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# How Telegram Disruption Impacts Jihadist Platform Migration

**FULL REPORT**

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# EXECUTIVE SUMMARY

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Europol conducted two Action Days geared towards meaningfully disrupting jihadist networks on Telegram – a social media platform favoured by groups like Islamic State (IS) and al-Qaeda – in October 2018 and November 2019.

This paper aims to understand the impact of the 2018 and 2019 Europol Action Days – first, what they meant for the health and size of said jihadist networks on Telegram and second, how they impacted on the phenomenon of migration onto other platforms. It does this by interrogating a dataset containing 7.8 million Telegram posts collected from 1,911 jihadist channels and groups.

## KEY FINDINGS

- Overall, the 2019 intervention was found to have had a profound impact on the number of jihadist posts (and, indeed, jihadists posting) on Telegram. Further, its impact was not short-term or temporary but continued into the time of writing.
- By contrast, the 2018 disruption effort had only a modest impact on the jihadist ecosystem on Telegram, though in the aftermath of this Action Day the dissemination of outlinks – that is, links to other file-sharing and social media platforms – increased.
- The 2019 activity was found to have a profound impact both on the number of unique posts and forwarded posts generated by jihadists, as well as on their dissemination of outlinks. A significant and enduring drop in activity occurred in its aftermath.
- Although many more new channels were created after the 2019 Action Day compared to the 2018 Action Day (105 compared to 12), the average lifespan of these channels was markedly different. Channels created in 2018 lasted for an average of 302 days with an average of 4.6 posts per day. By comparison, channels created in 2019 lasted for 14 days with an average of 56.8 posts per day. This reflects the fact that, in the latter case, disruptive pressure was sustained.

- After the 2019 Action Day, jihadists increasingly experimented with both established and new platforms, including Twitter, Rocket.Chat, TamTam, nandbox, and Hoop Messenger.

## POLICY IMPLICATIONS

- Takedowns are effective when deployed in a coordinated and sustained fashion, coupled with real-world policing/intelligence initiatives. The 2019 Action Day combined online action with real-world enforcement led by national authorities.
- The online space is likely to become more complex as the distinction between ‘groups/organisations’ becomes increasingly blurred when contrasted with ‘social movements.’ This is relevant not only in the context of the jihadist ideological current but also groups on the extreme left and right of the political spectrum.

# OVERVIEW

In October 2018 and November 2019, Europol conducted two Action Days geared towards meaningfully disrupting jihadist networks on Telegram – a social media platform favoured by groups like Islamic State (IS) and al-Qaeda. An Action Day refers to occasions on which Europol conducted coordinated activity with social media platforms to target propaganda videos, publications, and social media accounts supporting terrorism and violent extremism.

Telegram is a social media platform on which – among other things – users can create channels where administrators broadcast messages to their subscribers in unidirectional form (i.e. recipients of messages cannot reply to them); and groups where anyone within the group can post a message and where others can reply to it. Groups are more discursive and communal in nature. There are also ‘supergroups’ which are explained in more detail in the report.

## THE RESEARCH PUZZLE

We aimed to understand the impact of the 2018 and 2019 Europol Action Days on jihadist platform migration by assessing how three distinct but overlapping variables were impacted 30 days either side of the relevant action. Disaggregating these variables enabled us to better understand the impact of disruptions on various types of behaviour. These variables are:

- the number of unique posts in channels and groups
- the amount of forwarded material from groups or channels to somewhere else (the vast majority of IS-related material on Telegram is forwarded)
- the number of outlinks to websites beyond Telegram that appeared.

To do this we interrogated a dataset containing 7.8 million Telegram posts recorded from 1,911 jihadist channels and groups.

There are five research questions we attempted to answer. These are:

1. To what extent have social media disruption efforts been successful, and how have jihadists responded to them?
2. What impact do disruption efforts have on the level of social media activity exhibited by jihadists and their supporters?
3. How do disruption efforts impact on jihadist platform migration behaviours? Do they precipitate or inhibit it?
4. Are platform migrations borne of strategic, organisational decisions or more organic, bottom-up patterns of behaviour? Is the same true of both communication and content-hosting platforms?
5. To what extent do migrations serve or hinder the efforts of counter-terrorism practitioners? How do they impact the reach and effectiveness of online jihadist networks?

## KEY FINDINGS

Overall, the 2019 intervention was found to have had a profound impact on the number of jihadist posts on Telegram. Further, this impact was not short-term or temporary but continued into the time of writing.

### Impact of 2018 activity

The 2018 disruption had little noticeable impact on both unique and forwarded posts:

- There were 10,577 organic posts in the 30 days before it and 8,937 organic posts in the 30 days afterwards, representing a modest drop in activity of 15.5%
- In terms of forwarded posts, there were 259,807 posts in the 30 days before it and 234,568 forwarded posts in the 30 days after, representing a drop in activity of 9.1%.

The picture is more complicated when looking at the sharing of outlinks. In the month leading up to the 2018 Action Day there were 2,500 links posted compared to nearly 11,000 in the month afterwards, and a further 26,000 appearing in the month after that.

## OVERVIEW

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#### Impact of 2019 activity

The 2019 disruption had a much more pronounced impact:

- There were 53,709 organic posts in the 30 days before it, compared with just 18,519 organic posts 30 days that followed, representing a drop in activity of 65.5%.
- There were 470,610 forwarded posts in the 30 days before it and just 24,969 in the 30 days afterwards, representing a staggering drop in activity of 94.7%.

There was a marked drop in outlinks following the 2019 Action Day. In the month preceding it, there were approximately 24,000 posts. In the month after, this dropped to 17,000 posts and to just 1,000 posts the month after that. The reason for this is two-fold: first, there was a marked decline in the number of posts in general and, second, as IS supporters migrated to other platforms, they began posting entrance links to those platforms on those platforms themselves (rather than on Telegram).

#### Impact on channel creation

We attempted to measure how many new channels were created following the respective interventions, how much content was produced on average in the days following the Action Days, and whether the intervention had any impact on how long new channels lasted in the days after.

In the 30 days following the 2018 Action Day, only 12 new channels were created in our dataset. However, these channels, on average, remained active for 302 days, with an average of 4.6 posts per day.

In the 30 days following the 2019 Action Days, 105 new channels were created. However, these channels remained active for only 14 days on average, with an average of 56.8 posts per day.

#### Impact on platform migration

There was limited experimentation with Twitter (4.93%) and WhatsApp (1%) as alternative platforms to Telegram before the 2018 Action Day. In its aftermath, only a very modest increase in experimentation with Twitter (5.27%) and WhatsApp (1.5%) was observed. Without in-depth qualitative and longitudinal analysis,

it is impossible to attribute this increase to the 2018 Action Day with confidence.

The 2019 disruption appeared to prompt meaningful, concerted experimentation on the part of IS supporters. Before the 2019 Action Days, the main domains that were outlinked in our dataset were Telegra.ph (8%), Twitter (2%), and very limited experimentation with Rocket.Chat on (less than 1 %).

Following the intervention, though, there was sustained distribution of links redirected to a range of different platforms: Twitter (12%), Rocket.Chat (6.3%), TamTam (1.4%), nandbox (1.2%), Hoop Messenger (1%). Notably, when IS supporters migrated to new platforms like TamTam and Hoop Messenger, they began posting entrance links on those platforms themselves, and, as such, those numbers are not captured in our dataset of Telegram outlinks.

#### Concerns about migration

The jihadist ecosystem on Telegram was found to share three primary concerns about migration:

- New platforms have security issues so users should be cautious
- Supporters should diversify the platforms on which they operate, so that intervention on one will not impact the whole network
- Action on Telegram might be short-lived, at which point supporters can re-establish themselves on the platform.

#### POLICY IMPLICATIONS

- Some takedowns are effective when they are coordinated in a serious and sustained fashion. The approach adopted by Europol in 2019 was not one-dimensional. That is to say, Europol did not simply pursue the removal of content but also worked simultaneously with national authorities and agencies to pursue attribution investigations too – meaning they also prioritised identifying who posted the material and their location.
- Removing official accounts of proscribed groups and those of individual members of a group or those operated by extremist figureheads is relatively straightforward. A more challenging

environment surrounds those who might be classed as ‘supporters’ who might only occasionally disseminate dangerous content and who typically use such platforms to consume (rather than spread) extremist content. Broader considerations are also likely to become more pressing over time when developing a coherent policy for the takedown of associated material, such as the distinction between a ‘group/organisation’ and a ‘social movement’. This is a pressing issue regarding jihadist groups, but it is similarly relevant in the context of groups on the extreme left and right of the political spectrum.

- Platform choice is neither a straightforward discussion nor decision for malevolent actors who must balance stability/operational security and ease of access. More stable platforms tend to be obscure and less user friendly. The more mainstream and popular the platform, the more hostile it is likely to be towards illicit activity.

# INTRODUCTION

In recent years, the research field has become saturated with studies examining *what* violent extremists communicate about,<sup>1</sup> but there are very few operationally relevant academic explorations into *how* they are communicating it. While the various Twitter-focused network analyses that emerged between 2014 and 2019 are still of considerable intellectual value,<sup>2</sup> none of them account for how jihadist extremists are using the Internet today.<sup>3</sup>

The reality is that, since 2016, mainstream platforms like Twitter and Facebook have been largely inhospitable places for jihadists,<sup>4</sup> something that has forced them to migrate to other, less regulated online spaces for content distribution and communication.<sup>5</sup> Foremost among these ‘other’ spaces is Telegram, a hybrid communication and content-hosting platform which is favoured by a diverse range of political actors, ranging from the ‘new’ far-right in Europe to

pro-democracy activists anywhere from Iran to Hong Kong.<sup>6</sup> Telegram is perhaps most well-known for being the platform of choice for jihadist messaging – and not without reason. At the end of 2015, Islamic State (IS) migrated its entire media distribution apparatus onto the platform, with thousands of its supporters following suit. It was not alone; soon afterwards, other groups like al-Qaeda established a robust presence there,<sup>7</sup> and, in 2018, right-wing extremists began to take to it as well.<sup>8</sup>

At the time of writing, Telegram remains the single most important online hub for both official and unofficial jihadist communication and content distribution. That said, the freedom jihadists once had to operate on the platform has become more contested thanks to internal moderation efforts and external initiatives led by law enforcement and intelligence agencies.<sup>9</sup> While the majority of these suppression

1 Cori E. Dauber et al., “Call of Duty: Jihad – How the Video Game Motif Has Migrated Downstream from Islamic State Propaganda Videos,” *Perspectives on Terrorism* 13, no. 3 (June 2019): 15; Daniel Milton, “Communication Breakdown: Unraveling the Islamic State’s Media Efforts” (Combating Terrorism Center, October 10, 2016), <https://ctc.usma.edu/communication-breakdown-unraveling-the-islamic-states-media-efforts/>; Peter Wignell et al., “A Mixed Methods Empirical Examination of Changes in Emphasis and Style in the Extremist Magazines Dabiq and Rumiyaah,” *Perspectives on Terrorism* 11, no. 2 (April 2017): 19; Charlie Winter, “Apocalypse, Later: A Longitudinal Study of the Islamic State Brand,” *Critical Studies in Media Communication* 35, no. 1 (January 1, 2018): 103–21; Aaron Y. Zelin, “Picture Or It Didn’t Happen: A Snapshot of the Islamic State’s Official Media Output,” *Perspectives on Terrorism* 9, no. 4 (July 21, 2015).

2 J.M. Berger and Jonathon Morgan, “The ISIS Twitter Census: Defining and Describing the Population of ISIS Supporters on Twitter” (Center for Middle East Policy, March 2015), [https://www.brookings.edu/wp-content/uploads/2016/06/isis\\_twitter\\_census\\_berger\\_morgan.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/isis_twitter_census_berger_morgan.pdf); Joseph A Carter, Shiraz Maher, and Peter R Neumann, “#Greenbirds: Measuring Importance and Influence in Syrian Foreign Fighter Networks” (The International Centre for the Study of Radicalisation and Political Violence, 2014), <https://icsr.info/wp-content/uploads/2014/04/ICSR-Report-Greenbirds-Measuring-Importance-and-Influence-in-Syrian-Foreign-Fighter-Networks.pdf>; Maura Conway et al., “Disrupting Daesh: Measuring Takedown of Online Terrorist Material and Its Impacts,” *Studies in Conflict & Terrorism* 42, no. 1–2 (February 1, 2019): 141–60; Jytte Klausen, “Tweeting the Jihad: Social Media Networks of Western Foreign Fighters in Syria and Iraq,” *Studies in Conflict & Terrorism* 38, no. 1 (January 2, 2015): 1–22.

3 For more on different studies and how they approach jihadism on Twitter, see Deven Parekh, Amarnath Amarasingam, Lorne Dawson, and Derek Ruths, “Jihadists on Social Media: A Critique of Data Collection Methodologies,” *Perspectives on Terrorism*, 12.3 (2018): 3–21.

4 JM Berger and Jonathan Morgan, “The ISIS Twitter Census: Defining and Describing the Population of ISIS Supporters on Twitter.” *Brookings Institution Report*. March 2015. Available at: [https://www.brookings.edu/wp-content/uploads/2016/06/isis\\_twitter\\_census\\_berger\\_morgan.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/isis_twitter_census_berger_morgan.pdf)

5 Audrey Alexander, “Digital Decay: Tracing Change Over Time Among English-Language Islamic State Sympathizers on Twitter” (Program On Extremism, George Washington University, October 2017), [https://extremism.gwu.edu/sites/g/files/zaxdzs2191/ff/DigitalDecayFinal\\_0.pdf](https://extremism.gwu.edu/sites/g/files/zaxdzs2191/ff/DigitalDecayFinal_0.pdf); Aaron Brantly, “Innovation and Adaptation in Jihadist Digital Security,” *Survival* 59, no. 1 (January 2, 2017): 79–102; Conway et al., “Disrupting Daesh”;

Gabriel Weimann, “Going Dark: Terrorism on the Dark Web,” *Studies in Conflict & Terrorism* 39, no. 3 (March 3, 2016): 195–206.

6 Mahsa Alimardani, “What Telegram Owes Iranians,” *POLITICO Magazine*, January 1, 2018, <http://politi.co/2CITLTP>; Mia Bloom, Hicham Tiflati, and John Horgan, “Navigating ISIS’s Preferred Platform: Telegram,” *Terrorism and Political Violence* 31, no. 6 (November 2, 2019): 1242–54; Zak Doffman, “Telegram Bug ‘Exploited’ By Chinese Agencies, Hong Kong Activists Claim,” *Forbes*, August 25, 2019, <https://www.forbes.com/sites/zakdoffman/2019/08/25/chinese-agencies-crack-telegram-a-timely-warning-for-end-to-end-encryptio>

7 Ahmad Shehabat, Teodor Mitew, and Yahia Alzoubi, “Encrypted Jihad: Investigating the Role of Telegram App in Lone Wolf Attacks in the West,” *Journal of Strategic Security* 10, no. 3 (October 2017): 27–53, <https://doi.org/10.5038/1944-0472.10.3.1604>.

8 Tess Owen, “How Telegram Became White Nationalists’ Go-To Messaging Platform,” *VICE*, October 7, 2019, [https://www.vice.com/en\\_uk/article/59nk3a/how-telegram-became-white-nationalists-go-to-messaging-platform](https://www.vice.com/en_uk/article/59nk3a/how-telegram-became-white-nationalists-go-to-messaging-platform).

9 Amarnath Amarasingam, “Telegram Deplatforming ISIS Has Given Them Something to Fight For,” *VICE*, December 5, 2019, [https://www.vice.com/en\\_us/article/vb55bd/telegram-deplatforming-isis-has-given-them-something-to-fight-for](https://www.vice.com/en_us/article/vb55bd/telegram-deplatforming-isis-has-given-them-something-to-fight-for); Lizzie Dearden, “Isis Orders Supporters to Use Official Channels after Onslaught of Fake Propaganda and Cyberattacks,” *The Independent*, July 11, 2018, sec. Middle East, <https://www.independent.co.uk/news/world/middle-east/isis-islamic-state-propaganda-telegram-offical-fake-cyberattacks-accounts-a8442936.html>; Dina Temple-Raston, “How The U.S. Hacked ISIS,” *I’ll Be Seeing You* (NPR, September 26, 2019), <https://www.npr.org/2019/09/26/763545811/how-the-u-s-hacked-isis>; Charlie Winter and Amarnath Amarasingam, “The decimation of Isis on Telegram is big, but it has consequences,” *Wired UK*, December 2, 2019, <https://www.wired.co.uk/article/isis-telegram-security>.



activities have traditionally been unsuccessful – the networks they are targeting have proven to be highly resilient<sup>10</sup> – they have prompted jihadists to trial other platforms like Rocket.Chat, TamTam and even TikTok.<sup>11</sup>

To date, not one of these trials has resulted in a sustained, holistic tack away from Telegram. However, as the pressure has ramped up – especially towards the end of 2019 – more systematic efforts to establish resilient communication networks on other, less vulnerable platforms have occurred.<sup>12</sup> Whether communication- or content-orientated, these new networks can often be traced back to closed discussion boards on Telegram, which operate as a vector for migration experiments.

To investigate how these experiments take shape and, in the course of doing so, better understand the functional, social, and ideological drivers of platform migration, this research paper interrogates a dataset containing 7.8 million Telegram posts recorded from around 1,911 channels, groups and supergroups (the differences between these is explained in more detail below) associated with jihadist extremism from 2015 to the present day. It is concerned with five principal research questions:

1. To what extent have social media disruption efforts been successful, and how have jihadists responded to them?
2. What impact do disruption efforts have on the level of social media activity exhibited by jihadists and their supporters?
3. How do disruption efforts impact on jihadist platform migration behaviours? Do they precipitate or inhibit it?
4. Are platform migrations borne of strategic, organisational decisions or more organic, bottom-up patterns of behaviour? Is the same true of both communication and content-hosting platforms?
5. To what extent do migrations serve or hinder the

efforts of counter-terrorism practitioners? How do they impact the reach and effectiveness of online jihadist networks?

The investigation proceeds as follows. First, drawing on the literature on terrorist learning and innovation, we set out a conceptual framework which provides a theoretical lens through which to assess and evaluate the social, technical, and organisational processes that undergird jihadist platform migration. After this, we describe how we went about collecting and analysing the dataset, grounding the study in a comparative analysis of two Europol Action Days targeting jihadists on Telegram, one that occurred in October 2018, the other in November 2019.

These Action Days are significant because they form the pivot points around which this paper assesses the efficacy of takedown measures against jihadist content. Action Days are led and coordinated by Europol, who, after the 2019 intervention, defined them as follows:

*“This process is based on the referral by Europol of branded terrorist propaganda to online service platforms who are responsible for evaluating it to establish any potential breach of their terms of service. Among the items referred were propaganda videos, publications, and social media accounts supporting terrorism and violent extremism.*

*While Google and Instagram deployed resilience mechanisms across their services, Telegram was the online service provider receiving most of the referral requests during this Action Day. As a result, a significant portion of key actors within the IS network on Telegram was pushed away from the platform.”<sup>13</sup>*

10 Laurence Bindner and Raphael Gluck, “Wilayat Internet: ISIS’s Resilience across the Internet and Social Media,” Bellingcat, September 1, 2017, <https://www.bellingcat.com/news/mena/2017/09/01/wilayat-internet-isis-resilience-across-internet-social-media/>.

11 Georgia Wells, “Islamic State Turns to Teen-Friendly TikTok, Adorning Posts With Pink Hearts,” Wall Street Journal, October 21, 2019, <https://www.wsj.com/articles/islamic-state-turns-to-teen-friendly-tiktok-adorning-posts-with-pink-hearts-11571680389>.

12 Winter and Amarasingam, “The decimation of Isis on Telegram is big, but it has consequences.”

13 ‘Referral Action Day Against Islamic State Online Terrorist Propaganda,’ Europol, 22 November 2019. <https://www.europol.europa.eu/newsroom/news/referral-action-day-against-islamic-state-online-terrorist-propaganda>

## INTRODUCTION

### How Telegram Disruption Impacts Jihadist Platform Migration

For this paper, we are only concerned with the referrals made to – and content removed from – Telegram.

The next section gives an overview of our key findings, among other things offering:

1. An analysis of pre- and post-disruption patterns in extremist Telegram behaviours
2. A comparison of the short-term impact of the two campaigns
3. A platform-specific assessment of key migration experiments undertaken during and after each disruption event. The discussion section then assesses these findings in the context of the aforementioned conceptual framework. In the conclusion, we weigh the policy implications of the study, discussing the extent to which efforts to disrupt extremist networks on social media platforms like Telegram ‘work’, and if they do, what behaviours and/or offline impacts they may precipitate.

# CONCEPTUAL FRAMEWORK

In recent years, scholars of terrorism have turned towards concepts such as creativity, innovation, and learning, to describe how terrorist organisations change with respect to tactics, targets, or organisational structure.<sup>14</sup> Here, we provide a brief review of this literature before expounding on a conceptual framework for an analysis of Telegram platform migration.

Terrorism studies have borrowed concepts of creativity, innovation, and learning from various other fields, especially organisational and industrial psychology. Cropley, Kaufman, and Cropley, for example, provide a summary of this literature before developing their concept of “malevolent creativity”: creativity “deemed necessary by some society, group, or individual to fulfil goals they regard as desirable, but [that] has serious negative consequences for some other group, these negative consequences being fully intended by the first group.”<sup>15</sup>

Drawing on studies of creativity in business and criminal settings, they also identify four key features of a creative product: 1) novelty, how new or surprising a product is; 2) relevance and effectiveness, whether the product achieves the intended goal; 3) elegance, whether the product is well-crafted; and 4) generalisability, whether the product may be used to solve other problems.<sup>16</sup>

They assert that for any creative product, functionality is the most important feature of the four listed. Further developing this model in light of the terrorist attacks on September 11, 2001, Cropley, Kaufman, and Cropley suggest an exponential decay in the novelty of

any terrorist tactic over time, which in turn allows for state or non-state actors to anticipate such tactics and intervene to mitigate them.<sup>17</sup> This, however, depends on the ability of other actors to take advantage of novelty decay. They write, “thus, novelty decay may be a prerequisite for effectiveness decay in most cases, but may not be sufficient on its own to guarantee effectiveness decay.”<sup>18</sup>

Cropley, Kaufman, and Cropley’s model of malevolent creativity has since been adopted and further developed by Gill et al. and Logan, Ligon, and Derrick. Gill et al. survey key features of the creativity literature, emphasising creativity and innovation as ongoing processes whereby new problems are solved.<sup>19</sup> Theorizing terrorist groups as creative organisations, they offer a conceptual framework for understanding the myriad factors that impinge on terrorist innovation, including the distal environmental drivers (e.g. the ‘root causes’ of terrorism) and proximal drivers (e.g. counterterrorism policy).<sup>20</sup> They also evaluate organisational, small group, and individual dynamics that may contribute to or inhibit creativity as well as leadership characteristics, such as expertise.

Finally, they make a distinction between creativity as a process of identifying solutions to problems, and innovation as the actual effective implementation of such strategies that then are assessed based on the factors of creative products identified by Cropley, Kaufman, and Cropley (novelty, relevance and effectiveness, elegance, and generalisability). Gill et al.’s conceptual framework will be used in this analysis to explore the various factors that could impinge on IS decisions to change platforms following a ‘proximal

14 Martha Crenshaw, “Innovation: Decision Points in the Trajectory of Terrorism,” *Terrorist Innovations in Weapons of Mass Effect: Preconditions, Causes, and Predictive Indicators* (The Defense Threat Reduction Agency, August 2010); David H. Cropley, James C. Kaufman, and Arthur J. Cropley, “Malevolent Creativity: A Functional Model of Creativity in Terrorism and Crime,” *Creativity Research Journal* 20, no. 2 (May 7, 2008): 105–15; Adam Dolnik, *Understanding Terrorist Innovation: Technology, Tactics and Global Trends* (Oxfordshire: Routledge, 2007); Paul Gill et al., “Malevolent Creativity in Terrorist Organizations,” *The Journal of Creative Behavior* 47, no. 2 (2013): 125–51; Louise Kettle and Andrew Mumford, “Terrorist Learning: A New Analytical Framework,” *Studies in Conflict & Terrorism* 40, no. 7 (July 3, 2017): 523–38; Michael K. Logan, Gina S. Ligon, and Douglas C. Derrick, “Measuring Tactical Innovation in Terrorist Attacks,” *The Journal of Creative Behavior*, July 6, 2019, 1–14.

15 Cropley, Kaufman, and Cropley, “Malevolent Creativity,” 106.

16 Ibid. 108.

17 Ibid. 110.

18 Ibid. 111.

19 Gill et al., “Malevolent Creativity in Terrorist Organizations,” 130.

20 Ibid. 136.

## CONCEPTUAL FRAMEWORK

### How Telegram Disruption Impacts Jihadist Platform Migration

driver' of innovation – that is, the 2018 and 2019 Europol Action Days on Telegram, itself a creative product bound by similar constraints of novelty.<sup>21</sup>

Logan, Ligon, and Derrick have further applied the concepts of malevolent creativity developed by Cropley, Kaufman, and Cropley and Gill et al. to a sample of terrorist attacks to identify how innovation dimensions relate to various attack characteristics.<sup>22</sup>

Other studies have described the *quality* of innovation. For example, Dolnik defines innovation as “an act of introduction of a new method or technology or the improvement of an already existing capability,” which as he notes, encompasses both radical innovation and incremental innovation. He also sought to identify key variables that influence terrorist innovation.<sup>23</sup> Radical terrorist innovation involves the use of brand-new tactics or technology, while incremental innovation involves an improvement or modification of a tactic, as is the case with platform migration trends examined in this report. Moreover, Dolnik, like Gill et al., suggests an array of variables that are key determinants of terrorist innovation: the role of ideology and strategy, dynamics of the struggle, countermeasures, targeting logic, attachment to weaponry/innovation, group dynamics, relationship with other organisations, resources, openness to new ideas, durability, and the nature of the technology.<sup>24</sup>

The literature on terrorist creativity and innovation is also related to concepts of terrorist learning and contagion or the diffusion of ideas. Kettle and Mumford, in their analysis of terrorist learning, recognise this link and identify four key levels of analysis of learning literature relevant to understanding terrorist learning: 1) the individual; 2) the group; 3) the

generation; and 4) the organisation.<sup>25</sup> They also make distinctions between various forms of learning, such as positive or negative lessons, tacit or explicit lessons, or tactical, operational, or strategic lessons.<sup>26</sup> The latter distinction they make, between tactical, operational, and strategic lessons, is close to Crenshaw's typology of terrorist innovation as a) tactical, adopting new technologies for the same objectives; b) strategic or identifying new objectives; and c) organisational, which relates to organisational structure or recruiting processes.<sup>27</sup> The literature on contagion and diffusion, as opposed to terrorist learning, tends to identify inter-group linkages that facilitate the adoption of new tactics.<sup>28</sup>

Generally, the literature on terrorist creativity and innovation (or related concepts such as learning, contagion, or diffusion) focuses on tactical innovation, especially innovation of attack tactics.<sup>29</sup> Scholars generally identify the various factors that contribute to the ability or inability of a particular group to successfully carry out a new tactic, from suicide bombing<sup>30</sup> to improvised explosive device use.<sup>31</sup> Other forms of innovation, such as strategic and organisational innovation, remain generally understudied in the literature on terrorism, as does tactical innovation that does not directly relate to violence or attacks, as presented by the case of platform migration here.

While there exists a gap in the literature for terrorist tactical innovation regarding social media, some scholars have evaluated the sophisticated digital communication strategies of IS on Twitter with some reference to innovation. Vitale and Keagle describe the exceptional innovation, coordination, and skill IS exhibits in disseminating information online, from its relatively clear-cut digital messaging and one-time

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21 Cropley, Kaufman, and Cropley, “Malevolent Creativity,” 122.

22 Logan, Ligon, and Derrick, “Measuring Tactical Innovation in Terrorist Attacks.”

23 Dolnik, *Understanding Terrorist Innovation*, 6.

24 Ibid. 13.

25 Ibid. 525-6.

26 Kettle and Mumford, “Terrorist Learning,” 528-9.

27 Crenshaw, “Innovation: Decision Points in the Trajectory of Terrorism,” 35.

28 Michael C. Horowitz, “Nonstate Actors and the Diffusion of Innovations: The Case of Suicide Terrorism,” *International Organization* 64, no. 1 (2010): 33–64; Manus I. Midlarsky, Martha Crenshaw, and Fumihiko Yoshida, “Why Violence Spreads: The Contagion of International Terrorism,” *International Studies Quarterly* 24, no. 2 (June 1, 1980): 262–98.

29 Victor Asal et al., “Killing Range: Explaining Lethality Variance within a Terrorist Organization,” *Journal of Conflict Resolution* 59, no. 3 (April 1, 2015): 401–27; Dolnik, *Understanding Terrorist Innovation*; Horowitz, “Nonstate Actors and the Diffusion of Innovations”; Logan, Ligon, and Derrick, “Measuring Tactical Innovation in Terrorist Attacks”; Midlarsky, Crenshaw, and Yoshida, “Why Violence Spreads: The Contagion of International Terrorism”; Andrew Silke and Anastasia Filipidou, “What Drives Terrorist Innovation? Lessons from Black September and Munich 1972,” *Security Journal* 33, no. 2 (June 1, 2020): 210–27.

30 Mia M. Bloom, “Palestinian Suicide Bombing: Public Support, Market Share, and Outbidding,” *Political Science Quarterly* 119, no. 1 (2004): 61–88; Horowitz, “Nonstate Actors and the Diffusion of Innovations.”

31 Asal et al., “Killing Range.”

development of apps that allowed for the flooding of Twitter with pro-IS content, to its recruiting tactics and use of video content.<sup>32</sup> Vitale and Keagle also note the sophisticated organisation of IS's operations on Twitter, where official channels and pro-IS 'news agencies' disseminate clear messaging to their supporters. Veilleux-Lepage has similarly argued that IS supporters on Twitter have played a central role in not only propagating such messages but also in portraying IS as having greater support and acceptance.<sup>33</sup> This leveraging of international supporters in the online space represents a form of innovation, as it is, he argues, unprecedented in any other terrorist organisation.<sup>34</sup> Moreover, with one of the key goals of IS being the formation of a new society, rather than simply military victories, Veilleux-Lepage suggests that the dissemination of IS's message via social media is critical for it to achieve its external goals.<sup>35</sup> This may also form the impetus for its innovation of digital communication strategies.

While these projects provide a useful description of IS's use of social media, they do not situate these practices within the terrorist creativity and innovation literature described above. Only Kfir (forthcoming) presents an assessment of IS digital communication tactics in light of the literature on terrorist creativity and innovation, including its 'centralised decentralisation' system of propaganda dissemination and recruitment, its use of common Twitter hashtags for posting content, and its use of video games to recruit and propagandise.<sup>36</sup> Especially given IS's innovative 'centralised decentralisation' strategy, whereby IS could persist online despite Twitter crackdowns given back-up encrypted platforms such as Telegram and WhatsApp, Kfir argues government or corporate interventions limiting content dissemination on one site generally motivates the emergence of pro-IS content on other platforms – that is, innovation and adaptation.<sup>37</sup> Kfir

also notes the importance of anonymous sharing sites such as *Justepaste.it* to IS communication strategies and another key part of IS's innovative digital propaganda strategy.

Clearly, IS has developed a resilient, innovative digital communication strategy that is organised, and to an extent, hierarchical, allowing it to achieve its goals of encouraging radicalisation to violence and moving towards the legitimisation of a caliphate.<sup>38</sup> The 2018 and 2019 Europol Action Days represent a proximal driver, in Gill et al.'s term, of IS's digital innovation, as this intervention forced the IS communication network, which had heavily depended on Telegram for communication of magazines, materials, videos, and key messaging, to find new ways of achieving the same goals.<sup>39</sup>

In the present context, Gill et al.'s conceptual framework allows us to consider the myriad factors that may have influenced the creativity and innovation process that constitute platform migration as a tactical innovation. Gill et al. cite leadership characteristics and organisational dynamics as two factors that likely affect a group's capacity for creativity. In this vein, they note the importance of the technical expertise of leaders in facilitating creativity.<sup>40</sup> Given the pre-existing, somewhat hierarchical structure of IS communication online, it seems reasonable to posit that leaders in IS's digital communications, who have already demonstrated a level of knowledge and technical expertise, would play a key role in identifying and directing followers to move to new platforms.

However, as Gill et al. note, "a flexible, organic structure, as opposed to a bureaucratic structure, is more conducive to innovation in organisations."<sup>41</sup> As such, the 'centralised decentralisation' of IS's social media strategy may have lent itself to producing

32 Heather Marie Vitale and James M. Keagle, "A Time to Tweet, as Well as a Time to Kill: ISIS's Projection of Power in Iraq and Syria," *Defense Horizons*, no. 77 (October 2014): 1-12.

33 Yannick Veilleux-Lepage, "Paradigmatic Shifts in Jihadism in Cyberspace: The Emerging Role of Unaffiliated Sympathizers in Islamic State's Social Media Strategy," *Contemporary Voices: St Andrews Journal of International Relations* 7, no. 1 (February 5, 2016): 36-51.

34 Veilleux-Lepage, "Paradigmatic Shifts in Jihadism in Cyberspace," 43.

35 Veilleux-Lepage, "Paradigmatic Shifts in Jihadism in Cyberspace," 40-1.

36 Isaac Kfir, "Terrorist Innovation and Online Propaganda in the Post-Caliphate Period." *Studies in Conflict and Terrorism*. Forthcoming. [The author shared this article with us and gave permission to quote it].

37 Ibid.

38 Amarnath Amarasingam, "What Twitter Really Means for Islamic State Supporters," *War on the Rocks*, December 30, 2015. Available at: <https://warontherocks.com/2015/12/what-twitter-really-means-for-islamic-state-supporters/>

39 Cropley, Kaufman, and Cropley, "Malevolent Creativity," 109-11.

40 Ibid. 141.

41 Ibid. 138.

## CONCEPTUAL FRAMEWORK

### How Telegram Disruption Impacts Jihadist Platform Migration

creative responses to the 2018 and 2019 Europol interventions on Telegram. IS supporters with some technical expertise, who regularly participate in online IS spaces, may also generate new solutions to the Telegram intervention, such as the awareness of new platforms or new communication strategies.<sup>42</sup>

Another factor influencing the innovation process would be identifying a novel platform that lacks any counterterrorism policy. Factors such as the openness or the secrecy of the new platform may also influence migration choice.<sup>43</sup> As McCormick notes, all terrorist groups generally have to maintain a balance between secrecy (to avoid state intervention) and public relevance (which requires a partial sacrifice of secrecy).<sup>44</sup>

In this vein, Cole Bunzel has noted that one of IS's unofficial media groups, *al-Wafa'*, published a document in 2016 on Telegram cautioning supporters not to isolate themselves on Telegram.<sup>45</sup> While public platforms, such as Twitter, present an opportunity for the promulgation of IS narratives to the public and recruitment, they also contain counter-narratives to IS content and are easier to monitor by state actors.<sup>46</sup>

All of these factors impinge on the capacity for creativity and idea generation, as well as the actual implementation of such ideas. Using Gill et al.'s framework, how innovative IS's response was to the 2018 and 2019 Europol Action Days on Telegram may also be analysed by looking at platform use or communication strategies as novel, relevant and effective, elegant, and generalisable.<sup>47</sup>

Using platforms with more developed counterterrorism policies, such as Twitter, may prove ineffective as a result of its lack of novelty. As such, it would be reasonable to expect IS and its supporters to identify and migrate to platforms that not only allow for them to operate normally in terms of disseminating propaganda and recruiting new members (relevant and effective), but also to platforms that are new and unexpected (novel), well-crafted and well-designed for their

goals (elegant), and useful in solving other problems (generalisable). As we show below, many IS supporters actively debated the value of certain platforms and tested out several of them following the 2019 Europol Action Day (but not its 2018 counterpart).

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42 Ibid. 136.

43 Ibid.

44 Gordon H. McCormick, "Terrorist Decision Making," *Annual Review of Political Science* 6, no. 1 (2003): 497.

45 Cole Bunzel, "'Come Back to Twitter': A Jihadi Warning Against Telegram," *Jihadica*, July 2016. <http://www.jihadica.com/come-back-to-twitter/>

46 Veilleux-Lepage, "Paradigmatic Shifts in Jihadism in Cyberspace," 45; Prucha, "IS and the Jihadist Information Highway."

47 See Cropley, Kaufman, and Cropley, "Malevolent Creativity" and Gill et al., "Malevolent Creativity in Terrorist Organizations."

# DATA AND METHODS

Online communication and content-hosting platforms are some of the principal means by which jihadist organisations build and maintain global support, spread their message and recruit new members.<sup>48</sup> As indicated above, the ecosystem of platforms being used for these ends is more diverse than ever before, while at the same time – and somewhat paradoxically – remaining concentrated on Telegram.

As noted, Telegram became the go-to platform for jihadists in late summer 2015 when it introduced the channel functionality.<sup>49</sup> This enabled the media offices of groups like IS to engage in large-scale, monodirectional content distribution that was impervious to the noise and counter-messaging initiatives that were plaguing its efforts on Twitter.<sup>50</sup>

While Telegram was used for much more than content distribution, it was its channel feature that initially drew jihadists to Telegram. For months, both jihadist groups and their supporters enjoyed relative freedom on it and, accordingly, made few attempts to keep a low profile.<sup>51</sup> This changed in the aftermath of the Paris attacks in November 2015, when Telegram first removed Nashir, IS's official media distribution channel, from its platform. The reprieve was short-lived – in the days that followed, Nashir set up shop once more, this time distributing itself across several key nodes, some public and others private.<sup>52</sup>

Telegram has been playing cat-and-mouse with IS ever since then, becoming increasingly aggressive in moderating itself from both a user and content perspective. While its efforts were on occasion

launched independently, the highest-profile – and, to date at least, most successful – of them were deployed in tandem with the European Union's Internet Referral Unit (IRU).<sup>53</sup> Since 2015, the IRU has launched several disruption-focused cyber-campaigns against IS. Until 2019, they were limited in scope and impact, leaving its media networks unaffected at worst and able to regenerate immediately at best.

This changed in November of that year when the IRU severely degraded (but by no means eliminated) IS's presence on Telegram – including both its official media distribution apparatus and most of its major supporter-run propaganda foundations. As this disruption took shape, IS supporters responded with a flurry of online activity, doubling down on less moderated parts of the internet like Rocket.Chat, Riot, TamTam and Hoop Messenger.

While the short-term impact of this development was intensively tracked from an anecdotal perspective, it has not to date been empirically assessed, let alone with an eye on the future. This paper addresses this gap in knowledge by interrogating a dataset containing 7.8 million posts collected from 1,911 Telegram channels, groups and supergroups associated with IS.

A Telegram channel allows the host to 'broadcast' messages to subscribers in a unidirectional format, making it attractive to those who have a message to disseminate. Subscribers to the channel can only receive the broadcast messages and forward them, but cannot otherwise interact with them. In groups, individual Telegram users can discuss and debate

48 Alexander Meleagrou-Hitchens and Nick Kaderbhai, "Research Perspectives on Online Radicalisation: A Literature Review, 2006-2016," (International Centre for the Study of Radicalisation, 2017), [https://icsr.info/wp-content/uploads/2017/05/ICSR-Paper\\_Research-Perspectives-on-Online-Radicalisation-A-Literature-Review-2006-2016.pdf](https://icsr.info/wp-content/uploads/2017/05/ICSR-Paper_Research-Perspectives-on-Online-Radicalisation-A-Literature-Review-2006-2016.pdf).

49 Steven Stalinsky and Rachel Sosnow, "Germany-based messaging app Telegram emerges as jihadists' preferred communications platform," MEMRI, January 3, 2017. <http://cjlabs.memri.org/lab-projects/tracking-jihadi-terrorist-use-of-social-media/germany-based-encrypted-messaging-app-telegram-emerges-as-jihadis-preferred-communications-platform-part-v-of-memri-series-encryption-technology-embraced-by-isis-al-qaeda-other-jihadis/>.

50 Amarnath Amarasingam, "What Twitter Really Means for ISIS Supporters," *War on the Rocks*, December 30, 2015. <https://warontherocks.com/2015/12/what-twitter-really-means-for-islamic-state-supporters/>. See also, Anna Johanson, "ISIS-Chan – The meanings of the Manga girl in image warfare against the Islamic State," *Critical Studies on Terrorism* 11, no. 1 (2017): 1–25.

51 Pamela Engel, "Inside the App That's Become ISIS's Biggest Propaganda Machine," *Business Insider*, November 21, 2015. <https://www.businessinsider.com/telegram-isis-app-encrypted-propaganda-2015-11>.

52 Engel, "Inside the App That's Become ISIS's Biggest Propaganda Machine."

53 Amarnath Amarasingam, "A View from the CT Foxhole: An Interview with an Official at Europol's EU Internet Referral Unit," *CTC Sentinel* 13, no. 2 (February 27, 2020): 15–19.

## DATA AND METHODS

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content, with each member of the group having the right to participate in the discussion. Groups are moderated by administrators and are typically limited to 200 members. When a group has 200 members, administrators have the option to upgrade the group to a supergroup, the limit to which has evolved from 5,000 members to the current limit of 100,000.<sup>54</sup>

Each post in our dataset was collected from channels, groups and supergroups run by IS members or supporters. We automated this process using a custom-built piece of software known as a ‘crawler’ developed in 2017 which works within Telegram’s limited application programming interfaces (APIs). The crawler automatically archived all posts (new and historic) from all the channels, groups and supergroups to which it was given access.<sup>55</sup> For the period to which this study relates, it had archived data from 1,911 accounts associated with IS.

While this sample does not constitute the full universe of jihadist nodes on Telegram during the period in question, it is expansive enough to be considered largely, and essentially, representative of them. Because the channels and groups the crawler archives must be selected by the researchers themselves, there is a high degree of confidence that the level of ‘noise’ in the data is minimal. In other words, we selected channels and groups after being certain that they were associated with the Islamic State, either official channels run by the group, or its broader support network.

For this report, which focuses on platform migration, we did not make a distinction between official IS channels and groups and those run by IS supporters. This is because we wanted to learn about how the entire ecosystem associated with IS on Telegram reacted to the Action Days.

It is important to note, however, that many supporter-run channels explicitly state that they work in tandem

with IS’s official media apparatus with the nature of that relationship ranging from direct coordination to merely taking inspiration from the group from afar. This puts a significant portion of the innovation onus on IS’s official media operatives but does not preclude innovation from occurring at the level of unnetworked supporter. In essence, the two dynamics exist in symbiosis, with each learning from the other. Supporters can therefore be analysed through the same framework as official IS channels run by a central organisation.

An example is illustrative here. Consider, the case of Younis Tsouli, who supported al-Qaeda in Iraq (AQI) and assisted them from his apartment in West London following the invasion of Iraq in 2003. Operating under the name ‘Irhabi 007’ (meaning terrorist 007), Tsouli created a series of websites to help the group disseminate their message.<sup>56</sup> Indeed, Tsouli had become so good that the leader of AQI’s media arm, Abu Maysara, publicly praised him for his efforts.<sup>57</sup> Shortly before his arrest in 2005, Tsouli published documents explaining how to hack online accounts.

This became particularly useful the following year when the Danish newspaper Jyllands-Posten published cartoons satirising the Prophet Mohammed. Their website was overwhelmed by cyber-attacks along with another 578 Danish websites. “I am certain that I see his [Younis Tsouli’s] fingerprints on numerous projects,” wrote a member of an al-Qaeda forum.<sup>58</sup> Although the Tsouli’s case is dated now, it is instructive in illuminating the interaction between supporters on what might be called the periphery and those in the centre.

Each data point listed by the crawler includes the date of the post, the name of the group/channel/supergroup, and the type of post it is (video, photo, text, etc.). In addition to this, the crawler catalogued all text associated with a particular post, but not photographs

54 ‘Admins, Supergroups and More,’ *Telegram*, November 2015. <https://telegram.org/blog/supergroups>. See also: Daniel Weibel, “Telegram Basics.” *Medium*. May 27, 2018. <https://medium.com/@weibeld/telegram-basics-7c566d6d35c1>

55 While the data scraper does not stipulate the date a particular channel was joined, the research team has done and continues to add relevant IS and groups that we find to the scraper directory. In fact, the research team added these accounts precisely to check whether the takedowns from the Action Day would have a meaningful impact, whether short-, medium-, or long-term. Of course, no process like this is perfect, nor can it be entirely automated. There will always be the necessity of human-researcher input, both to detect new channels and groups and to join them, and, in any case, this “snowballing” technique – which is an established collection methodology in the social science literature – is closely akin to the means employed by jihadists themselves. As such, we do not believe that the drastic decline we are reporting in this paper is because old channels were deleted while no new channels were added.

56 Shiraz Maher. “Road To Jihad.” *Index on Censorship* 36, no. 4 (November 2007): 144–47. <https://doi.org/10.1080/03064220701740590>.

57 *Ibid*, 144.

58 *Ibid*, 145.



and videos. In other words, if there is a post with a photograph and text appended to it, the scraper will download the entirety of the text, but only *indicate* that there is an associated photograph. All the data were stored in a secure Microsoft SQL server. Pending completion of this project they will be destroyed.

Once all the data was pulled from the custom Telegram crawler, the analysis could proceed. First, we wanted to understand how the 2018 and 2019 Europol Action Days impacted the number of unique posts (not forwards) that appeared 30 days before and 30 days after each Action Day. Because the vast majority of posts on Telegram related to IS are forwarded from one channel or group to another, we asked a similar – but separate – question of forwarding behaviour before and after the Action Days. This would allow us to disaggregate the impact of the Action Day disruptions on two distinct types of behaviour exhibited by IS supporters/members online.

Second, we wanted to discern how many new channels and groups IS supporters created in the 30 days following each Action Day, as well as the average number of posts per day after the Action Day, and how long each channel or group generally survived before being suspended.

Lastly, to identify how migration behaviours were impacted by these disruption efforts, we extracted all of the outlinks to websites that appeared in the data during the 30 days before and after each Action Day. An outlink is defined as a link to any website/platform beyond Telegram. This information was then coded by website/platform domain name. As the data contained over 300 different websites and platforms that were being linked to, we limited our focus to the platforms that were largely akin to Facebook, Twitter, Telegram and the like – namely, messaging, content-hosting and broadcasting platforms on which IS supporters could post content, share content, forward content, and engage in extended conversation.<sup>59</sup>

By limiting the platforms we examined to those with messaging and broadcasting capabilities, we were able to more accurately gauge the nature of platform

migration that occurred following the 2018 and 2019 Europol Action Days.

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59 We limited the platforms we examined to twelve: Rocket.Chat, WhatsApp, Conversation, Hoop Messenger, TamTam, Matrix, nandbox, Riot chat, Blockchain Messenger, Telegra.ph, Facebook, and Twitter.

# RESULTS

Our first research questions were concerned with identifying the relative impact of the 2018 and 2019 Europol Action Days as well as how IS supporters responded to each operation. The 2018 disruption had little noticeable impact on both unique/organic posts<sup>60</sup> as well as forwarded posts. Indeed, for the 2018 Action Day, which took place on October 3, there were 10,577 organic posts in the 30 days prior and 8,937 organic posts in the 30 days afterwards, representing a modest drop in activity of 15.5%. In terms of forwarded posts, there were 259,807 posts in the 30 days before the 2018 Action Day and 234,568 forwarded posts in the 30 days after, representing a drop in activity of 9.1%.

By contrast, 30 days before the 2019 Action Days of November 21–22, there were 53,709 organic posts on the platform, compared to 18,519 organic posts 30 days following the intervention, representing a drop in activity of 65.5%. The 2019 Action Day resulted in a much greater decrease in the number of forwarded posts as well. While 30 days before the intervention, there were 470,610 forwarded posts, 30 days after, there were just 24,969, representing a staggering drop in activity of 94.7%. For both organic and forwarded posts, the 2019 Action Day yielded a much larger

decrease in content circulated on Telegram compared to the 2018 operation. Figure 1 examines the full breadth of organic and forwarded posts from the six months before the first Action Day to the six months after the second Action Day. As it makes clear, the 2019 intervention had a profound impact on the number of posts on Telegram. Further, the impact was not short-term or temporary but continued into the time of writing.

Looking closely at content linking to an outside domain, as well to other spaces within the Telegram ecosystem, several trends emerge. Before the 2018 Action Day, JustPaste.it (*justpaste.it*), Bitly (*bit.ly*), and Telegram (*t.me* and *telegram.me*) represent the most common domains posted on the platform. Immediately following the 2018 Action Day, there was a marked increase in the number of posts that linked to external domains, from approximately 2,500 posts in September 2018 compared to nearly 11,000 in November 2018 and 26,000 in December 2018. While Telegram (*telegram.me* and *t.me*) still made up a majority of linked posts, other domains were newly used, including Telegraph (*telegra.ph*), Rocket.Chat,<sup>61</sup> Facebook (*facebook.com*), and *webarchive.org*. JustPaste.it (*justpaste.it*) and Bitly

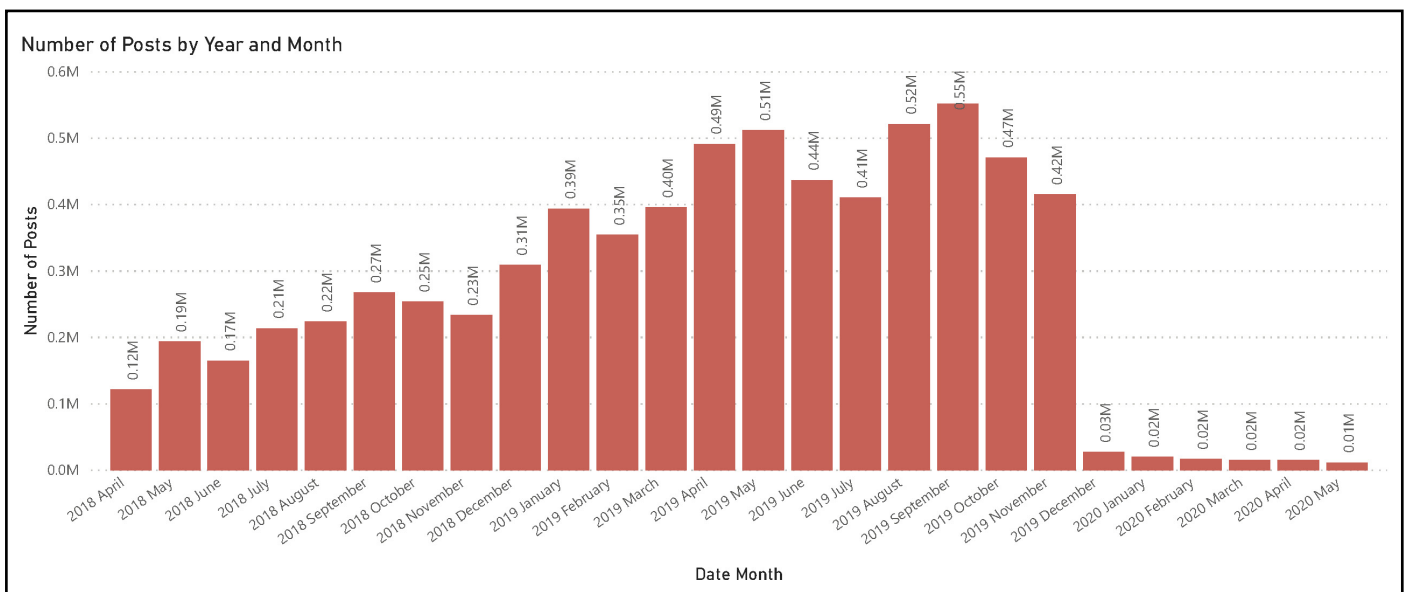


Figure 1

60 Unique and organic are used interchangeably in this report and are meant to denote a user’s original content (not a post forwarded into a channel or group from another channel or group).

61 A specific link was shared to IS’s server but we have chosen not to publish it here as we do not wish to direct people towards it. We are happy to share the information with other researchers wanting to know more about this.

(*bit.ly*) also remained in use. It is not entirely clear whether this sudden upsurge in URLs being shared on Telegram from November 2018 onwards is directly linked to the October Action Day, but it is plausible to assume so, given the large number of entrance links to Telegram groups and channels that were posted during this particular period (see Figure 2). This will likely have been a result of a desire by members of those groups and channels to bolster their numbers in response to a perceived threat; which, in this case, was a coordinated attempt to disrupt their online presence.

Following the 2019 Action Days, there was a marked drop in links to outside domains, from approximately 24,000 posts in October 2019 to 17,000 posts in November 2019 and 1,000 posts in December 2019. After the intervention, most of the posts with links to website domains were to Telegram (*t.me*). The reason for this is two-fold: first, there was marked decline in the number of posts in general and, second, as IS supporters migrated to other platforms, they began posting entrance links to those platforms on those platforms themselves.

Our second research question related to whether the 2018 and 2019 Action Days had any impact on how many new channels were created following the respective interventions, how much content was produced on average in the days following the Action Days, and whether the intervention had any impact on how long new channels tended to last in the days after.

In the 30 days following the 2018 Action Day, only 12 new channels were created in our dataset. However, these channels, on average, remained active for 302 days, with an average of 4.6 posts per day (see Figure 3). By contrast, in the 30 days following the 2019 Action Days, 105 new channels were created. However, these channels remained active for only 14 days on average, with an average of 56.8 posts per day (see Figure 4).

In other words, looking at channel creation and survival also points to a trend that was noted above: namely, that Telegram followed up its 2019 Action Day with much more sustained monitoring of IS activity on the platform and continued to take down new channels as they emerged. It is also clear that IS supporters, following the 2019 intervention, tried extremely hard to maintain a high level of activity, in terms of content posting and channel creation, but it was a level that proved difficult to sustain.

Our third research question was concerned with how disruption efforts impacted jihadist platform migration behaviours – namely, whether they precipitate or hobble it. One of the most important elements of both the 2018 and 2019 Europol Action Days was that they allowed researchers to empirically assess this, that is, to watch online supporters of extremist groups navigate the fallout of interventions by social media platforms in real time.

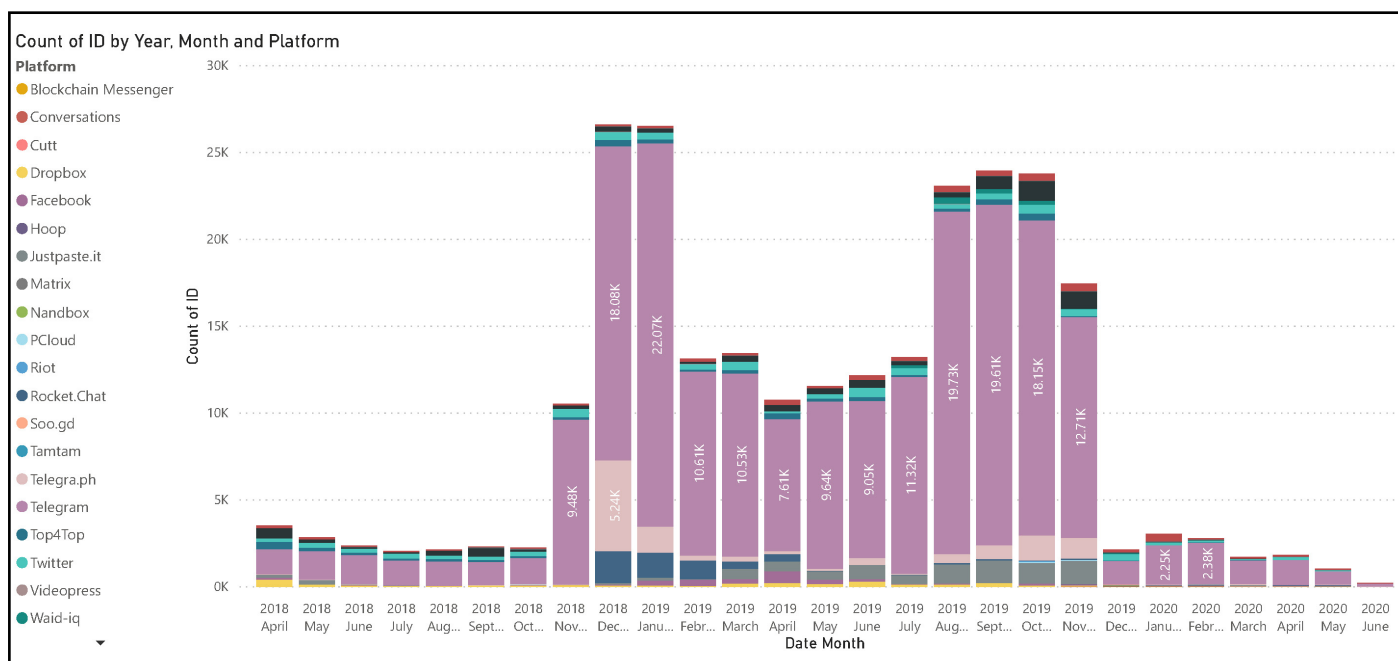


Figure 2

# RESULTS

## How Telegram Disruption Impacts Jihadist Platform Migration

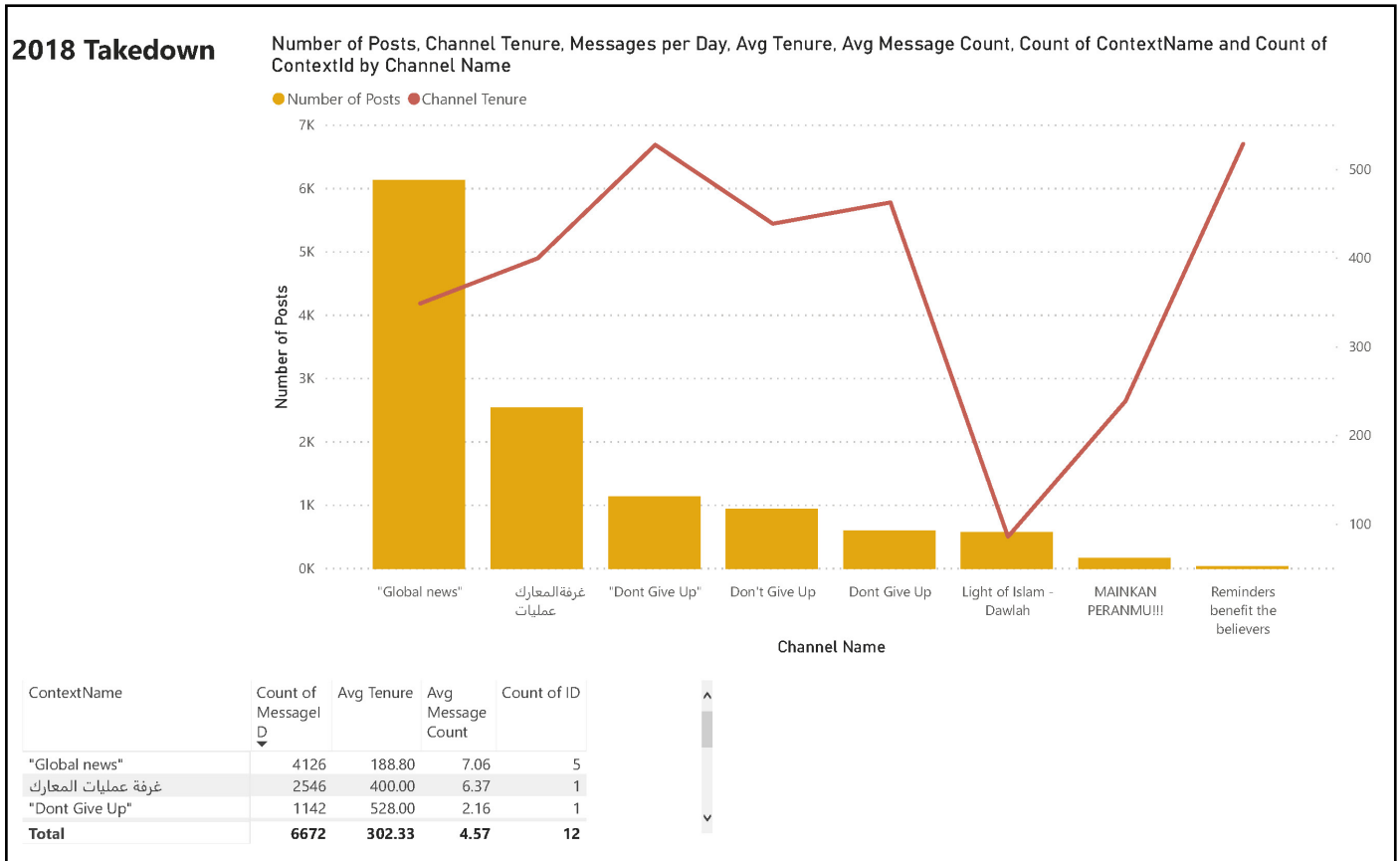


Figure 3

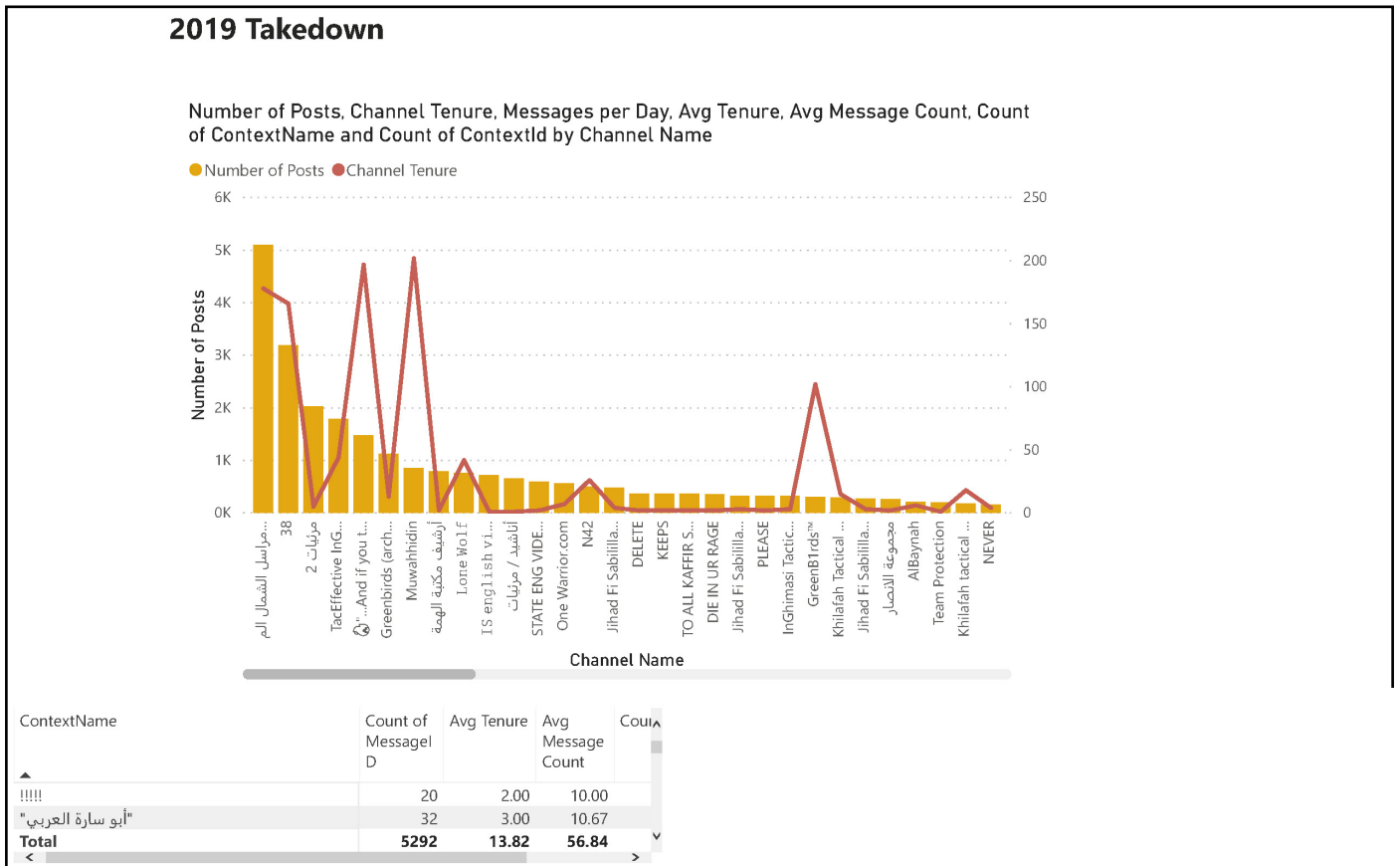


Figure 4

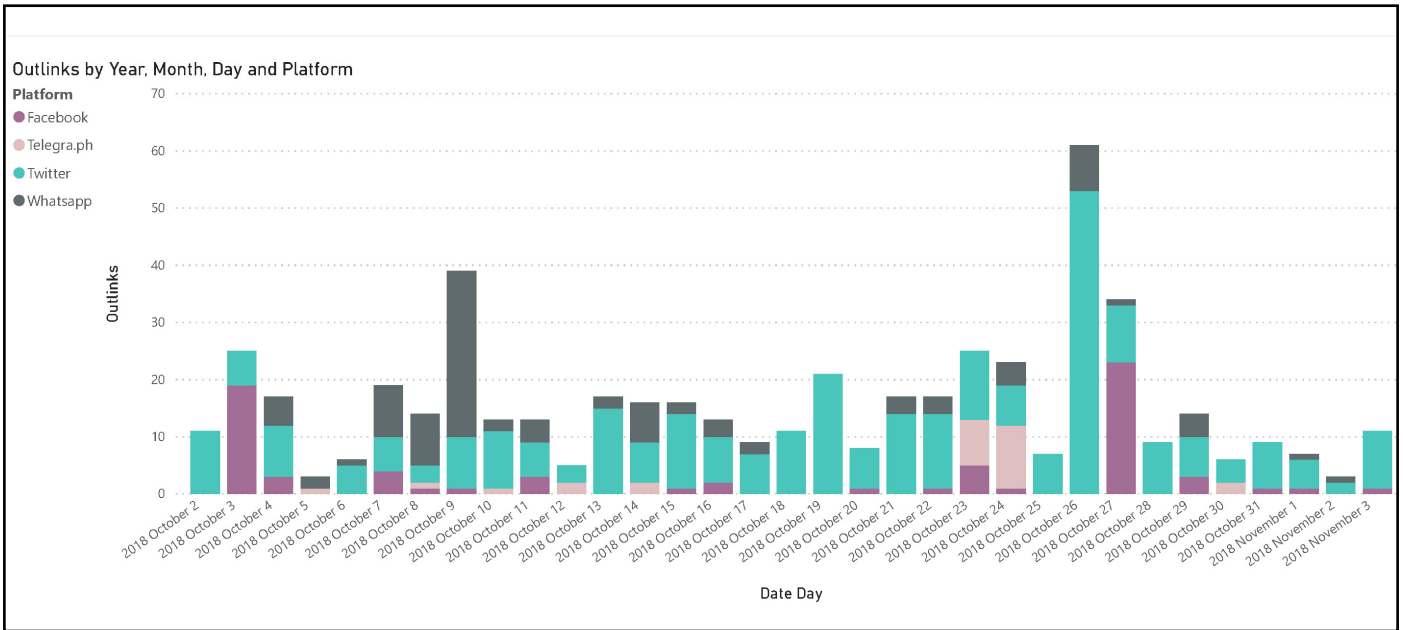


Figure 5

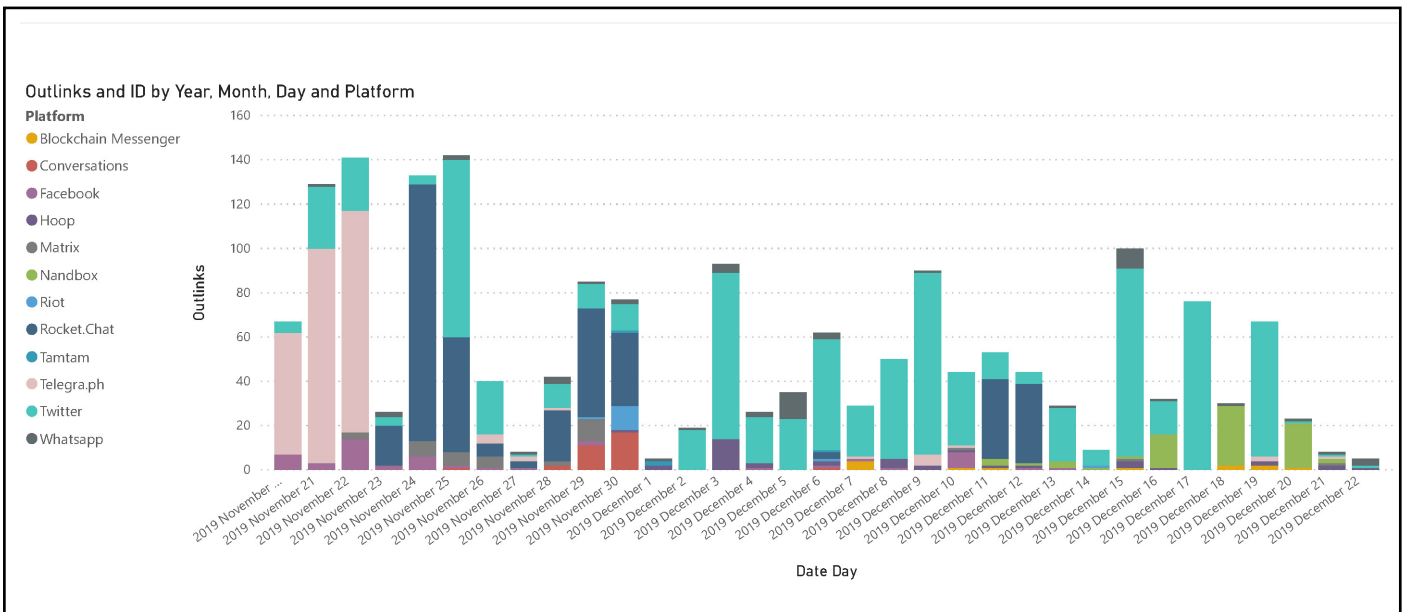


Figure 6

## RESULTS

### How Telegram Disruption Impacts Jihadist Platform Migration

As is clear from Figure 5, there was limited experimentation with Twitter (4.93%) and WhatsApp (1%) as alternative platforms to Telegram before the 2018 Action Day. In its aftermath, there was only a modest increase in experimentation with Twitter (5.27%) and WhatsApp (1.5%) observed, and even less discussion about newer platforms.

However, without in-depth qualitative analysis, it's difficult to know if this increase was a direct result of the 2018 Action Day. In general, because the 2018 intervention had less of an impact on IS activity on Telegram, the highest number of URLs posted in Telegram groups and channels continued to be Telegram entrance links – defined as links inviting users into new groups and channels (1350 links for the 30 days before the intervention and 1729 links during the 30 days afterwards, making up 27% and 33% of total links shared during this period respectively).

The 2019 Action Day was wholly different, having had a major impact on the IS presence on Telegram (see Figure 6). In the 30 days before the November 21–22 Action Days, there were 15,364 (45% of total links) Telegram entrance links posted in our data set. During the 30 days following the intervention, there were only 2,555 links. Even with 2,555 links, however, Telegram URLs remained the single largest platform shared in our data set, making up 43% of the total, likely as IS supporters continued to create new channels and groups following the takedowns. As noted above, though, most of these channels did not survive long.

In terms of evidence of platform migration, the 2019 disruption appeared to prompt meaningful, concerted experimentation on the part of IS supporters. Before the 2019 Action Days, the main domains that were outlinked in our data set were Telegra.ph (2,601 links or 8%), Twitter (601 links or 2%), and as evidenced in Figure 6, some minor experimentation with Rocket.Chat on November 6, 2019 (a total of 79 links, amounting to less than 1 percent of the total).

Following the intervention, though, there was mass experimentation with a whole host of new and different platforms: Twitter (699 links or 12%), Rocket.Chat (375 links or 6.3%), TamTam (84 links or 1.4%),

nandbox (72 links or 1.2%), Hoop Messenger (39 links or 1 per cent), and so on. It is important to note, as mentioned above, that as IS supporters migrated to new platforms like TamTam and Hoop Messenger, they began posting entrance links on those platforms themselves, and, as such, those numbers are not captured in our dataset of Telegram outlinks.<sup>62</sup>

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62 This explains why the dataset contains few numbers of Hoop Messenger and TamTam outlinks, even though researchers who closely watch IS activity online noted heavy activity on both Hoop and TamTam.

## DISCUSSION

In this section, we consider the findings above and tie them back to our conceptual framework. In the course of doing so, we provide answers to our fourth and fifth research questions.

The efficacy of the 2019 Action Days is obvious by the quantitative data presented in section 3 of this paper. As opposed to the 2018 Action Day, the intervention in 2019 presented a serious, sustained, and existential threat to the IS presence on Telegram. In part, this was because the company did not just remove the offending content, but also worked closely with Europol and its IRU to ensure a sustained effort was maintained in the coming days to ensure there could be no ‘bounce back’ for the group.

Regeneration efforts have been a common and recurring tactic of extremist groups experiencing internet takedowns. Indeed, when companies like Twitter first began suspending the accounts of IS fighters

and supporters, an entire genre of both accounts and memes emerged to support suspended accounts. Accounts such as ‘Baqiya Shoutouts; @haqq222’ and ‘Suspension Support; @dontlikesuspen1’ sprung up to help supporters of IS and the now-defunct al-Qaeda affiliate Jabhat al-Nusra, respectively, identify new accounts created in response to Twitter’s takedowns. Those who were suspended seemingly revelled in the notoriety. The idea was that supporters of those groups would follow these aggregator accounts. Suspended users would then alert them to their new accounts so that these Twitter feeds could disseminate news of their return.

For a while, it seemed, being removed served as a badge of honour, with users boasting of returning with their second, third, fourth, or n-th account.<sup>63</sup> In the context of Telegram, a similar, albeit more sophisticated regeneration structure emerged in 2017 and 2018. One of its most significant components was the ‘Supporter



Image 1: Memes mocking Twitter’s takedown efforts

63 Amarnath Amarasingam, “What Twitter Really Means for Islamic State Supporters,” *War on the Rocks*, December 30, 2015, <https://warontherocks.com/2015/12/what-twitter-really-means-for-islamic-state-supporters/>

## DISCUSSION

### How Telegram Disruption Impacts Jihadist Platform Migration



Image 2: Tweets by IS supporters mocking takedown efforts

Bank’, which aimed to provide new phone numbers to IS supporters who had lost access. This is important because a valid phone number is needed to create a new account. Thus, when extremist accounts were identified and banned, the associated number would be blocked into perpetuity. Having the ability to utilise alternative numbers gave extremist users a chance at re-establishing themselves on the platform relatively quickly.<sup>64</sup>

Their persistence stems from a widely held belief among jihadis that the information space represents yet another front in their cosmic battle. The popular refrain that ‘media is half of jihad’ is common among jihadis for obvious reasons. Not only does it afford them an opportunity to win new recruits, it also helps them spread their narrative, create the moral imperatives for terrorism, and inspire homegrown attacks by disseminating tactical manuals relating to attack planning. Maintaining a presence online is inherently tied to the fortunes of these groups if they are to project power – which ultimately manifests itself as a destructive force – equalling more than the sum of their parts.

The ability to decisively push this kind of material off mainstream platforms was aided by the size and technical prowess of the companies involved. Organisations such as Twitter, Facebook, Microsoft, and Google have enormous resources at their disposal



Image 3: Graphic reinforcing the idea that ‘half of jihad is media’

to automate detection and deletion policies. They also have the financial resources to develop in-house expertise focused on contentious issues such as terrorist content, extremism, hate speech, misogyny, and various other online harms.

Smaller companies, however well-meaning, may simply lack the capacity to replicate the efforts of their larger counterparts. This is what made the 2019 Action Days so potent in their efficacy because Europol developed a deliberate strategy behind the scenes with Telegram before engaging in the disruption.

A statement from Telegram following the 2019 Action Days noted, “We found the Referral Action Days productive and useful. We support free speech and peaceful protest, but terrorism and propaganda of violence have no place on Telegram.”<sup>65</sup> Europol itself declared, “Telegram is no place for violence, criminal activity and abusers. The company has put forth considerable effort to root out the abusers of the platform by both bolstering its technical capacity in countering malicious content and establishing close partnerships with international organisations such as Europol.”<sup>66</sup>

Herein lies the point. Smaller companies are now being much better supported by international organisations such as Europol to develop the requisite capacity to decisively undermine the abuse of their platforms. That much was confirmed in a December

64 “Bank al-Ansar – The ‘Supporters Bank’ – supplies jihadis with ready-to-use Facebook, Twitter accounts,” MEMRI, July 6, 2016, <https://www.memri.org/cjlab/bank-al-ansar-the-supporters-bank-supplies-jihadis-with-ready-to-use-facebook-twitter-accounts>.

65 “Europol and Telegram Take on Terrorist Propaganda Online,” *Europol Press Release*, November 25, 2019, <https://www.europol.europa.eu/newsroom/news/europol-and-telegram-take-terrorist-propaganda-online>.

66 Ibid.



2019 interview one of us (Amarnath Amarasingam) conducted with a Europol official to better understand their 2019 Action Days on Telegram. “It takes time until tech companies understand what the problem is,” the official said. “What is important is for us to maintain this type of communication, to establish regular communication, and try to engage and give the right answers to these companies.”<sup>67</sup> The broader implications of how this can be achieved, for jihadist groups but also emerging threats and hate speech from the far-right, are considered in the conclusion.

A qualitative look at discussion groups on Telegram run by IS supporters also makes it abundantly clear that the 2019 Action Days were significantly more impactful than anything they had encountered before. This helps us evaluate the question of efficacy from the other end of the equation.

In particular, three key concerns arose among IS supporters following the 2019 takedowns: 1) new platforms have security issues so users should be cautious when posting; 2) supporters should not place all their eggs in one basket and diversify the platforms

on which they operate so that intervention on one will not impact the whole network; and 3) this action on Telegram might be short-lived, at which point supporters can re-establish themselves on Telegram, which remains the most desirable platform from IS’s perspective. These three concerns shaped IS’s thinking around innovation and adaption following the 2019 disruption.

Regarding the first, many of these supporters were quite deliberate in testing out new platforms that were comparable to Telegram in terms of security, user-friendliness, and ease of use. For example, many IS supporters initially migrated to TamTam, but then left after learning of TamTam’s security flaws. As one noted, “Don’t get me wrong. I’m not saying that TamTam is the best alternative. But for the time being it serves a purpose. All Ikhwa [brothers] should be very careful using TamTam.”<sup>68</sup> Part of these fears stems from the fact TamTam is a Russian app, fuelling perceptions – whether real or not – that the Kremlin may have a backdoor to its data.

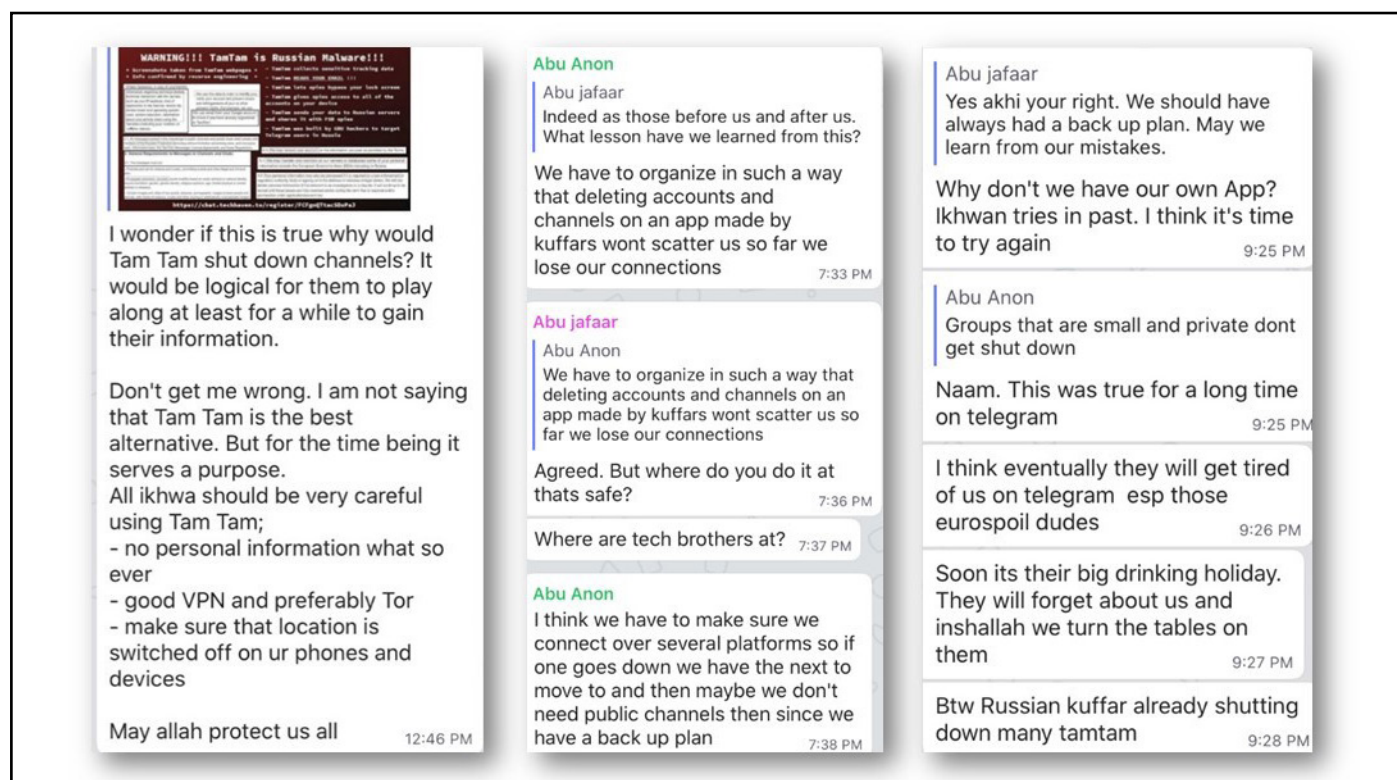


Image 4: Screenshots from IS supporter groups on Telegram after 2019 Europol Action Days

67 Amarnath Amarasingam, “A View from the CT Foxhole: An Interview with an Official at Europol’s EU Internet Referral Unit,” CTC Sentinel, Vol. 13, Issue 2, February 2020, <https://ctc.usma.edu/view-ct-foxhole-interview-official-europols-eu-internet-referral-unit/>

68 Screenshot from IS support group immediately after the 2019 Europol Action Days.

## DISCUSSION

### How Telegram Disruption Impacts Jihadist Platform Migration

The second line of discussion involved IS supporters openly strategising about ways to better survive such takedowns in the future. One of the solutions they discussed was to diversify their platform use. Instead of linking the media infrastructure entirely to Telegram, IS supporters advised that they should remain active on multiple platforms simultaneously.

Their thinking was that this would ensure that the online community of supporters could find each other after disruptions on any one particular platform. As one user noted, “We have to organise in such a way that deleting accounts and channels on an app made by kuffars won’t scatter us so far we lose our connections.”<sup>69</sup> Another supporter responded stating, “I think we have to make sure we connect over several platforms so if one goes down we have the next to move to and then maybe we don’t need public channels then since we have a backup plan.”<sup>70</sup>

The third line of discussion revolved around the idea that IS supporters will eventually find their way back on to Telegram, as the platform’s administrators lose interest in continually taking down their accounts. One supporter, posting a few days before the Christmas and New Year’s holiday break noted, “I think eventually they will get tired of us on Telegram, especially those eurospoil [Europol] dudes. Soon it’s their big drinking holiday. They will forget about us and inshallah we turn the tables on them.”

Based on these observations, it would appear that IS supporters prioritised three characteristics when considering platform migration: 1) security; 2) sustainability; and 3) utility. From a policy perspective, it will be important to weight each of these considerations to understand which ones are more important to users than others and to understand their relative importance. Our conclusion gives some consideration to this and the presumed future trajectory of extremist behaviours online.

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69 Ibid.

70 Ibid.

# CONCLUSION

Some takedowns are effective. The data presented in this paper indisputably demonstrates the hugely debilitating impact of the 2019 Action Days. These represented a serious, sustained, and existential threat to both the group and its supporters online. Some significant pockets of IS activity remain, of course, but these are severely limited in terms of scale and reach. It is safe to say that, for now, Telegram has effectively degraded, though not eliminated, the IS presence on its platform. That is a remarkable achievement.

Platform choice is neither a straightforward discussion nor decision for malevolent actors. In terms of content dissemination, jihadist groups enjoyed their highwater mark when they were able to operate freely on mainstream platforms such as Facebook and Twitter in 2014 and 2015. This was attractive for several reasons. Firstly, it lowered barriers to participation in high-risk activism. Ordinary users of those platforms could find the content with relative ease and encounter it in innocuous ways. By contrast, platforms like Telegram are less user-friendly. It can be difficult to start a new account and immediately find extremist content. Once you begin, however, it can be harder still to find invitation links to exclusive groups or channels, where the most sensitive discussions are taking place. Secondly, by operating on mainstream platforms, extremist actors have the advantage of potential recruits/sympathisers encountering their material entirely by accident. This can help normalise their narratives or push their point of view into areas where it might not have otherwise penetrated.

Herein lies the dilemma. Platforms like Telegram have traditionally provided a safer operating environment not just through the company's apathy for content removal, but also by allowing users to restrict access to groups/channels. This provides a degree of protection as only trusted members can be admitted to a particular

room. Yet, this necessarily limits the reach of message to a community of already known (or presumably known) likeminded and committed individuals who operate within an echo-chamber. The ability to reach beyond this constituency to new audiences is severely impaired. The tensions of this dilemma were captured by an IS supporter, Abu Usama Sinan al-Ghazzi, who wrote a short pamphlet in June 2016 titled, "Oh supporters of the Caliphate, do not withdraw into Telegram."<sup>71</sup> Al-Ghazzi laments his followers, "Come back to Twitter and Facebook, for our mission is greater than this and deeper. Those we seek to reach, we will not find them on Telegram in the way desired, as we will find them on Twitter and Facebook."<sup>72</sup>

There is evidence from elsewhere to speak about the efficacy of takedowns too. Consider the case of noisy, far-right provocateurs such as Milo Yiannopoulos, Tommy Robinson, or Katie Hopkins who previously enjoyed audiences on mainstream platforms. Their presence on these sites not only amplified their vitriolic messages but also allowed them to monetise their bigotry. Yiannopoulos, in particular, commoditised his outrageous behaviour. He famously argued, for example, that "feminism is worse than cancer," has said that being groped does not constitute sexual assault and has advocated for a "world patriarchy day."<sup>73</sup>

Before his ban, Milo had more than 300,000 followers on Twitter. His combined reach across various platforms including Facebook, Instagram and YouTube was astonishing. The far-right provocateur himself claimed to have a combined reach of millions. "Before I was banned everywhere, I had four million fans across various platforms," he wrote on a Facebook group dedicated to discussing him. "Now, I am glad to get 3,000 views on a meme on Telegram. That's what they did for me. That's what they did for us. It was a declaration of war."<sup>74</sup>

71 Cole Bunzel, "'Come Back to Twitter': A Jihadi Warning Against Telegram," *Jihadica*, July 2016. <http://www.jihadica.com/come-back-to-twitter/>. The original Arabic document can also be accessed through Jihadica at <http://www.jihadica.com/wp-content/uploads/2016/07/ya-ansar-al-khilafa.pdf>

72 Ibid.

73 Reagan Battalion (@Reagan Battalion), Twitter Post, February 20, 2017, 10.32 am, <https://twitter.com/ReaganBattalion/status/833700767475331072>; German Lopez, "The fall of Milo Yiannopoulos, explained," *Vox*, Feb 21, 2017.

74 Milo's discussion page, Facebook Page, June 23, 2019, 9.27 pm, <https://www.facebook.com/2218030375154070/photos/a.2218786531745121/2225059181117856/?type=3&theater>

## CONCLUSION

### How Telegram Disruption Impacts Jihadist Platform Migration

Herein lies the point. Yiannopoulos had been using mainstream platforms to mobilise an online army of trolls and supporters to promote racist, sexist and otherwise bigoted views. The effects of his ban were delirious. Although Yiannopoulos moved to platforms which present themselves as free speech alternatives to Twitter, such as Gab and Parler, neither can replicate the former's mass appeal.

Yiannopoulos described the former as “exhaustingly hostile and jam-packed full of teen racists,” while the latter provides, “zero interaction.” Although he was able to amass 19,000 followers on Telegram, each post on it received an average of about 2000 views in 2019. “It’s just not a good use of my time to be here,” he concluded. “Talking to the same 1000 people, none of whom buy books, tickets to anything or donate...I can’t put food on the table this way...I’ll just retire from social media entirely tbh [to be honest].”<sup>75</sup>

The issue is somewhat different when considering jihadist operators and the comparison offered above is not a linear one. Jihadists do not seek a mass movement or following in the same way, nor are they motivated by a desire to monetise their enterprise. The scales involved are entirely different. While provocateurs of hate need an audience, terrorist actors operate within the margins, requiring just a sole or handful of followers to act on their message. This makes the nature of the task facing both authorities and internet companies all the more urgent and acute. It explains why, even after seismic events such as the 2019 Action Days, some threat still remains.

This is why the approach adopted by Europol in 2019 has not been one-dimensional. They did not simply pursue the removal of content, but also worked simultaneously with national authorities and agencies to pursue attribution investigations too – meaning, putting effort into identifying who is posting the material, and from where. “We try to bridge the gap there,” Europol explained. “We really want to engage with the international community to put all of our efforts together to work both on prevention and attribution. By disrupting the jihadist networks on the internet, you contribute to prevention. This is what

we’re trying to do here by doing referrals; by flagging this content in a timely manner to online service providers and by helping member states to investigate these networks, we try to bridge the gap that we’ve seen in the past between prevention and investigative work.”<sup>76</sup>

With groups like IS, there are obvious metrics to look for – such as individual members, official accounts, and dissemination of centrally coordinated propaganda and/or glorification of terrorist activity. This type of content, quite often, falls foul of counterterrorism legislation too, compelling internet companies to act. When it comes to individual extremist figures such as far-right provocateurs or prominent jihadist icons such as Anjem Choudary in the UK, it is also a relatively straightforward effort to remove them.

Yet, the rise in both polarisation and political tensions within the United States points to the evolution of this trend in more problematic ways. When considering a phenomenon like QAnon, for example, the question must be asked – what is it? Is it an organisation or a social movement? Indeed, when considering this, how useful is it to even think of the two as separate and distinct things – and what implications might this have for an internet company? In the context of IS, one could question the extent to which its official media apparatus is calling the shots, or whether the IS supporter tail is now wagging the organisational dog. The reality is almost certainly somewhere in between, with both bottom-up and top-down processes of innovation occurring simultaneously. Strikingly similar problems have been identified with the rise of the so-called ‘new’ far-right, which consists of a diffuse international network of ‘identitarian’ and populist movements. Certain influential nodes are identifiable such as Tommy Robinson in the UK or Martin Sellner in Austria, but there is little evidence of coordinated or synchronised online activity. There nonetheless remains an ‘in-group’ lexicon of language, phraseology and iconography that helps supporters of a broadly similar worldview – whether that is, for example, opposition to globalisation, corporatism, or refugees – that helps like-minded individuals identify with one another.

75 Screenshot from Milo’s Telegram page.

76 Amarnath Amarasingham, “A View from the CT Foxhole: An Interview with an Official at Europol’s EU Internet Referral Unit,” *CTC Sentinel*, Vol. 13, Issue 2, February 2020, <https://ctc.usma.edu/view-ct-foxhole-interview-official-europols-eu-internet-referral-unit/>

Future research could therefore focus on several related areas. A study such as this one could expand beyond Telegram to assess the efficacy of content takedowns on platforms beyond Telegram. Indeed, Europol confirms that its 2019 Action Days did not focus exclusively on Telegram, although the impact of their efforts was felt there most dramatically. Yet, what will continue to grow in terms of both prominence and importance is the challenge presented by the ‘new’ far-right and the way its communities are evolving with the online space. They are neither structured like nor are they similarly organised to jihadist groups. This makes them altogether more challenging to identify and uproot. As political divides – and associated culture wars – on both sides of the Atlantic intensify, this problem will only become more acute in the coming years.

The lack of centrality and diffusion within these new extremist networks will represent the next phase of evolution within this space and marks yet another chapter in the Sisyphean task of decisively confronting both extremist and terrorist content online.

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