. As expected, word frequency in the general corpus and the sub-corpora follow a power law distribution (Zipf 1936; Zipf 1949). In this article this information is used to identify terms that are distinct for, first, local and global tweets and, second, tweets from different regions. The terms that characterizes and distinguish those corpora are analyzed from a sports and sports law perspective to identify more general global and local topics.

### 1.3 Exploring the Sports Law Twittersphere

In order to analyze users, tweets, and retweets about sports law we must understand the structure and characteristics of the Sports Law Twittersphere. The first thing to be noted is that tweeters, tweets, and retweets within the Sports Law Twittersphere are not equitably distributed across the globe. As presented in Table 1 below, most Sports Law Tweeters are based in Europe (42.9%) and North America (36.4%). However, there is great variance between Sports Law Tweeters with regard to how many Sports Law Tweets they post and how frequently those tweets are retweeted. Even though there are few costs associated with and other barriers to producing social media content, and in contrast with its egalitarian ethos, much of the attention on social media is concentrated to a few users (Huffaker 2010; Åkerlund 2020).

**Table 1. Sports Law Twittersphere by Continent**

| *Continent* | *Tweeters* | *Tweets* | *Retweets* |
|---|---|---|---|
| Africa | 38 | 116 | 356 |
| Asia | 65 | 262 | 780 |
| Europe | 338 | 2,020 | 3,927 |
| North America | 287 | 1,214 | 939 |
| Oceania | 31 | 1,671 | 2,068 |
| South America | 25 | 76 | 99 |

The Sports Law Twittersphere is no exception. We can use a user's number of retweets[8] and number of unique retweeters[9] as a proxy for the user's influence. A Twitter user that retweets a tweet indicates an interest in the original author's opinion. Retweets are also an indication of the original poster's power to communicate opinions beyond the immediate network (followers). Combining retweets and unique retweeters ensures catching for example users with a small but very active following (Åkerlund 2020, p. 4).

However, as we can see in Figure 1 below, the two measurements largely follow each other in the data and follow a power law distribution. In other words, as is evident from Figure 1, the Sports Law Twittersphere is dominated by a small group of users that wield an out-sized influence in the Sports Law Twittersphere and this group includes Sports Law Tweeters from all continents. The figure also shows that a Sports Law Tweeter's total number of retweets and number of unique retweeters are not particularly strongly correlated with his or her total number of

[8] I.e. the total number of times a Sports Law Tweeter's Sports Law Tweets have been retweeted.
[9] I.e. the total number of unique Twitter users that have retweeted a Sports Law Tweeter's Sports Law Tweets.

Sports Law Tweets in the data. Thus, while many of the members of the Sports Law Twittersphere are based in Europe and North America, the inequitable distribution of influence between users provides a more equitable geographic distribution of influence.

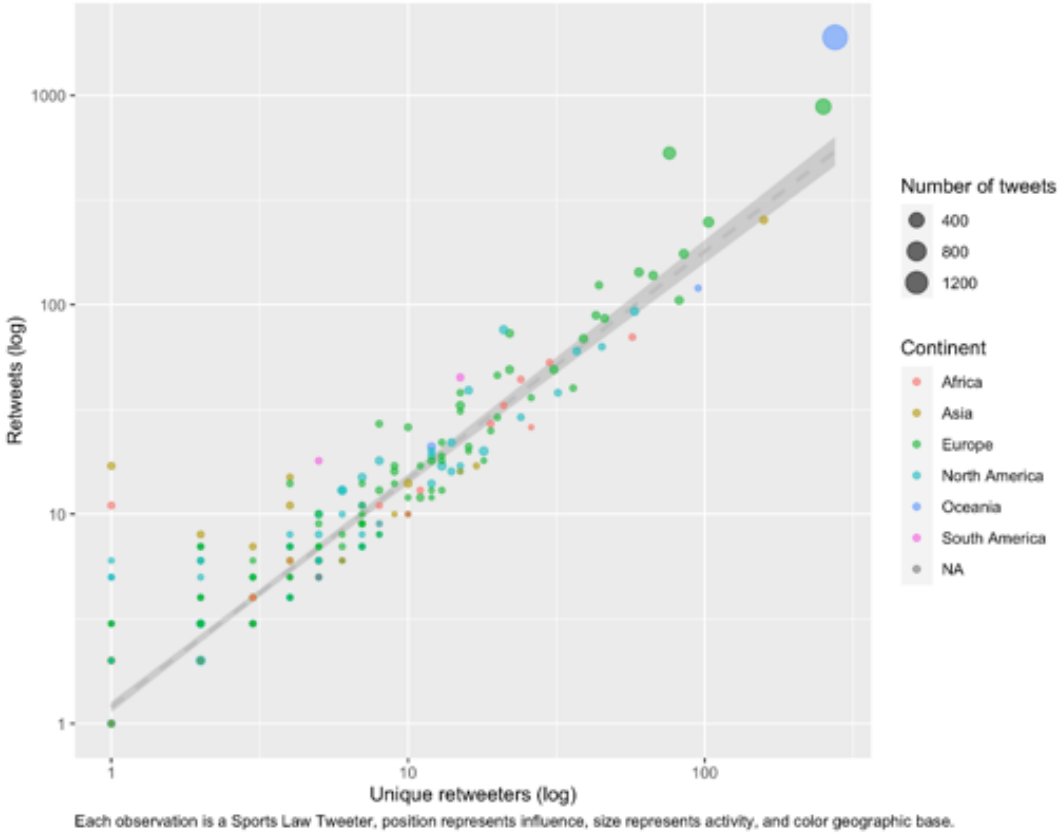


*Figure 1. Activity and influence by Sports Law Tweeter*

Secondly, as we can see in Figure 2, retweets are dramatically inequitably distributed among tweets: 44.4%. of all Sports Law Tweets (2,382 tweets) are never retweeted and 27.8% (1,492 tweets) are only retweeted once. At the other end of the distribution, a small group of 97 tweets are retweeted more than ten times and together collect a quarter of all retweets within the Sports Law Twittersphere.

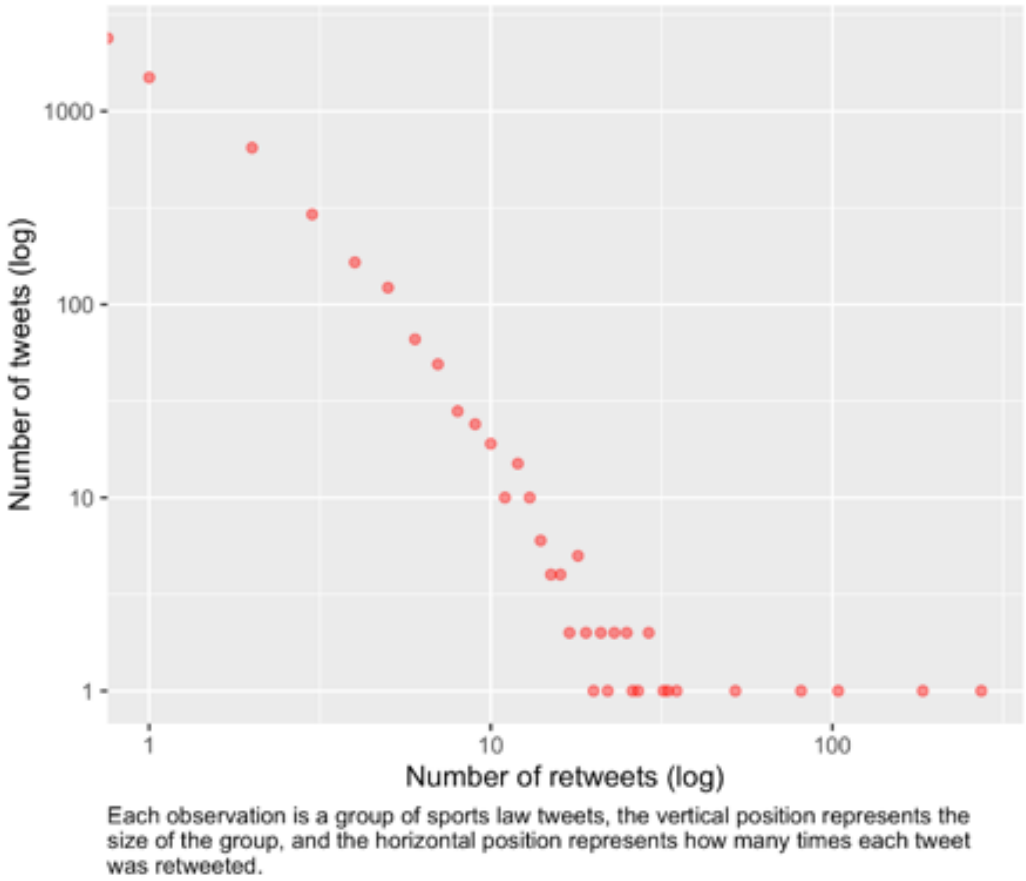


*Figure 2. Retweet distribution*

## 2 IDENTIFYING GLOBAL TWEETS

In order to study the global sports law discourse we must first identify the global discussion or, differently phrased, distinguish the global from the local. As discussed in Section 1, this study approaches this as a question of how geographically extensive tweets are relevant. Thus, we are looking to measure and compare the extent of the geographic relevance of individual tweets or, more simply put, how far a tweet travel (van Liere 2010).

We here use and combine two measurements of geographic reach, both based on retweets. The first is the *geographic distance* in kilometers between the geographic origin of the original tweet and the geographic destination of the retweet (van Liere 2010) (see also above Section 1.2). The second measurement is *territorial reach* that as a numeric variable captures whether the retweet is (1) *domestic*, i.e. the retweet is in the same country as the tweet, (2) *regional*, i.e. the retweet is in the same continent but a different country than the tweet, or (3) *international*, i.e. the retweet is in a different continent than the tweet.

The two measurements supplement each other to capture the global dimension that this article seeks to explore. Geographic distance is an accurate

measurement of global in a very concrete way and is less likely than territorial reach to exaggerate the global nature of retweets across borders within a homogenous region. For example, using territorial reach, a Belgian retweet of a Dutch tweet is regional and a Guatemalan retweet of a Mexican tweet is international. However, at the same time, geographic distance is liable to exaggerate the global nature of domestic retweets within geographically large nations, such as the United States, Canada, and Russia, a problem that territorial reach does not suffer from.

The inequitable distribution of retweets in the data (see Section 1.3) has some methodological consequences. Since we rely on retweets to measure global relevance, Sports Law Tweets that have not been retweeted provide no relevant information; whether a tweet is more relevant locally or globally is a pointless question if the tweet had no measurable relevance to anyone. However, for the 1,305 Sports Law Tweets that were retweeted at least once by a Sports Law Tweeter the data provides a quite exact measurement of how far geographically it was spread. This, in turn, can and will be used to explore to what extent Twitter conversations about sports law is global and whether there are significant differences in the relative degree of globality based on geography, the characteristics of the original tweeter, and the subject of the tweet. We can explore the existence of distinct groups of Sports Law Tweets by studying how the geographic distance of retweets are distributed, meaning the longest distance between the geographic origin of the tweet and the geographic destination of any retweet.

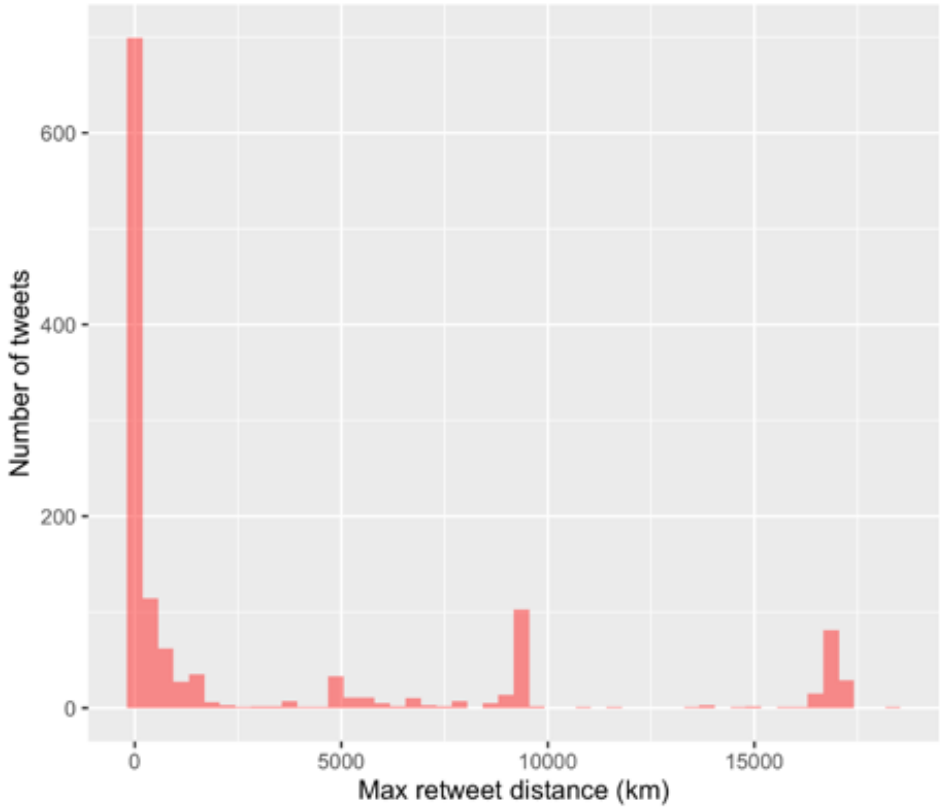


*Figure 3. Geographic distance distribution*

Figure 3 reveals quite clearly the existence of three main groups. The first group, *short-distance tweets*, consists of Sports Law Tweets that are exclusively retweeted within a distance that is less than 2,500 kilometers. The vast majority of all short distance tweets are only retweeted in the same city as the original tweet (geographic distance equals 0), and the frequency of retweets decreasing quickly with distance. After this there is a gap in the geographic distribution before the appearance of a second group of tweets, *medium-distance tweets*, with a maximum geographic distance of between 5,000 and 7,500 km. From around 10,000 km there is another long break in the distribution before the appearance of a third, final, and quite distinct group of *long-distance tweets* with a maximum geographic distance of around 16,500 km.

In this way, geographic distance distribution indicates that tweets can be usefully divided into three groups based on their relative global character. However, adding territorial reach suggests that a distinction between two major groups is more appropriate. The mean territorial reach of the tweets belonging to each of these three categories (Table 2) and the distribution of local, regional, and international tweets across the three categories (Figure 4) provide the same clear message: Sports Law Tweets can clearly and easily be divided into two groups.

**Table 2. Tweets Grouped by Geographic Distance**

| *Category* | *n* | *Range (km)* | *Mean territorial reach*[*] | *Mean geographic distance (km)*[*] | *Mean number of retweets*[*] |
|---|---|---|---|---|---|
| Retweeted tweets | 1,305 | | 1.6 | 3,184 | 3.1 |
| | | | (0.9) | (5,463) | (3.3) |
| Local tweets/short distance | 946 | 0–2,499 | 1.1 | 201 | 2.6 |
| | | | (0.3) | (409) | (2.6) |
| *Super local tweets* | 666 | 0 | 1 | 0 | 2.0 |
| | | | (1) | (0) | (2.0) |
| Global tweets | 359 | 2,500– | 2.96 | 11,046 | 4.5 |
| | | | (0.2) | (4,771) | (4.3) |
| *Medium distance* | 222 | 2,500–9,999 | 2.9 | 7,549 | 4.5 |
| | | | (0.3) | (2,034) | (4.8) |
| *Long distance* | 137 | 10,000– | 3 | 16,712 | 4.5 |
| | | | (0) | (954) | (3.5) |

[*] Standard deviation in parenthesis

Short-distance tweets hardly ever reach outside the borders of the country where they were made and can therefore be characterized as *local tweets*. In fact, the overwhelming majority of the local tweets are "super local" in the sense that they

are not retweeted outside of the city where the original posters are based. This clearly suggests that the contribution of these tweets to the global sports law discussion is limited. On the other side of the spectrum, no meaningful distinction can be drawn between medium- and long-distance tweets and together they form what can fairly be characterized as *global tweets*: both categories consist almost exclusively of internationally retweeted tweets and, conversely, all international tweets belong to these categories. With the stark difference in global spread between tweets that reach below and above 2,500 km respectively, there is very little need or room for an intermediate category of tweets to describe the data.

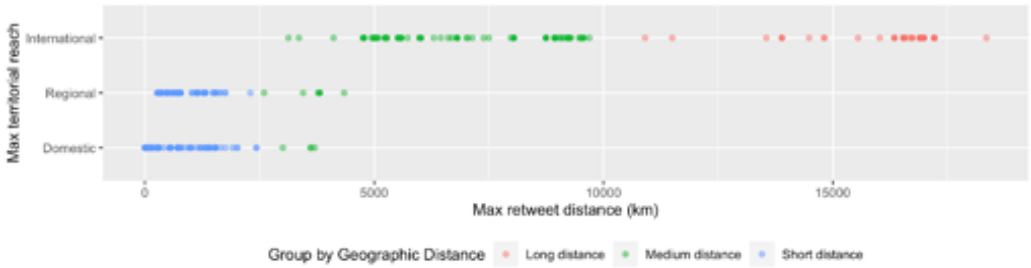


*Figure 4. Geographic distance and territorial reach by distance group*

The most interesting aspect of these findings is the relative size of the respective groups and, in particular, the significant number of local tweets: three-fourths of all Sports Law Tweets are local and more than half are super local. It is hazardous to make a normative assessment whether the Sports Law Twittersphere ought to be more global. However, I find the strong presence of local sports law tweets somewhat surprising. As addressed in Section 1.1, sports and sports law are generally thought of as particularly globalized, and have been for quite some time. Moreover, these findings are based on an approach and data that would seem to provide optimal conditions for identifying globally-relevant tweets: English-language conversations on a global social media platform in 2019 (see Section 1.2). In this regard, one might expect that a study based on other data is more likely to reveal an even lower rather than greater degree of globality in sports law discourse.

It should in this context be emphasized that the limited geographic spread of local tweets does not mean that local tweets are irrelevant in the sense that few are interested in the topics that they address. While local tweets are on average retweeted less frequently than global tweets, the difference is not as great as one might have expected (Table 2). Considering that global tweets have a global audience that is obviously much larger than any local audience, one might have expected a much greater difference in the retweet rate between local and global tweets. The fact that there are plenty of opportunities for local tweets to be retweeted strongly suggests the existence of significant local communities interested

in sports law issues of local relevance. Thus, we should think of the Sports Law Twittersphere as consisting simultaneously of a significant global community *and* strong local communities.

## 3 WHO IS GLOBAL, WHO IS LOCAL?

On a general scale, the Sports Law Twittersphere thus has a clear and somewhat surprisingly strong local character. However, one should not assume that the relative degree of globality is distributed equally across all tweets and all tweeters. This section explores the existence of significant differences between the characteristics of local and global Sports Law Tweets. The question we are trying to answer is essentially to what extent we can predict whether a Sports Law Tweet is of global relevance on the basis of information about the tweet and the user who tweeted it.

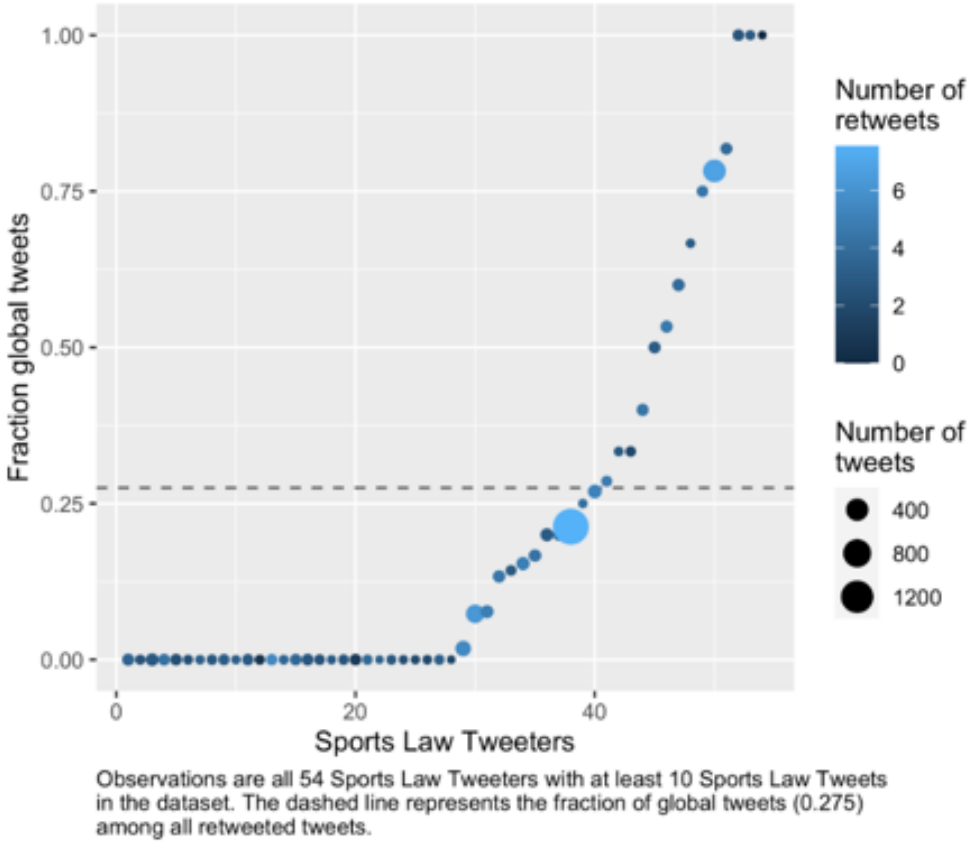


*Figure 5. Degree of globality by Sports Law Tweeter*

To start we can note that there are significant differences between individual Sports Law Tweeters with regard to the global relevance of their tweets and that at least some users have a clear tendency towards either the local or the global (Figure 5).

This is not as such particularly surprising: we would expect the level of globality portion of global tweets, similar to for example the distribution of retweets (see Section 2). It is however somewhat surprising that there is no apparent correlation between, on one hand, how active Sports Law Tweeters are in the Sports Law Twittersphere in terms of how many Sports Law Tweets they have posted and, on the other hand, neither their level of globality nor how frequently their tweets are retweeted. Active and influential Tweeters can be found on both the upper and lower scale of the globality distribution.[10] This strengthens the conclusion made above that there are strong local communities within the Sports Law Twittersphere. These communities' existence indicates by extension that there are distinct local sports law issues that are relevant to these communities. This is explored in greater detail in Section 4.2 below.

There are a number of factors relating to the tweeter that could possibly help predict whether the tweet will be local or global. However, the data reveals that differences between Sports Law Tweets that are local and global are not generally tied to the tweeters' gender, in what section they work, or where in the world they are based. Nevertheless, there are some exceptions to this and where a characteristic of the tweeter significantly helps predict the globality of his/her/their tweets (Figure 6).

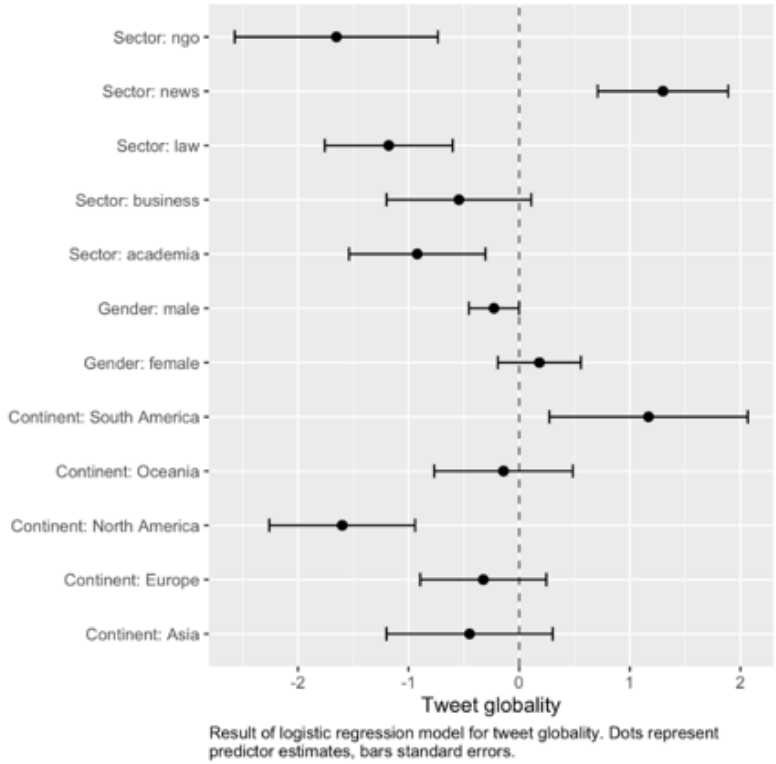


*Figure 6. Globality by sector, gender, and continent*

[10] Although not plotted in Figure 5 it can be noted that the same is true for number of followers.

First, the tweeter working in the news sector is positively correlated with the tweet going global. A number of factors may contribute to this result. While all actors involved in the Sports Law Twittersphere are presumably interested in getting their message out and maximizing their audience, this is arguably especially true for those who are professionally involved in news dissemination. Moreover, it is reasonable to expect that professional reporters and news organizations are particularly skilled at identifying stories that are of interest to a global audience and framing these stories in a way that are attractive to a global audience. This result may also say something about Sports Law Tweeters as consumers of information. Perhaps they trust tweets from reporters and news organizations more than from, for example, lawyers and academics. Perhaps they are more interested in sports law news than sports law opinions. Or maybe journalists simply produce a higher portion of high-quality, retweet-worthy tweets. By comparison, the tweeter being a practicing attorney or a law firm is negatively correlated with the tweet being global rather than local. In other words, relative to other Sports Law Tweeters, practicing lawyers tweet more about local sports law matters and less about global matters. One interpretation of this is that the practice of sports law is, as discussed above in Section 1.1, still in many regards local in character and more so than, for example, the academic debate or the news coverage.

Finally, the tweeter being based in North America is negatively correlated with the tweet going global. It is unlikely that this difference can be explained by the data sample as it includes a large amount of Sports Law Tweets from a large number of North America-based Sports Law Tweeters, many of whom are also frequently retweeted (see Section 1.3). One plausible explanation for North American tweets being more local lies in the differences between North America and most of the rest of the world when it comes to which specific sports consumers are interest in. Football (soccer) is the most popular sport in 226 countries and two of the rare exceptions are Canada (ice hockey) and the United States (American football) (Beauchamp 2014; Kidwell 2008). While fans in other regions also have more locally-relevant sports, they share a strong interest in the "global game" that bind them together and distinguish them from the average North American sports fan.

Another possible explanation for the observation may be differences between the so-called American and European sport models. For example, the existence of division promotion-relegation and intra-league restrictions such as drafts and salary caps affect what legal issues become most pressing in the jurisdictions respectively. These explanations are explored further in Section 4.2 by studying textual differences between Sports Law Tweets of North American origin and Sports Law Tweets from the rest of the world.

# 4 GLOBAL AND LOCAL SPORTS LAW TOPICS

## 4.1 What Is Global Sports Law?

The question of whether there is a global sports law that consists of topics of distinctly global relevance, such that one can distinguish it from local sports law, remains to be answered. In order to provide an answer based on the data the question can be reformulated as follows: do Sports Law Tweets that are of global relevance address different topics than those that are of local relevance? That question can and will be addressed by comparing all global tweets against all local tweets. Doing so can help identify what, if anything, are globally shared topics. However, it is less well suited for identifying what is distinctly local; it lies in the very nature of the local that it differs between different localities. This examination shall therefore also involve an examination and comparison of sports law topics discussed in some example countries. To achieve this, we need to analyze the text of the Sports Law Tweets and, as described in greater detail in Section 1.2 above, a corpus containing the tweeted text of the Sports Law Tweets was created for this purpose. We can then compare the text used in local and global tweets as well as tweets originating in different places, we can capture what topics they address and if they differ.

We begin by comparing and analyzing the text of local and global Sports Law Tweets respectively. To do so requires describing the tweeted text in a quantifiable and comparable manner and a straight-forward solution for this is word frequency. This essentially consists of identifying all unique words in all tweets and calculating how common each word is in local and global tweets respectively (see also Section 1.2). Many words will appear more or less equally frequently in both local and global tweets and are of limited use for distinguishing global tweets from local tweets. However, some words are used more frequently in either local or global tweets and help to describe what distinguishes the one from the other (Figure 7).[11]

[11] It should be noted that the corpus dictionary contains 3,616 unique words, many more than can legibly fit in the figure.

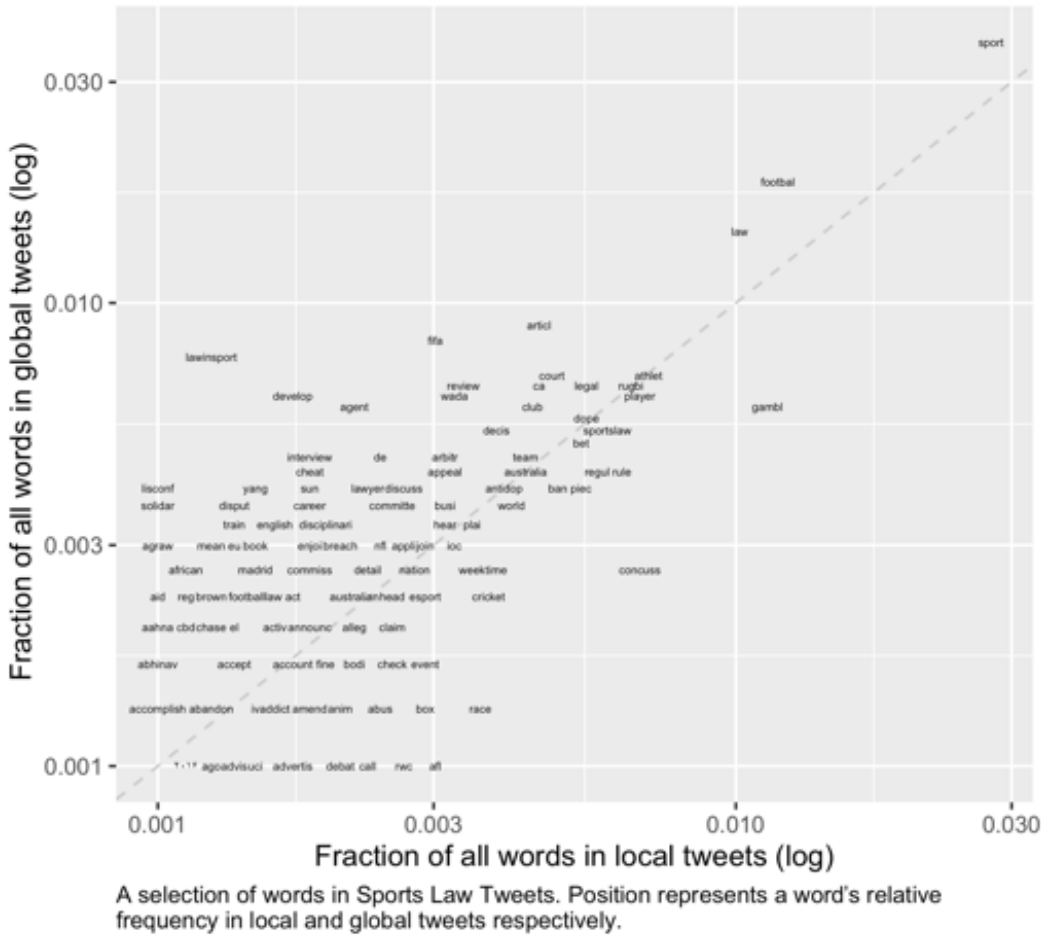


*Figure 7. Word frequency in local and global tweets*

Some of these words obviously relate to specific events. However, many of them can be associated with the organization and regulation of sport and correspond with well-known sports law topics. As discussed in Section 1.1 above, there are some arguably global sports law topics that sports law textbooks all over the world addresses and it is interesting to examine to what extent words associated with these topics appear in local and global tweets respectively. This includes, in particular, words that relate to major sports governing bodies (SGBs); the Olympic Games, the FIFA World Cup, and other mega sporting events; sport dispute resolution, particularly the Court of Arbitration for Sport and its jurisprudence; doping, in particular the interpretation and enforcement of the World Anti-Doping Association (WADA) Code; and the application, violation, and protection of fundamental or human rights.

As we can see in Figure 7, many of the words that appear in Sports Law Tweets can be associated with these topics. Many such words appear roughly equally frequently in local and global Sports Law Tweets, such as words that are

related to doping[12] and dispute resolution in sport[13]. This suggest that legal issues relating to doping and dispute resolution are not of only local or global relevance but both. Thus, one would not be wrong to claim that doping and dispute resolution are core topics of global sports law, but it would also not be wrong to claim that they are key issues of local sports law. One possible exception from this might be specific cases: tweets containing the words "sun" and "yang", associated with the Court of Arbitration for Sports's hearing in *WADA v. Sun Yang*, i.e. dispute resolution of a specific doping matter, attracted a distinct global following.

These findings indicate that local sports law is closely connected to and overlaps with global sports law and that achieving a more complete understanding of many sports law topics requires taking into consideration development on both the local level and the global level. I believe this should encourage lawyers that engage with sports law to develop broad competences; the existence of the entirely local sports lawyer appears untenable but so does also the existence of the purely global sports lawyer.

Some words appear more frequently in either local or global tweets and both help describe them and distinguish them from each other. Many of those words are associated with specific sports. As one would have expected, words associated with sports that are particularly strong only in some countries and regions, such as Australian football, rugby, and cricket, appear more frequently in local Sports Law Tweets. By comparison, the word "football" and many words related to football appear more equally frequently in both local and global tweets. As concluded in Section 2 above, the Twittersphere contains both a strong global community and strong local communities. Legal issues relating to football would seem to be an example of a topic that is strong in both camps.

The data provides some less expected findings. Considering its central place in the private sports law regime (Duval 2018b, S246, S248-S253; Nafziger 1992, pp. 491-493), I would have expected terms associated with the Olympic system to appear particularly frequently in global tweets but picture that emerges from the data suggests that reality is a little more complicated and nuanced. Some SGB's, like FIFA, appear particularly frequently in global tweets while others, like the International Olympic Committee (IOC), is used more or less equally frequently in local and global Sports Law Tweets. This could be read as Olympic sports being less globally relevant than football.

However, a manual examination of local and global tweets about the IOC and FIFA indicates that the difference between the two is not the actors as such but rather which parts of their activities the Sports Law Twittersphere is interested in. Many local tweets about the IOC concern either IOC decisions directed at specific countries, e.g. Russia, Germany, United Kingdom, Australia, and France, or decisions in disputes between the IOC and national Olympic committees. By

[12] E.g. "wada", "dope", and "antidop".
[13] E.g. "review", "arbitr", "appeal", and "ca" (erroneously stemmed version of "CAS").

comparison, many global tweets about the IOC concerned the actions or role of the IOC on issues of sport policy and governance. Local and global tweets about FIFA largely follow a similar division. The major difference between the IOC and FIFA appears to be that the Sports Law Twittersphere is more interested in FIFA's role in the regulation of football, such as the regulation of agents which is also a distinctly global word, than its decisions in or involvement in particular disputes. Also, when FIFA takes actions against major football clubs it appears to be of significant global interest and more so than when the IOC makes comparable decisions in individual cases.

### 4.2 What Is Local Sports Law?

There are a number of words that are distinctly local, such as concussions and gambling, and that indicate which sports law topics are local in character. However, the global/local word frequencies comparison is not the best tool for identifying which sports law topics that are distinctly local. One issue with only distinguishing between global and local tweets is that it masks geographical differences. It assumes that the nature of the local is homogeneous around the world even though, almost by definition, it is most likely not. Just like what characterizes global discussions must be measured globally, what characterizes local discussions must be measured locally.

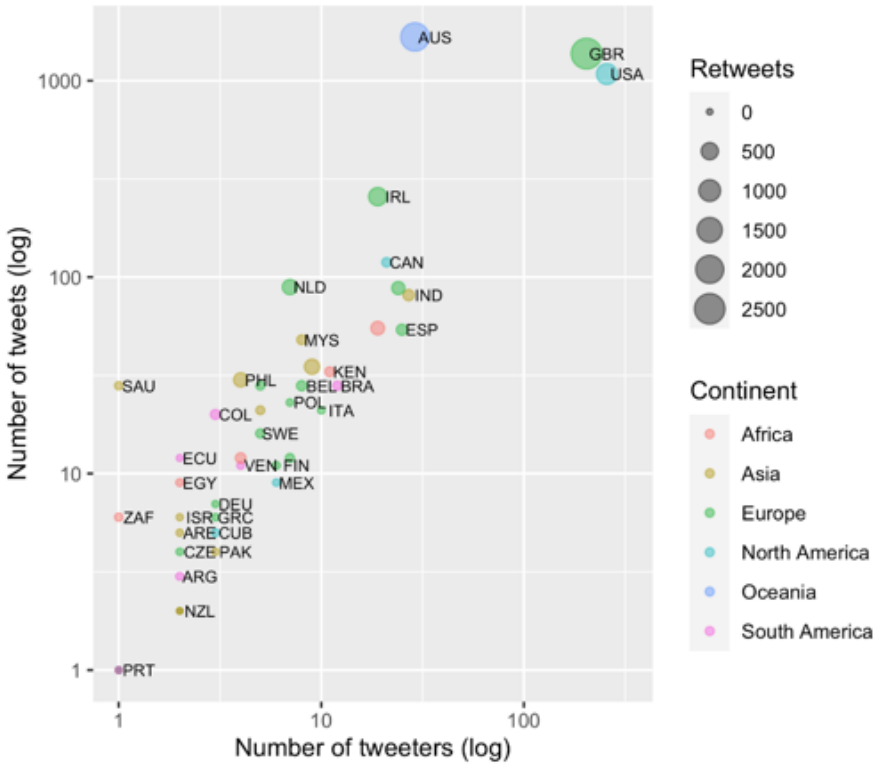


*Figure 8: Geographic distribution by country*

One approach for achieving this is to study the text of tweets originating in individual geographic regions. The three countries set themselves apart in the Sports Law Twittersphere: The United States, Great Britain, and Australia.[14] These three countries have the three largest numbers of tweeters, tweets, and retweets and thus the largest data to work with (Figure 8).

We can explore what topics of sports law that are particularly locally relevant in those counties by identifying what characterizes and sets apart tweets that come from each of them (Salton Buckley 1988).

A simple and efficient standard tool for this is Term Frequency Inverse Document Frequency (TF-IDF). In short, for each word that appears in a document, TF-IDF provides a value that represents how important that word is in that document compared to the entire corpus. For the purposes of this study we can approach the text of all Sports Law Tweets as a corpus and the text of tweets originating in a particular country as single, distinct documents. Using TF-IDF we can then identify the words that distinguish and describe tweets from each country from the entire corpus. Table 3 below presents the top words for tweets originating in the United States, Great Britain, and Australia.

**Table 3. Top Words by TF-IDF**

| *Rank* | *USA* | *Great Britain* | *Australia* |
|---|---|---|---|
| 1 | ncaa | sport | piec |
| 2 | colleg | antidop | afl |
| 3 | oakland | lawinsport | concuss |
| 4 | bill | club | australia |
| 5 | lawsuit | rugbi | rugbi |
| 6 | nfl | footbal | race |
| 7 | imag | violat | dope |
| 8 | athlet | athlet | gambl |
| 9 | like | govern | australian |
| 10 | california | team | cricket |

The words associated with tweets from the USA is most immediately interesting since it was established in Section 3 that Sports Law Tweets originating in North America have a significantly lower degree of globality than tweets originating in other continents. Many of the tweeted words that are distinctly American are associated with the ways by which sports is organized differently in North America

[14] Their dominance is likely at least in part due to how the data was collected. See above Section 1.2. However, for the purpose of comparison it is practical, almost essential, to use a corpus that is in a single language, here English.

than much of the rest of the world, such as the central role of collegiate sports organized by the National Collegiate Athletic Association (NCAA).[15] As described above the data includes all tweets during a six-month period. It is nevertheless evident from the table that the American tweets focused heavily on the issue of college athletes' rights to profit from their likeness, also referred to as image rights. This has been a major topic in American sports law literature for some time (see e.g. Landry and Baker 2019), but a California bill introduced during the studied period, the "Fair Pay to Play" act, constituted an open revolt against the NCAA principle of amateurism (Bayard 2020). While the presence of the words in Table 3 reflect the importance of this topic and its development in the United States, that they appear much more frequently in local tweets (see Figure 7) indicates that this topic is less central to global sports law.

However, this is not true for all words that one might distinctly associate with American sports. Unsurprisingly, the word "NFL", referring to the professional American football league in the United States, is one of the words that characterizes Sports Law Tweets originating in the US (Table 3). It is more unexpected that "NFL" appears essentially equally frequently in global and local tweets (Figure 7). Thus, while both the NCAA and the NFL are American institutions, and arguably distinctly so, the former is predominantly locally relevant while the latter is also relevant both locally and globally. It is precarious to draw broad inferences about the development of sports more generally from data about Sports Law Tweets, but if the interest of Sports Law Tweeters are representative for the interest of the general public this may suggest that the NFL is becoming an increasingly globally relevant sport.

The words that best describe British and Australian tweets are dominated by words relating to sports that are particularly popular in those countries.[16] As we can see in Figure 7, many of these words tend to be more locally relevant. However, some of those words, such as those relating to doping and football, have high global relevance. This helps to explain why tweets from Sports Law Tweeters from these regions in general are more globally relevant, even though they also address locally relevant topics.

## 5 SUMMARY AND CONCLUSION

This study has provided empirically-based knowledge about global sports law. It largely confirms the intuitions of sports lawyers and sports law academics that sports law is an extensively globalized field. The study has been able to confirm the existence of a strong community of Twitter users across the globe that are interested in and together discuss certain sports law-related topics.

[15] E.g. "academ", "colleg", "ncaa", and "student".
[16] E.g. "rugbi", "afl", and "cricket".

But that is not the end of the story. Sports law is not thoroughly globalized. Judging from the activity on Twitter, local sports law is very much alive and kicking with its own communities, influential users, and topics. There are even significant super local communities discussing sports law matters only of interest within a single metropolitan area. Their existence can be explained by some sports being very locally relevant and regional differences in how sports are organized. However, the study also shows that it in many instances its inaccurate to describe local and global sports law as separate and more appropriate to approach them as distinguishable but co-dependable spheres.

It would be interesting to know how other legal areas or sub-fields compare to sports law when it comes to the relative degree of globality. It would also be valuable to study if the sports law discussion is becoming more global over time. As discussed at the top of this article one can over several decades detect an increased emphasis of global sports law issues in the academic literature. This study's findings caution against assuming that we are already in a wholly post-national legal world. Whether we are moving in that direction and, if so, how fast, would require studying the topic over a longer period of time. In that regard this study has hopefully illustrates the possibility and value of data-based approaches, pointed towards a workable methodology, and provided some values that can be used for comparisons.

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# BOOK REVIEW: INHUMAN POWER: ARTIFICIAL INTELLIGENCE AND THE FUTURE OF CAPITALISM

Nick Dyer-Witheford, Atle Mikkola Kjøsen, and James Steinhoff

*Reviewed by* Mario Khreiche*

*Inhuman Power: Artificial Intelligence and the Future of Capitalism* by Nick Dyer-Witheford, Atle Mikkola Kjøsen, and James Steinhoff is part of the Digital Barricades series that addresses concerns in the nexus of digital media, geopolitics, and political economy. In this wider context, *Inhuman Capital* assesses the relationship of AI and capitalism with a twofold purpose. On an empirical level, the book surveys the current state of AI research and development while, on a theoretical level, it explores in depth the utility of Marxist thought toward an analysis of a capitalist project beyond and without human involvement. Despite their unambiguous ideological leanings, the authors' deliberate situating of the work among literature in the discourse, the attention to underlying political economies, and a detailed overview of AI technologies - and this can be said at the outset of the review - are certain to broaden the prospective readership of *Inhuman Power* beyond academic circles.

The book features five chapters, including an introduction, three substantive chapters, and a conclusion. The "Introduction: AI Capital" locates the project and outlines its main influences, key concepts, and some empirical cases. "Chapter I: Means of Cognition" posits the book's central idea, namely that AI is on its way to being integrated into economic infrastructure, a fixed component of capital, not unlike railroads in the 19th and information technologies in the 20th century. "Chapter 2: Automating the Social Factory" charts a wide range of industrial automation applications, reviews various domain specific studies and, importantly, traces automation beyond the workplace. "Chapter 3: Perfect Machines, Inhuman Labor" considers seriously the prospect of Artificial General Intelligence (AGI) and Artificial Super Intelligence (ASI) against the background of a human surplus species. Finally, the "Conclusion: Communist AI" closes with a coda on the viability

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of extracting transhumanist tenets and reappropriating capitalist machinery toward a revolutionary political project.

In the introductory chapter, Dyer-Witheford, Kjøsen, and Steinhoff take issue with the ways that AI (and more generally automation technology) is discussed among technologists, economists, and crucially leftist commentators. In the authors' view, several recent critiques of automation applications "minimize" the revolutionary potential of AI, emphasizing instead the many remaining humans in the loop of ostensible AI technologies. Here, the authors specifically cite Astra Taylor's "The Automation Charade" (2018), though similar interventions come to mind, for example, Mary Gray and Siddharth Suri's *Ghostwork* (2016) or Lilly Irani's "The Hidden Faces of Automation" (2016). These works focus, in one way or another, on the human labor of cleaning data, monitoring computational processes, and maintaining systems commonly understood as automation in an industry that exerts high pressure on workers and wages. While the authors agree that "automation has an ideological function" that is routinely "weaponized to intimidate workers" (4-5), they nonetheless assert that the minimizing position understates the technical capabilities and socioeconomic implications of AI. Conversely, Dyer-Witheford, Kjøsen, and Steinhoff also identify a tendency to "maximize" the affordances of automation and AI, as is the case in so-called left accelerationist contributions to recent progressive discourse. Whether Nick Srnicek and Alex Williams's *Inventing the Future* (2016), Paul Mason's *Postcapitalism* (2017), or Aaron Bastani's *Fully Automated Luxury Communism* (2019), the maximizing positions optimistically promote the detachment of modern technology from (and its reappropriation beyond) capitalism (7). Rather than merely compromising between these two stances, the authors instead propose an abyssal view to reflect on the inherently unknowable trajectory of AI invoked by the book's title: "AI's near and far future capacities and deployments can, and should, instil political vertigo" (8). Part of this endeavor - and this too is suggested in the title of *Inhuman Power* - is to also crack open the uncanny world of right accelerationist thought, perhaps most prominently formulated in Nick Land's controversial "The Teleological Identity of Capitalism and Artificial Intelligence" (2014).

Against the background of both minimizing and maximizing positions, the first chapter develops a perspective whereby AI should be increasingly considered as becoming part of what Marx termed "the general means of production" or, in the words of the authors, "the means of cognition." In this view, "If AI becomes the new electricity, it will be applied not only as an intensified form of workplace automation, but also as a basis for a deep and extensive infrastructural reorganization of the capitalist economy as such" (31). In terms of conceptual contribution, the framework of AI as infrastructure is cogent, as it allows for some important adjustments in the critical analysis of, for example, online microwork, gig-economy freelancing, and overall engagement with the products of major tech platforms. "While AI development does, for the moment, depend largely on the mining and processing of data drawn from a networked multitude," the authors

suggest, "the aim of such development is to attain a whole new level of automation giving capital unprecedented independence from labour" (32). AI capitalism, then, requires not only the intensified outsourcing, crowdsourcing, taskification, and gamification of production and consumption, but also invariably tracks these activities to train machine learning (ML) systems. Given the requirement for evermore training data, the AI industry is firmly in the hands of a few machine intelligence oligopolists (32-42).

The notion of infrastructural AI (or in the Marxian vocabulary the general means of production) engages with optimistic characterizations of terms like "democratization" and "open source," ideas frequently misunderstood in mainstream receptions of media and information technologies and, by extension, the maximizing positions that too closely follow the premises and promises of technologists. Indeed, the appeals of AI technologies to distributed networks and open access are instrumental to the interests of a select few dominant providers: "'Open source' is a buzzword for the business press and major IT corporations have shifted from seeing the open-source community as dangerously subversive to viewing it as a source of robust no-cost programming, a potential recruitment ground, and a strategic site for attracting users to their platforms" (54). The framework of AI capitalism therefore enables a critique whereby, for instance, Microsoft's acquisition of the GitHub code repository is not so much a continuation of the firm's former relentless licensing practices, but rather a recognition that long-term growth will require control over the means of cognition. In addition, the emphasis on the general conditions of production highlights weaknesses in the autonomist notion of the social factory, a conceptualization that (over)emphasizes the political possibilities for workers in post-industrial and post-Fordist societies, as the following chapter elaborates.

The second chapter grounds its discussion in a critique of the autonomist ideas of class composition and the social factory, categories that apply Marxist methodologies beyond their conventional contexts, so as to analyze "the organization of the working class to fight for improvements in wages, hours and conditions" and to consider "how capital could be fought not just on the industrial shop-floor, but in schools, households, shops and warehouses around the entire circuit of capital" (70-71). Rather than an increase in worker power, however, the transition from Fordism to post-Fordism saw the deployment of automation in factories and offices, the shifting of production sites into global markets, and the development of high-risk financialization. What is more, the heirs of these 'fixes', "the digital industries [were] the beacon of hope" after the 2008 economic recession (73-74). In the last decade, big tech's substantial investments have generated a vast AI industry that, notwithstanding a continued reliance on globalized and low-wage crowdsourcing brokerages like Amazon Mechanical Turk, posits ubiquitous automation as a teleology. Thus, "All parts of ML's segmented workforce confront a horizon where the very product they create may automate their labor, so that data scientists and data cleaners may both be working themselves out of a job" (79). AI

capitalism is not at all antithetical to gigification, taskification, gamification, and algorithmic management of work, but is in fact predicated on reorganizing the workforce in the entire social factory. To bring this home, the authors refer to Bernard Stiegler's concept of grammatization, "the process through which the flows and continuities which weave our existence are discretized" (97). Stiegler's approach implicates that ML technologies "calculate correlations [...] to automatically anticipate individual and collective behavior, which they also provoke and 'auto-realize'" (98). In other words, discussions about automation, AI, and the Future of Work, the authors seem to suggest, should include accounts of the shifting meanings of work and the potential forms of struggle in these spaces.

The third chapter departs from so-called narrow AI applications that make up the vast majority of the industry and delves into the largely fictional realm of AGI and ASI. The authors correctly note that the meaning of AI has taken a sharp turn toward narrow, predictive, and commercial applications in comparison to earlier projects, such as the 1956 Dartmouth workshop, the 1983 Soar cognitive architecture, and the 1984 Cyc project (111-112). Even today, AGI projects constitute only a small share of the AI industry, with 45 initiatives worldwide. Most prominent among these are "Alphabet-Google's DeepMind, the Elon Musk-backed Open AI, and the Human Brain project, while other notable projects include Vicarious FPC, the Microsoft acquisition Maluuba, Open Cog, Uber AI, and Nnaisense" (113). Conceptually, this chapter establishes AGI as a more applicable category than "human-level machine intelligence" (HLMI), whose essentialist baggage forecloses a deeper exploration of consciousness, cognition, and imagination toward an analysis of an inhuman political economy. In support of their argument, the authors leverage recent contributions in animal studies and advance ML systems against Marx's humanist assumptions. In particular, the example of DeepMind's AlphaGo project, which beat world champion Lee Sedol in 2016 is striking in its challenge of creativity as a distinctly human feature (120-121). Indeed, in the last year DeepMind's AlphaStar performed successfully in the Real-Time Strategy game StarCraft II, which unlike chess and Go presents players with imperfect information. Against the background of these trajectories, the authors suggest that, if it came to pass, AGI might indeed render humanity "as outdated hardware unsuitable for running the inverted world of capital" (144).

To conclude, Dyer-Witheford, Kjøsen, and Steinhoff offer a few remarks on the so-called reconfiguration debate, which reflects on the possibilities of repurposing existing technology and infrastructure toward a communist orientation to AI. This enterprise is at once difficult and necessary, "For [...] only capitalism built into itself a systematic imperative to recruit labor, replace it with machines, accelerate markets, and animate commodities so that their rendezvous with purchasers becomes increasingly self-propelled and auto-guided" (149). Consequently, a blend of UBI style politics and *Fourth Industrial Revolution* (Schwab 2016) inspired eco planning would be insufficient modes in the current crisis. Rather, more promising currents seem derive from more radical ecosocialist,

de-growth, and deceleration movements. Here, it could be argued that the connections of AI capitalism to environmental and ecological concerns - the smart city whose sensors and IoT technologies both produce and monitor energy expenditure (152) comes to mind - remain relatively cursory throughout the book. Another, admittedly minor, criticism has to do with the authors' bid to infuse their discussion with science fiction material, a strategy that might have particularly paid off in the chapter on AGI. However, the use of fiction is limited to a few illustrations and therefore remains on the level of representation. Thus, the most innovative contribution of *Inhuman Power* is its creative application of Marx's thought to AI capitalism and, conversely, the exploration of Marxism itself against the background of infrastructural AI.