Exploiting Encrypted Networks: A CPM Analysis of Telegram's Role in Extremist Propaganda and Radicalization by Terrorist Organisations

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Abstract

In recent years, Telegram has emerged as a significant digital platform for terrorist organisations looking for a safe and secure online medium to disseminate their propaganda and supplement operational coordination. The research paper explores the role of Telegram in facilitating the propagation of extremist ideologies, communication, and planning of terrorist activities. Using qualitative study and policy review, the paper seeks to highlight challenges related to the privacy policy of Telegram and its potential misuse by terrorist organisations. Utilizing Communication Privacy Management (CPM) theory, the paper demonstrates how encrypted communications enable terrorist organisations like the Islamic State of Iraq and Syria (ISIS) and Tehrik-e-Taliban Pakistan (TTP) to operate with minimal detection. The findings focus on the role of encryption in providing safe channels for terrorist groups to radicalize youth and spread extremism. This study also contributes to the growing body of literature on cyber-extremism by offering insights into the regulatory challenges of encrypted platforms and calls for the establishment of an internationally coordinated framework to mitigate extremist exploitation of digital communication tools like Telegram.

Keywords: Telegram, Extremism, Terrorism, digital platforms, encryption, CPM, ISIS, TTP

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1. Introduction

Cyberspace has transformed into a vast, borderless realm of virtual interactions in a digital environment, creating a globally interconnected society. With the rise of social media, individuals can disseminate information with minimal restrictions, making these platforms avenues for both positive engagement and harmful activities. Among the most concerning issues are extremism and radicalization, which have found fertile ground in digital spaces. In this context, Telegram has emerged as a key tool for terrorist groups due to its attractive features providing a platform where secret communication and encrypted groups have made it possible for terrorist organisations to use it for their agenda of spreading their radical views.

There is no fixed form of extremism or radicalization, rather it manifests itself in different modes. J.M. Berger defines extremism as the mere distinction that arises from the conception of “Us vs Them”. He points out that the peculiarity that makes any such division as an extremist ideology arises from the factor that extremists when talking about their impression of “us”, consider taking up hostile actions against “them” as part of their measure for success. For Berger, extremism surfaces from identity politics and navigates all actions revolving around active rejection of the fundamental principles of society. In his scholarly work, he also highlights the problems with defining extremism and stresses that it has been politically charged and fortified with misuse by political parties and actors worldwide.[1]

Radicalization, on the other hand, can be identified as the process in which different factors contribute to individuals' alignment with extremist ideologies and

[1] Kateira Aryaeinejad et al., “Researching Violent Extremism: Considerations, Reflections, and Perspectives” (RESOLVE Network, May 4, 2023), https://doi.org/10.37805/rve2023.1.

supporting violent actions. Joe Whittaker, while discussing radicalization, highlights online interactions as an important facilitator that contributes to an individual's acceptance of extremism. According to him, the process does not take place in isolation but rather many cognitive and social changes influence it.[2] Online communities become a major part of this process as they impact individuals' thought processes and provoke them into taking violent steps to fulfil their ideological, political, and religious goals. The exposure to radical content over the internet and the continuous willingness to engage in viewing, discussing, or reposting such content for the sake of information adds to normalizing extremist beliefs.

Both radicalization and extremism are interlinked with one another where extremism is the product and radicalization is the process one undergoes to reach this product. For scholars worldwide, extremism and radicalization bear different understandings according to their surroundings, but violence is the most common aspect amongst all definitions.

As mentioned earlier, the world of internet has become a safe haven for extremist and terrorist organisations to spread their agenda online. Maura Conway mentions that while internet has not quite played a detrimental role in any revolution, activism, or terrorist incident, its influence in pushing extremists toward extreme actions, however, cannot be overlooked. She further adds that although social media may not directly generate grassroots activism, it facilitates such activities by providing critical support, enabling communication, and offering aid.[3]

[2] Joe Whittaker, "Rethinking Online Radicalization," *Perspectives on Terrorism* 16, no. 2 (August 29, 2022): 27–40, https://cronfa.swan.ac.uk/Record/cronfa60885.

[3] Maura Conway, "Determining the Role of the Internet in Violent Extremism and Terrorism: Six Suggestions for Progressing Research," *Studies in Conflict & Terrorism* 40, no. 1 (January 2, 2017): 77–98, https://doi.org/10.1080/1057610X.2016.1157408.

Since its launch, Telegram has been exploited by various terrorist and militant groups to further their nefarious designs and agendas. By exploring the largest Telegram channels through Latent Dirichlet Allocation (LDA) - a Topic Modeling algorithm, Morgia *et al.*,[4] found that groups linked to extremists and radicals make up one of the top 10 seed channels on Telegram. Their study showcased a cluster of 989 channels using Telegram for radicalization and some even held verified status. One of the major groups in this category is ISIS which has reportedly been using Telegram for recruiting, guiding lone wolves, and coordinating attacks. A study shows that since X's (previously Twitter) policies changed, Telegram saw a rise in online activity by terrorist groups on its platform, especially ISIS. Shehabat et al., highlight that Telegram channels of ISIS have played a significant role in the recruitment, communication, and planning phases of the group.[5] Similarly, Pakistan-based terrorist groups have also adapted to the evolving demands of the digital age, using Telegram to release official statements, communicate about their activities, and maximizing their online reach. Adopting a more sophisticated approach, Tehrik-e-Taliban Pakistan (TTP) holds various groups and channels of Telegram that are used to disseminate propaganda and exploit loopholes in Pakistan's governance to further their violent extremist agenda.[6]

Using qualitative study, this research paper applies the Communication Privacy Management (CPM) theory to analyze how Telegram's 'string encryption

[4] Massimo La Morgia, Alessandro Mei, and Alberto Maria Mongardini, "TGDataset: Collecting and Exploring the Largest Telegram Channels Dataset," *arXiv*, December 16, 2024, http://arxiv.org/abs/2303.05345.

[5] Ahmad Shehabat et al., "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.

[6] Joshua Bowes, "Telegram's Role in Amplifying Tehreek-e-Taliban's Umar Media Propaganda and Sympathiser Outreach," *Global Network on Extremism and Technology -GNET,* January 30, 2024, https://gnet-research.org/2024/01/30/telegrams-role-in-amplifying-tehreek-e-talibans-umar-media-propaganda-and-sympathiser-outreach/.

policies' facilitate extremist activities. While Telegram does not enjoy the same hype as other apps like Meta and X, yet it still possesses a great appeal for groups evading surveillance and detection. With more than a billion downloads, the app retains data privacy, encryption, security, and data safety as its standout features. With many supporters of its privacy features, the app's continued adherence to unrestricted privacy has become a problem for states that are concerned about terrorist organisations' increased activity through the app. Focusing on the case study of terrorist groups like TTP and ISIS, this paper aims to assess Telegram's privacy policy against the threats to national peace and security. Lastly, it also endeavours to provide policy recommendations to modify content for future activity over the app.

2. The Problem

Scholarly studies have highlighted that social media and internet contribute to radicalization and extremism of all kinds. Nowadays, people can easily access chat rooms where like-minded people share and reinforce their views. These chat rooms help people from different backgrounds learn more about their shared ideology. Whether it is culture, religion, traditions, or even ethnicity, these places help people find a common point in which they feel more connected, relatable, and comfortable. However, on the other hand, some of these chat rooms exaggerate certain shared beliefs while marginalizing other aspects of the participants' identities. This exaggeration of such shared beliefs or ideas helps trigger people through information, communication, and propaganda, ultimately enhancing radicalization within those individuals.[7]

[7] Cristina Archetti, "Terrorism, Communication and New Media: Explaining Radicalization in the Digital Age," *Perspectives on Terrorism* 9, no. 1 (2015): 49–59, www.jstor.org/stable/26297326.

In this context, social media has become a powerful tool in the hands of militant and terrorist organisations to radicalize individuals, assemble sympathizers and spread their ideology. Being one of the top five downloaded apps, Telegram has become one such platform having over 950 million plus active users.[8] Even though the app has been banned in Pakistan since 2018, it still attracts a large number of Pakistani users who connect through VPNs and proxies. This brings us back to the issue of Telegram being exploited by its audience through strategizing content that brings harm to society in terms of violence. Therefore, this paper examines how Telegram's policies can be shaped in a way that neither compromises the privacy of its users nor allows the criminal use of the app.

3. Literature Review

Telegram, being a widely used instant messaging platform, offers several features, which are unique and responsive compared to other popular social media apps. These features include end-to-end encryption, public channels with private links, and maintaining user privacy. The idea it revolves around is not to allow third parties to have access to monitor and check private chats taking place within these channels. Therefore, many groups including militant and terrorist organisations have turned to exploiting these features for their communication and planning.

Counter Extremism Project February 2024 report highlights that terrorist organisations like ISIS have categorized Telegram as one of the 'safe' apps for secure messaging.[9] These organisations utilize the platform in ways that include communication (claiming responsibility for attacks and calling for action against

[8] Alishba, "Why Telegram Is Banned in Pakistan | VPN Solutions for Access," *Tashheer Digital* (blog), May 8, 2024, https://tashheer.com/telegram-banned-pakistan/.

[9] "Terrorists on Telegram | Counter Extremism Project," accessed October 13, 2024, https://www.counterextremism.com/terrorists-on-telegram.

'enemies'), planning and coordinating upcoming attacks, recruiting new members, and finally using secret chat options for exclusive interaction. Investigators[10] have linked that many terrorist attacks in recent years have undergone their planning on Telegram. The Counter Extremism Project's report maintains that even though Telegram's owner has taken a step back from their initial resistance against monitoring chat rooms, the platform's actions against removing such channels and content are far from being helpful in eradicating the threat of cyber-terrorism.[11]

In his study, Nico Prucha emphasizes that organisations like the IS work on their respective ideologies.[12] For them, mainstreaming their ideology into the minds of the public in order to gain more support is the most important job over the internet. Social media apps play a significant role in propagating this ideology as 'unsafe' apps like X and Meta are good sources for gaining supporters and attracting sympathizers through their content but their main goal is to transfer 'transformed jihadists' to various Telegram channels and groups. The app showcasing user-friendly and easy-to-grasp features with a gleam of anonymity helps protect and secure the actual group activities that come in the next stages after 'projecting ISIS ideology onto people'. Using Telegram, the members of ISIS disseminate their ideology to gather new recruits and plan future activities. In the same context, Richard Rogers also appreciates leading social media apps like X and Meta for de-platforming toxic online communities. However, the author points out that removing extremist content creators from one app does not eliminate online radicalization. Instead, it often drives extremist and terrorist groups to move to

[10] James Billington, "Paris Terrorists Used WhatsApp and Telegram to Plot Attacks According to Investigators," *International Business Times UK*, December 17, 2015, https://www.ibtimes.co.uk/paris-terrorists-used-whatsapp-telegram-plot-attacks-according-investigators-1533880.

[11] Counter Extremism Project, "Terrorists on Telegram," https://www.counterextremism.com/terrorists-on-telegram.

[12] Nico Prucha, "IS and the Jihadist Information Highway – Projecting Influence and Religious Identity via Telegram," *Perspectives on Terrorism* 10, no. 6 (2016): 48–58.

platforms with fewer restrictions, where they rebuild their community. He also raises concerns about the long-term efficiency of de-platforming extremism supporters from the mainstream, making them migrate to apps with encryption and more freedom to spread any content they want to.[13]

Richard's study not only highlights the lack of content moderation of platforms like Telegram but also marks out the limitation of de-platforming supporters of extremism. Handling online content in its radical and extremist context is a difficult task in itself as it requires careful sampling of all the data produced by terrorist and extremist-affiliated accounts using the internet in fragments. Analysts claim that tracking radical activity on Telegram is not only difficult because of its features like anonymity and encryption but the refusal of the app's management to work with security teams to provide backdoors or help collect data adds to the issue.[14] This eventually adds to the spread of radicalized content in online spheres.

Azadeh and Rashid also assess the trade-offs between users' freedom, right to privacy and the dangers of misuse of Telegram. Their research treads on the fine line between the risks of unmonitored online content and the potential violation of privacy through online surveillance. With their case studies of Russia and Iran, the research highlights that authoritarian regimes tend to have stronger control over their population and limit access to all platforms that they are not allowed to intercept or monitor. For many citizens, an app like Telegram serves as a tool to

[13] Richard Rogers, "Deplatforming: Following Extreme Internet Celebrities to Telegram and Alternative Social Media," *European Journal of Communication* 35, no. 3 (June 2020): 213–29, https://doi.org/10.1177/0267323120922066.

[14] Anthony Cuthbertson, "Isis Telegram Channel Doubles Followers to 9,000 in Less than 1 Week," *International Business Times UK*, October 12, 2015, https://www.ibtimes.co.uk/isis-telegram-channel-doubles-followers-9000-less-1-week-1523665 ; Paul Mozur *et al*., "How Telegram Became a Playground for Criminals, Extremists and Terrorists," *The New York Times*, September 7, 2024, https://www.nytimes.com/2024/09/07/technology/telegram-crime-terrorism.html.

shape a 'resistance assemblage' against the government's control and also plays a role in their fight against the government. However, it also carries significant risks, as online mobilization can lead to violence and destruction.[15]

Similarly, terrorist groups like TTP have been utilizing the digital sphere to exaggerate social grievances and manipulate the masses to incite violence in Pakistan. Observer Research Foundation's recent study into the use of social media by TTP highlights that the main theme around which TTP's digital strategy works is to spread propaganda against Pakistan with the use of religion as a tool of exploitation. It maintains that TTP has successfully used cyberspace to push emotionally charged radical content that has helped recruit new members and glorify violence.[16] In this regard, Joshua Bowes states that Telegram has become one of the main platforms that has helped TTP further its propaganda and amplify outreach to like-minded people.[17]

After careful analysis of the available literature linked with the use of Telegram by extremist groups, a significant literature gap has been identified. While scholars have emphasized Telegram's encryption as a key factor driving its widespread adoption by these groups, no research has explored how Telegram's privacy policies create a sense of trust and security, which is crucial for sharing sensitive information among group members. This paper identifies Telegram's privacy policy as a key factor contributing to the rise of extremism and radical

[15] Azadeh Akbari and Rashid Gabdulhakov, "Platform Surveillance and Resistance in Iran and Russia: The Case of Telegram," *Surveillance & Society* 17, no. 1/2 (March 31, 2019): 223–31, https://doi.org/10.24908/ss.v17i1/2.12928.

[16] "Pakistan Taliban's Evolving Social Media Propaganda," orfonline.org, accessed February 2, 2025, https://www.orfonline.org/expert-speak/pakistan-taliban-s-evolving-social-media-propaganda.

[17] Azadeh Akbari and Rashid Gabdulhakov, "Platform Surveillance and Resistance in Iran and Russia: The Case of Telegram," *Surveillance & Society* 17, no. 1/2 (March 31, 2019): 223–31, https://doi.org/10.24908/ss.v17i1/2.12928.

propaganda and emphasizes the need for enhanced monitoring to mitigate the platform's misuse by militant organisations.

4. Research Methodology

Qualitative research methodology has been used to examine how extremist groups exploit loopholes in the management policies of social media platforms to advance their extremist agenda. Among all the social media platforms popularly used by terrorist and extremist groups, the case study of Telegram has been taken because as compared to other trending apps like X and Meta, it enjoys the support of a large vulnerable audience.

The research applies the Communication Privacy Management (CPM) theory to analyze Telegram's policies to help understand its role in facilitating terrorist activities. Through such an examination, the theoretical framework provides an insight into why terrorist or extremist groups find Telegram an effective and reliable tool for communication. The framework also helps unravel the thought processes of extremist groups, particularly in terms of reliance on encryption for better control of private information. Therefore, it highlights the necessity to selectively monitor the content shared over these platforms and indicates de-platforming as one of the suitable ways of eradicating online radicalization and extremism.

5. Communication Privacy Management (CPM) Theory

Developed by Sandra Petronio in 1991, the CPM theory explores how individuals manage and regulate the disclosure of private information, particularly when it needs to be shared with others.[18] Under CPM's theory, individuals believe they own their private information, hence they have the right to control as to how it is shared with others. The crux of CPM revolves around the management of private information and individuals' decisions regarding sharing or concealing it. According to this theory, individuals form privacy boundaries where they give co-ownership of private information to other individuals. This can happen under a common platform where a group of individuals or an organisation manage information collectively.[19]

Sandra maintains that individuals create privacy boundaries by evaluating who to share specific information with, and these boundaries are governed by rules that dictate how the shared information should be managed. Boundary turbulence happens when the owner fails to achieve the desired management of the information shared with others. It also occurs when the privacy expectations of the owner are not met due to intentional violation of boundaries or miscommunication. This turbulence can also stem from third-party interference or even conflict among the members who achieved co-ownership of the information. Accordingly, for all owners of information, the goal is to minimize boundary turbulence as much as possible. The application of this framework helps to assess that secret information shared over Telegram benefits extremists and terrorist groups as they maintain their desired control over the shared information as compared to other popular social

[18] "Let's Talk Theory: Learn: Communication Privacy Management Center: Indiana University Indianapolis," Communication Privacy Management Center, accessed October 10, 2024, https://cpmcenter.indianapolis.iu.edu/learn/theory.

[19] Sandra Petronio and Wesley T. Durham, "Communication Privacy Management Theory; Significance for Interpersonal Communication" in *Engaging Theories in Interpersonal Communication: Multiple Perspectives,* ed. Leslie A. Baxter and Dawn O. Braithwaite (Thousand Oaks, CA: Sage Publishers, 2008)

media apps, thus making Telegram a useful platform for communication and management of information.[20]

6. Telegram's Privacy Policy

Telegram's policies have been shaped largely by its founder, Pavel Durov. Durov has consistently positioned the platform as a tool to resist politically motivated censorship by government, security, and intelligence agencies. His commitment to privacy and free expression stems from his own experiences, particularly his conflict with the Russian government over control of VKontakte (VK), the social media platform he previously owned. He has publicly stated that government pressure played a significant role in his decision to leave VK, reinforcing his belief in the need for independent and secure communication platforms where the individual's privacy is considered the most significant aspect.[21]

A prominent feature of Telegram's privacy policy is that the private data (including users' contact information and even names) shall be well-protected. Users can connect and contact other Telegram members while staying anonymous with a screen name (which can be fake too). The platform's privacy policy maintains that individuals have a right to data protection from others (even Telegram itself) and thus it should only be accessed and stored when considered extremely necessary.

Being a messaging app, the platform provides the features of channels, groups, and individual chat rooms. End-to-end encryption is another prominent

[20] Sandra Petronio, Jeffrey T. Child, and Robert D. Hall, "Communication Privacy Management; Significance for Interpersonal Relations," in *Engaging Theories in Interpersonal Communication*, 3rd ed., Paul Schrodt, Kristina M. Sharp and Dawn O. Braithwaite (New York: Routledge, 2021)
[21] Afp. "Russian Facebook founder says has left country after being pushed out," *The Express Tribune*, April 22, 2024. https://tribune.com.pk/story/698925/russian-facebook-founder-says-has-left-country-after-being-pushed-out.

feature of Telegram, which has been significantly marketed. This means that all chat rooms, even public ones are encrypted. Public channels are accessible to all users, and they can view the content shared within. The content shared in cloud chats is stored for easier accessibility but in an encrypted form, making it harder to access.[22]

On the other hand, private groups and channels as well as secret chats cannot be accessed by anyone unless they have the link of invitation. The messages and media shared in these chats are encrypted to an extent where only the sender and recipient have the key to decipher it. The content is not stored anywhere, therefore, only the immediate devices having direct access to these chat rooms can see what is being shared. Furthermore, Telegram asserts that any data including photos, videos, and files shared on the platform and stored collectively is not processed or analyzed in a specific manner. This implies that while encrypted data remains on Telegram's servers, it is stored without decryption keys, making it difficult to either determine the content or trace it back to the specific chatroom it came from. Additionally, they are periodically eradicated to attain more disk space.[23]

Lastly, the self-destructing messages feature and a visible lack of content moderation have made Telegram a great source for communicating and sharing any kind of content without being traced.[24]

[22] Telegram Privacy Policy, available at https://telegram.org/privacy?setln=fa.
[23] Zaid Arafat, "Investigating User Privacy and Security on Telegram Messenger: A Wireshark Analysis" (5th International Conference on Communication Engineering and Computer Science (CIC-COCOS'2024, Cihan University Erbil, January 2024), DOI:10.24086/cocos2024/paper.1158.
[24] Telegram Privacy Policy, available at https://telegram.org/faq?setln=en#q-how-do-self-destructing-messages-work.

7. Information Control and Terrorism

Nico Prucha maintains that coordinated campaigns for pushing radical content via trends on other social media platforms have been made possible through Telegram. The app has become a multiplatform zeitgeist where many terrorist organisations like ISIS coordinate and interact about their activities. Since the launch of Telegram, its marketing campaign emphasized the unique security features and user privacy options that set it apart from other platforms like YouTube, Meta, and X.[25]

Telegram allows its users to create public and private channels that can host unlimited subscribers while open and closed groups can accommodate up to 200k members, showcasing a vast difference against Instagram's 250 members and WhatsApp's 1024 members threshold for each group. Moreover, files up to 2GB can be easily transmitted via Telegram.[26] These basic features with a trivial difference in quantity may not affect many, however, it appears to be one of the reasons that attract large groups looking to form virtual communities. Telegram with all of its features stands as an all-in-one app where nobody has to use various other apps to compress files for sharing and can also do business with the help of Telegram's exclusive cryptocurrency: Toncoin (TON, formerly Gram). Individuals can share information and media and do their business without involving any other app, therefore, decreasing financial and security risks.

The platform's privacy policies and non-inspection features add to its popularity among terrorist groups. This is linked to the fact that Telegram has

[25] Nico Prucha, "IS and the Jihadist Information Highway – Projecting Influence and Religious Identity via Telegram."

[26] Diganth Raj Sehgal, "Decoding the Privacy Policy of WhatsApp and Telegram," *iPleaders* (blog), March 18, 2021, https://blog.ipleaders.in/decoding-privacy-policy-whatsapp-telegram/.

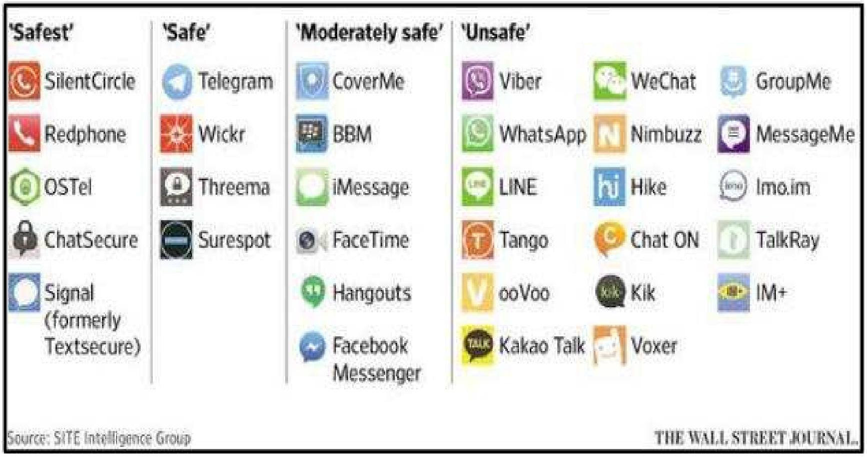
maintained less strictness over content moderation compared to apps like Meta which bans several accounts regularly based on their content against community guidelines. Content moderation is limited to action against violence and terrorism, that too in specific cases where any chat or group is reported. This means that a large bulk of extremist activities over Telegram stay unnoticed and unmonitored.[27] Counter Extremism Project's Report has revealed that since 2015, ISIS has categorized Telegram as its 'safe' messaging platform and has used it as its primary messaging app. However, after the Paris Attack when French investigators revealed that the planning and communication of this deadly terrorist attack was made on Telegram, the platform started working on removing ISIS and Al-Qaeda-related content, bots, and groups. Telegram investigated and blocked off groups that were linked to ISIS and Al-Qaeda majorly. As a result, Telegram claimed to have removed 200,000 public ISIS channels and bots.[28] Irrespective of the success of these actions, it remains a fact that ISIS still maintains a notable presence on this platform. These actions were primarily triggered by the Paris attack and largely targeted major terrorist groups, which does little to address the broader issue of extremist groups using the platform.

Telegram's strong privacy protection and weak content moderation policies make it easier for terrorist groups to control and manage the flow of information within their organisation. Cyberterrorism researchers highlight that one of the most significant purposes for which the internet is being used is to facilitate these activities while minimizing the risk of detection. Social media platforms, in particular, play an important role in advancing these objectives due to their wide reach. Most extremist organisations operate through a structured hierarchy, which requires strategically disseminating specific messages to targeted audiences and

[27] Mozur *et al*., "How Telegram Became a Playground for Criminals, Extremists and Terrorists."
[28] Bennett Clifford and Helen Powell, "Encrypted Extremism; Inside the English-Speaking Islamic State Ecosystem on Telegram," *Program on Extremism* (2019).

controlling the flow of information. Thus, these platforms have become a preferred medium for terrorist groups to further their goals of spreading radical propaganda and mobilizing support.[29]

An analysis of ISIS's social media platforms showcases the group's 2015 categorization of these platforms.[30]



'Safest'	'Safe'	'Moderately safe'	'Unsafe'		
SilentCircle	Telegram	CoverMe	Viber	WeChat	GroupMe
Redphone	Wickr	BBM	WhatsApp	Nimbuzz	MessageMe
OSTel	Threema	iMessage	LINE	Hike	Imo.im
ChatSecure	Surespot	FaceTime	Tango	Chat ON	TalkRay
Signal (formerly Textsecure)		Hangouts	ooVoo	Kik	IM+
		Facebook Messenger	Kakao Talk	Voxer	

Source: SITE Intelligence Group

THE WALL STREET JOURNAL.

Figure 1. ISIS 2015 categorization for social media use [retrieved WSJ]

This categorization is based on CPM principles that measure the length to which encryption and privacy are provided on any platform. It also considers whether any app under observation provides ample support to decrease the chances of hacktivism and information espionage from the group. The more secure an app is in terms of security provision, the more it is used by radical groups including ISIS and TTP. CPM supports the idea by regulating that radical groups seek to maintain their ownership over private information and primarily control it. Under these circumstances, if an app monitors their chatrooms and provides less privacy, it implies that this ownership of data and its usage can be accessed by a third party,

[29] Conway, "Determining the Role of Internet in Violent Extremism and Terrorism," 78-79.
[30] 'Terrorists on Telegram,' accessed February 2, 2025.

which may cause boundary turbulence. In comparison, Telegram's provision of security ensures ownership over private information without any involvement of third-party access until the owners themselves provide co-ownership of that information to others.

Shehabat et al., analyze that since the US Cyber Command targeted ISIS digital infrastructure, apps like Google, X, and Meta have stepped forward to investigate and suspend more than 300k accounts linked with ISIS.[31] This has caused mass de-platforming for extremist groups, compelling them to look for other platforms to attain their goals. Telegram has become a favoured spot for several reasons aside from its privacy policies. Firstly, like Meta and X, it provides a huge audience that can be targeted by extremist groups. Being one of the top five most downloaded social media apps in the world, it hosts billions of users online daily. Secondly, de-platforming called for a shift towards an app that can provide a secure and encrypted environment. In comparison, WhatsApp also claims to provide encryption in chat rooms but it is more prone to hacking.

Similarly, Telegram's secret chats do not provide access to the same content even to its members' various devices which showcases the platform's commitment to privacy and security. To an extent, secret chats still escape monitoring. With a surety of security, the trust in Telegram by extremist and terrorist groups is enhanced.

With regards to Tehreek-e-Taliban Pakistan, the militant group has held a significant presence on Telegram for years. TTP holds numerous groups under

[31] Shehabat et al., "Encrypted Jihad."

different names based on their geographical activity accordingly. Based on the conceptualizing of 'Jihad' and the system of oppression, the groups are used to communicate attacks on the Pakistani army and call for action to take violent steps for implementing 'their religious structure'. Haider et al., suggest that TTP utilizes the digital sphere to promote extremist ideology, recruit members, and coordinate attacks. Through Meta, X, and Telegram, propaganda that glorifies violence is disseminated.[32] Using emotionally charged graphics including text messages and pictures, a sense of justice through revenge is created which establishes the necessary mindset for recruitment. Additionally, TTP employs religious hymns in Arabic and Pashto to evoke Muslim solidarity and create a sense of community. The group also uses testimonials from religious scholars, media figures, and former officials to legitimize its cause, further radicalizing youth and shaping its extremist narrative through the Internet.

TTP maintains its presence on Telegram with the help of various channels and accounts, each serving distinct functions while collectively advancing its online objectives. Communication within these spaces can be categorized into three categories based on Communication Privacy Management (CPM) principles, particularly from the perspectives of the level of privacy and security provided in all categories. These three categories consist of public channels and bots, private groups, and secret chats respectively.

The first category comprises public channels and bots designed to attract sympathizers. These platforms serve as initial points of engagement, disseminating

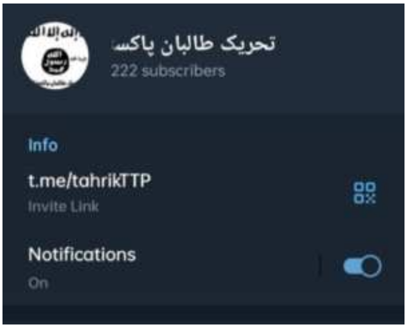
[32] Abeera Haider, Saqib Khan Warraich, and Dr Alishba Mukhtar, "Use of Facebook and Twitter by Terrorist Organizations to Radicalize the Youth: A Case Study of TTP, BLA And ISIS In Pakistan," *Bulletin of Business and Economics (BBE)* 12, no. 2 (2023): 171–77, https://bbejournal.com/BBE/article/view/465.

the group's ideology by amplifying themes based on narratives of oppression and 'unIslamic culture.' Social media users who exhibit even a slight inclination toward TTP's narrative are identified and provided with links for this domain. Correspondingly at this stage, privacy boundaries remain highly restrictive, as the leadership (information owners) exercises low trust in members of these open-access spaces. To maintain strict control over information flow and mitigate risks of boundary turbulence such as leaks or defections so only a minimal amount of strategic content is shared. This ensures that public discourse aligns with TTP's broader messaging goals without exposing sensitive internal communications.[33]

For this research, keywords used to find public TTP groups were "Taliban," "Umar Media," "Tehreek e Taliban,", "TTP (in Urdu), "Pakistani Taliban," and "Taliban in Peshawar." The keywords helped initiate the basic information regarding TTP-linked groups. Almost five channels in each search were relevant, However, these all seemed to be just small public channels that either uploaded news related to 'Taliban activities in Afghanistan' or 'general information'. The general information in this category was based on 'sharing news on government atrocities,' 'sharing pictures of victims,' and 'showcasing Taliban as fighters of religion.' TTP's public groups employ a bottom-up radicalization process to disseminate information about their attacks on their designated enemies, including the army and government infrastructure. It also works on showcasing the atrocities against their 'Mujahideen' and conceptualizes their ideology into the minds of members.

[33] Joshus Bowes, "Telegram's Role in Amplifying Tehreek-e-Taliban's Umar Media Propaganda and Sympathiser Outreach."

It is pertinent to mention that despite Telegram's updated search engine policies, it has become hard to track even the public channels. The initial groups found through these keywords can only be categorized as sympathizer groups. However, by analyzing the content within these channels, links to private channels and other public channels could be found.[34] Content and groups both are available in native as well as popular foreign languages but mainly in Pushto and Urdu. One such example is TTP's affiliate public channels under the name "TTP تحریک طالبان پاکستان" which has 1.6k subscribers as of October 2024. Another affiliate group is with the name "TTP Pak ٹی ٹی پی پاکستان" with 350 subscribers. There are many more channels affiliated with the group under media house names or TTP's sub-sections. These TTP-affiliated Telegram channels are used to share information and updates regarding attacks on the government and Law Enforcement Agencies (LEAs) or by the army on TTP fighters. However, the use of language adds to creating a sense of victimhood portraying TTP fighters as "Mujahideen" and the country's military as "enemies of Islam". Such content not only spreads propaganda but also gathers sympathizers under one roof i.e. Telegram channels, through which these terrorist groups share relevant keywords, hashtags, and links to TTP websites and private channels.

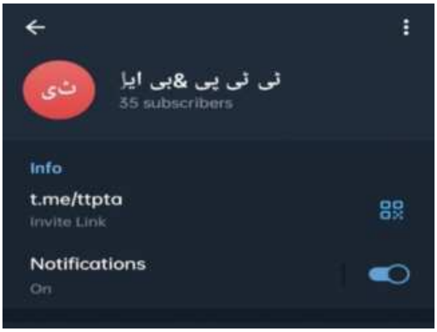


تحریک طالبان پاکسـ
222 subscribers

Info
t.me/tahrikTTP
Invite Link

Notifications
On

Figure 2. A TTP sympathizer group using TTP flag as cover



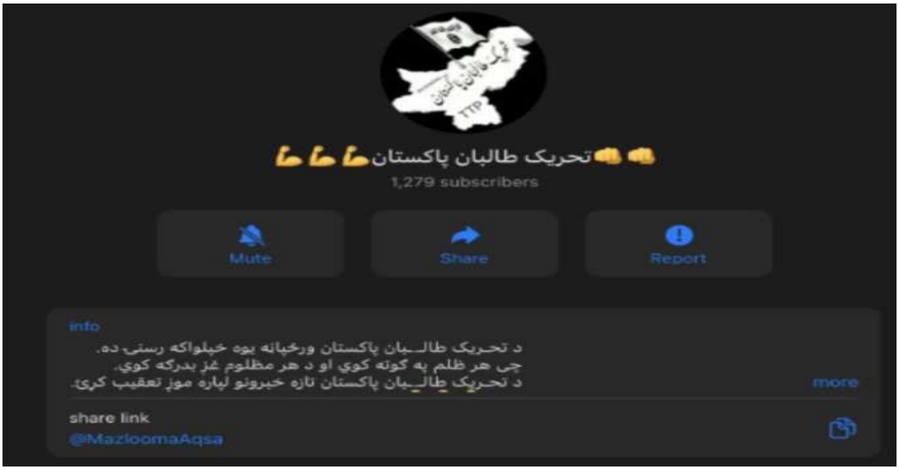
ٹی ٹی پی &بی ایل
35 subscribers

Info
t.me/ttpta
Invite Link

Notifications
On

Figure 3. A TTP sympathizer group adjourning closer ties between TTP and BLA.

[34] Joshus Bowes, "Telegram's Role in Amplifying Tehreek-e-Taliban's Umar Media Propaganda."



👊👊تحریک طالبان پاکستان💪💪💪

1,279 subscribers

د تحریک طالـبان پاکستان ورځپانه یوه خپلواکه رسنۍ ده.
چې هر ظلم په ګوته کوي او د هر مظلوم غږ بدرګه کوي.
د تحریک طالـبان پاکستان تازه خبرونو لپاره موږ تعقیب کړئ.

share link
@MazloomaAqsa

Figure 4. A TTP affiliate group showcasing Taliban flag spread over Pakistan's map

The second category hosts ‘supporters of TTP’ majorly and consists of private channels/groups. These private groups can have both supporters (in terms of indirect/ financial support) and members (involved in TTP’s activities). As this category adds a greater sense of trust and security, thus private information shared with them is different. These groups take up how to implement any activity (online campaigns, calls for action, content for other social media apps in line with the group’s agenda) and may also include planning for future actions in the form of terrorist attacks. A large bulk of information on training videos, links to the dark web for weapons and other instruments, and propagation media is shared in these groups. With the ability to share large files easily while maintaining anonymity and security, Telegram seems to be a haven for its users.

Lastly, the secret chats take the third category in which impermeable boundaries are made and co-ownership of sensitive information about the group is transferred to only a few in the leadership hierarchy. As none of the higher leadership of TTP is present in Pakistan itself, therefore, Telegram with its global outreach provides extensive aid to connect with members and authorities present in different parts of the world without being detected or traced.

8. The Need for its Regulation

Telegram has long stood by its commitment to user privacy, emphasizing that its goal of protecting freedom of speech and privacy outweighs all other considerations. It protects fundamental human rights, ensuring individuals are not controlled or manipulated under any circumstances. In some cases, this has empowered citizens to mobilize against oppressive regimes and operate amid rising tensions. One can defend Telegram’s refusal to inspect chat rooms, as it provides users with a platform for free expression and privacy—a principle pursued and valued by many around the globe. However, the very chat rooms that were meant to help users have an easier life have been misused by individuals who spread extremist, criminal, and terrorist ideologies. Resultantly, it has sparked debates across the world with supporters defending its principles and critics questioning the broader security risks they pose.

To counter the exploitation of Telegram by extremist and terrorist groups, a comprehensive regulatory framework needs to be established that helps balance privacy rights with its security implications. On the one hand, AI-driven content moderation with natural language processors is needed to smoothly navigate across different language-based channels. This will allow extremist activities to be automatically flagged without any major human interference, thereby maintaining privacy. Moreover, access to metadata under judicial oversight (that can help case-specific investigations) has become a necessity for which relevant policies and functions must be implemented.

On the other hand, cyber wings within respective countries should be established and should work to strengthen the administration and monitoring of content shared over cyberspace. In this regard, cross-border counterterrorism cooperation through data-sharing agreements can enhance global efforts against terrorism and extremism. Correspondingly, the government of Pakistan may work to establish agreements with social media platforms like Meta, X, and Telegram to enhance the immediate de-platforming of terrorist organisations along with automated account suspension.

Collaboration between Telegram, LEAs, and cybersecurity firms is crucial for developing real-time response mechanisms while maintaining transparency in counter-extremism and counter-terrorism initiatives. Additionally, public awareness campaigns and digital literacy initiatives should be implemented to help spread awareness among the general masses.

9. Conclusion

Since the early 2000s, internet has seen a surge in its use by extremist groups producing and sharing content through its groups, channels, media houses, and websites. The increasing exploitation of Telegram by terrorist groups including TTP and ISIS underscores the urgent need for a balanced regulatory framework that safeguards both the individuals' privacy and national security. Consequently, the necessity to regulate content over the internet has become imperative. Social media apps have now added content moderation through natural language processing and started blocking off harmful content. Telegram, with its strong support for users' privacy, has underscored the ethical dilemma of monitoring private chats. Hence, there is a need for social media apps like Telegram to review their policies to reduce its misuse and to maintain a balance between individual privacy and national security.

The paper has explored how Telegram's encryption and privacy policies have led to the platform creating various forms of secure chatrooms in the form of private channels and secret chats. This has enabled terrorist organisations to spread propaganda, enhance communication, and recruit members while avoiding detection and official surveillance. By applying CPM theory, the study has shown how privacy acts as a significant marker for terrorist organisations to sustain and spread their presence on digital platforms like Telegram. The research has also shown how Telegram's provision of enhanced privacy in the form of encryption of content as well as features of secret and private channels has greatly facilitated terrorist groups like TTP and ISIS.

In the end, the article has emphasized the need to maintain some extent of surveillance (in line with constitutional provisions) on Telegram users. While it is essential to protect user's rights to privacy, the security risks arising from online extremist activities cannot be ignored. To attain a secure balance between the two, cooperation between regulatory bodies and the platform is both a necessity and a need of the hour. Telegram must also understand the need to revisit its policies and implement constructive reforms for content moderation. In this vein, AI and recent technological advancements can play a substantial role in developing a system of surveillance to positively regulate the app without compromising any information to any third or unintended parties.