Saqib Khan Warraich[*]
Imran Alam[**]
Muhammad Mumtaz Ali Khan[***]
Abeera Haider[****]
Samee Ozair Khan[*****]

Cyber Terrorism: Pakistan's Security Perspective

Abstract

The computers and telecommunication systems have global reach. States use technological advancements to increase their national power and national security. It drives the state behavior into security dilemma vis-à-vis its adversaries. Pakistan is also advancing in the field of information and technology but unfortunately has not realized yet the importance of cyber security in the national security affairs of the state. Pakistan is neglecting the realization of existing threats of cyber terrorism in Pakistan, hence leaving a vacuum in the goal of comprehensive national security policy, apart from several other obstacles in a way to achieve cyber security in Pakistan. As there is weak cyber security, terrorists are getting their way and risking many components of national security of Pakistan. Today terrorist groups are also using innovative technologies for propagation of their ideology, recruitment, financing, and training of their members. They are using online medium to communicate and transmit information within terrorist organization. The aim of this study is to address the potential cyber threats to Pakistan not only from the states but also from non-state actors.

Key Words: Cyber Technology, Terrorism, Online Radicalization, Pakistan

Introduction

Today, whole world is revolutionized by IT. There is not a single corner of the world that remains ineffective by information technology. Banks, homes, schools, hospitals, public or private institutions, our every aspect of life is dependent on cyber technology. Cyber technology is not a mind-boggling innovation rather it is very facile in use. However, some extremist and terrorist groups are exploiting this technology. Hence the problems of the world are also transforming into digital ones. The conventional mode of extremism ad terrorism has also changed. Cyber space is an ideal platform for the terrorists and extremists to work anonymously and destroy the infrastructures just with the keystrokes on the computer. So, cyber terrorism is also one of these biggest problems that are facing by the worldly states. It is more lethal, easier to operate than conventional terrorism. However, the objectives of cyber terrorism are similar to the conventional terrorism i.e. political, social, religious and psychological. The 9/11 shook the whole world and after that online threats started to be taken more seriously.

The new inventions have transformed the mode of warfare and consequently dangers have likewise gotten extreme in nature. By exploiting cyber technology, enemy can debilitate systems at their will. Even the world's largest enterprises like Sony, Experian, and Blue Cross Blue Shield have been persecuted. The US office of Personnel Management was also hit by cyber technology.[1] So we can say, no state is secure from such pulverizing digital assaults. The intriguing part in such activities is that cyber terrorists can work either anonymously or by nick names. The loopholes in the security systems permit both state and non-state actors to cripple, sabotage and espionage the targeted system.

---

[1] Volz, D. (2015). U.S. federal agencies refuse to testify about OPM hack. *Technology News.* Retrieved from https://www.reuters.com/article/us-usa-cybersecurity-cyberattack/u-s-federal-agencies-refuse-to-testify-about-opm-hack-idUSKCN0T62K420151117

Like some other states, Pakistan's cyber space is also very insecure. About Pakistan's 10% population is the consumer of cyber technology[2] and figures are multiplying day by day. Almost every institution and every sector of Pakistan is taking benefits of IT. But governments have never paid attention to security of its cyber space. Even the personal data of government and individuals are not secure. Consequently, Pakistan is facing serious national security threats both in physical and digital domains. Yet there is no any well-defined cyber security policy that can reduce or end the burgeoning effects of cyber terrorism in the country.

In cyber terrorism, terrorists incorporate their messages in blogs to understand the social observations. They use latest technologies to monitor other's activities. They rely on cyber technology to propagate their radical content and also to recruit new members. Hijb ut Tahirr, AL Qaeda, ISIS and ISIL are examples of such groups. They exploit educated youths by their radical online contents. They facilitate their audience by translating their content into other local languages. As large number of youth is unknown to the term of 'online radicalization'. The Government of Pakistan and other concerned departments lack interest in conducting awareness campaigns and programs. Thus, youth is easily trapped by appealing terrorist websites. Youngsters do not bother to verify those contents and respond to all messages without proper authentication.

<u>**Online Radicalization and Pakistan**</u>

In Pakistan, couple of extremist and militant groups are using cyber technology to spread their radical contents under the umbrella of religion particularly of Islam. They get public and media attention by dread monger activities. They are specifically powerful and influential on Facebook and YouTube. This forum provides them lesser possibility of being followed.[3] The statistics of Pakistan Telecommunication Authority (PTA) February 2019 showed that number of internet usage has reached to 65 million. The internet penetration has exceeded more than 31% in Pakistan.[4] By February 2013, in Pakistan there were around 8 million enlisted clients on Facebook which was 4.3% of the total population. The figures multiplied by August 2014. The statistics gone to 15.4 million users on Facebook which become 8.5% of the total population of Pakistan. It is interesting to note that this application was more popular among the people having age between 18 to 24 years.[5] As the most popular social media platform is Facebook, so various extremist groups make a Facebook group and draw in others by innocent posts, for instance, supporting Palestinian or Islam by and large. As the members of group increases, bit by bit, the admin of group start posting jihadist material. Such posts neither overlooked nor empowered jihadist activities directly. Thus, no violation of Facebook policy is occurred. Quite frequently, such posts deliver emotional messages. Usually, their posts are either in Urdu or in Roman Urdu. Primarily, they do so for communication and interaction with online users. Militant groups like Hizbul Islam and Jaish e Muhammad tweets about his daily practice to propagate insidiously their views. Sometime, their posts have some entertainment too. For instance, they post on Facebook that children, under eight years, can have their own set of militant cartoons. Such posts help the online users how to familiarize kids with jihadist ideology.[6]

Activist outfits are ceaselessly holding onto online networking. For instance. Lashkar-e-Taiba, Jamat-ud-Dawa, Jaish-e-Muhammad and Harkat-ul-Mujahideen are pro-active in the dissemination of online radical content. A site 'Alqal on the web', is utilizing by Jaish-e-Muhammad for the proclamation of its ideology. At the point, when legislature of Pakistan requested these groups to restrict their online access, these groups reemerged with mysterious characters. These groups use cyber technology especially online platforms to concentrate prevalently on recruitment.

Al-Faloja Islamic Forums have greater than 250,000 contributors. They motivated Al-Qaeda's followers to propagate the Salafi-Jihadi message. All this had to done by invading Facebook in December 2008 and made sympathetic groups. Now it has more than 200 million active members. As indicated by Pakistani agencies, in December 2016, five American Muslims were captured. They were recruited online through YouTube and Facebook. They utilized these sites to contact the groups of terrorists like Lashker e Taiba and Lashkar e Jhangvi. The U.S. Department of Homeland Security asserted that the internet recruitment has expanded manifolds with the

---

[2] Retrieved from https://www.internetlivestats.com/internet-users/pakistan/

[3] Khan, Z. (2014). Cyberia: A New War Zone for Pakistan's Islamists. *Georgetown University Press*, pp 178–9.

[4] "Telecom Indicators. Pakistan Telecommunication Authority. Available at <u>https://www.pta.gov.pk/en/telecom-indicators</u>, accessed on March 22,2019

[5] Hassan, K. (2018). Social Media, Media Freedom and Pakistan's War on Terror. *The Commonwealth Journal of International Affairs*, The Round Table, 107(2), 189–202, , doi:10.1080/00358533.2018.1448339

[6] Ibid.

developing utilization of Facebook, YouTube. The expanding utilization of online linkages and communications, for example Facebook, gives chance to Salafi-Jihadis to draw in young Muslims to their belief system. An Analyst who is specialized in analyzing jihadi's online networking, named Abdul Hameed Bakir said that Salafi-Jihadists use Facebook to disseminate their ideology.[7]

PTA (The Pakistan Telecommunication Authority) blocked almost 15,380 websites in 2012 to 2013, as those sites contained some objectionable data on it. But still government is failed in restricting access to online radical content as public start using proxy links and get access to those sites. Extremists are exploiting cyber technology and molding the minds of public to their desired directions. The disbursement of Pakistani financial resources on the security of its cyber space is under 1%.[8] A study was conducted by Brookings Project in 2014 and they identified almost 46,000 Twitter accounts under the control of ISIS. Just between February and August 2016, almost 235,000 Twitter accounts were closed because they were propagating terrorism. [9] In the year 2017, Dawn newspaper in Pakistan carried an investigation. The newspaper revealed that Government has banned 64 outfits. Out of these, 41 banned outfits are not only present but still working and are active on Facebook. They are using social media platform for propagation of radical content. The three big profiles of Pakistani extremist groups on Facebook are

- Ahle Sunnat Wal Jammat (ASWJ)
- Jeay Sindh Muttahida Mahaz (JSMM)
- Sipah-i-Sahaba Pakistan (SSP)[10]

Militant Organizations	Number of Facebook Pages
Ahle Sunnat Wal Jammat	200 pages
Jeeyay Sindh Muttahida Mahaz(JSMM)	160 pages
Sipah-i-Sahaba(SSP)	148 pages
Baloch Student Organization Azad(BSO-A)	54 pages
Sipah e Muhammad	45 pages

These extremist organizations are excelled in public relations strategies. Their posts on Facebook and Tweets have emotional message. Salman Sheikh was the media person of Jamat e Islami in Karachi said that their followers are in numbers. Their media cell is performing various tasks but now major concern is content development. Jamat ud Dawa is another extremist organization and is accused of radicalization internationally. The Indian Government often alleged it for launching online campaign against them.[11] The militants construct their radical narratives on the grounds of religious and socio-political issues. Ideology, social deprivation, poverty etc. potentially trigger the radicalization. The terrorists adeptly exploit those. They hit and trigger the religious emotions and sentiments of the people. They intentionally create forgery photos with radical messages then propagate them on websites to stimulate communal violence in the society. The fanatics also develop radical plots accurately on financial and political issues to generate sympathizers.

---

[7] Shishani, M. B. A. (2010). Taking al-Qaeda's Jihad to Facebook. *Terrorism Monitor*, Volume: 8 Issue: 5. Retrieved from https://jamestown.org/program/taking-al-qaedas-jihad-to-facebook/

[8] Rasool, S. (2015). Cyber security threat in Pakistan: causes Challenges and way forward. *International Scientific Online Journal*, 21-34, Retrieved from http://sociobrains.com/website/w1465/file/repository/21_34_Sadia_Rasool_Cyber_security_threat_in_Pakistan_causes_challenges_and_way_forward.pdf

[9] Bernard, R. (2017). These are not the terrorist groups you're looking for: an assessment of the cyber capabilities of Islamic State. *Journal of Cyber Policy*, 2 (2), July 31,2017, 255-265, doi:10.1080/23738871.2017.1334805

[10] Haque, J., & Bashir, O. (2017). Banned outfits in Pakistan operate openly on Facebook. *Dawn*, Retrieved from https://www.dawn.com/news/1335561

[11] Hassan, K. (2018). Social Media, Media Freedom and Pakistan's War on Terror. The Commonwealth Journal of International Affairs, The Round Table, 107(2), 189–202, doi:10.1080/00358533.2018.1448339

Most of the youngsters of Pakistan are less aware of cyber technology hence a vulnerable target to online radicalization. The extremists seem to target the educated youth by spreading radical content online. It builds the opportunity of their radicalization by setting off their belief system rather than personal association.

Pakistani Women as Online Jihadist

In Pakistan, the process of women radicalization and its various manifestations remain unsurfaced. From Russia to Israel, Iraq to Turkey and Nigeria, male suicide bombers is now replaced by a new breed of female suicide attackers. The conservative thinking about women is transforming from active combat roles to aggressive disposition. In comparison to male counterpart, female involvement in terrorist attacks have been sporadic. Media reports suggest that loss of loved ones in drone attacks and conflicts in FATA aspired the women to become the next generation Jihadists. Since 2015, there is increase in number of events of ladies' partaking in global jihadist groups. These jihadist groups include Al-Qaeda in the Indian Subcontinent (AQIS) and the Islamic State of Iraq and Syria (ISIS). More than 500 female suicide bombers are reportedly training by AQIS's Shaheen women's wing. In Karachi, upper working class ladies are completing for raising money and matchmaking exercises for ISIS through Al Zikra institute. In 2015, a case was reported that three women with their 12 children left for Syria. This is also a visible instance of ladies' radicalization and their dynamic job in terrorist activities.

Ladies' groups in terrorist associations inside the Pakistan, aren't anomalous. Whenever Pakistan's policy makers and surveillance agencies start to look at terrorist groups, they adopt a male-centric approach, negating the crucial role of women played in the past within TTP and now ISIS and AQIS. These extremist groups have limited the women's roles, banned the women's learning and relegate them merely to the household chores. Nonetheless, these gender inequalities in these groups envision the participation of women that can be labelled as "Women's Jihad". In the patriarchal society of Pakistan, ladies are the core of the residential circle. Thus, the terrorist groups envision women as "The Domestic Radicalizers". They use women as fundraisers and facilitators. In 2014, the understudies of Jamia-e-Hafsa, the ladies' wing of Lal Masjid in Islamabad, submitted their devotion to ISIS in a video. Such ladies which go about as the enrollment specialists at home, are relied upon to prepare their children as age of similarly invested jihadists. Third, ladies likewise filled in as suicide bombers for TTP, with the principal case noticed at FATA in 2007. Another case was reported in 2010, when female suicide bomber of TTP exploded the explosives in FATA at World Food Program distribution circle. Despite the fact that there is little data about the enlistment examples of ladies in AQIS, yet a few frequencies have been accounted for ISIS of recruiting women of upper-white collar class from urban regions like Lahore, Karachi and Sialkot. In February 2017 a case has been accounted for of a youthful medical student who had been radicalized by ISIS through online and had left for Syria. It appears to be fairly atypical that informed and urban ladies would energetically join a terrorist wing that denies to give them same rights as the men, and furthermore to a great extent limits their versatility. Henceforth, these individual clarifications are sent to clarify the ladies' interest in these groups. All things considered, these ladies are looking for retribution of their better half, father or sibling executing by the resistance group or the state.

In 2007, the female students from Jamia Hafsa Madrassah, adjacent to Lal Masjid, Islamabad were involved in kidnapping of police personnel, threatening suicide attacks, forcible occupation of a government building and to compelling the government to concede to demands of Shariah enforcement across the country. The military action against them acted as an antecedent for the subsequent rise in suicide attacks. Such episodes of radicalization of women underlie the importance of understanding the reasons for women detachment from traditional roles to embrace non-conventional violent positions. [12] In December 2015, another pro-ISIS female militant group was discovered in Lahore as "Bushra Network". This cell came on screen when a report of missing young lady was held up with the neighborhood police. In September 2016, the investigation revealed that Bushra Cheema, ISIS recruiter, had relocated her along with 20 others to Syria. Bushra was pursuing M.Phil degree in Islamic Studies under the University of Punjab Programme. She was also a religious scholar and also ran an Islamic school in Lahore known as, the Noor-ul-Huda Islamic Centre. Bushra got in touch with ISIS operatives through social media. In a voice note to her partner, she expressed, "I love God and his religion…. If you can't join us then at least pray your wife and children die in jihad". As of now, she lives in Syria alongside her kids. [13] What was the motivation to join ISIS?

---

[12]Dr. Shahid. Women Radicalization in Pakistan. Development Advocate Pakistan, Volume 3, Issue 1 available at https://www.undp.org/content/dam/pakistan/docs/DevelopmentPolicy/DAP_Volume3-Issue1.pdf

[13] Cheema, U. (2015). 20 men, women and children from Lahore joined Daesh. The News, available at https://www.thenews.com.pk/print/85370-20- men-women-children-from-Lahore-join-Daesh-go-to-Syria,

Bushra Cheema's radicalization case can be examined as refuting the madrasa-terrorism vicious circle. Within Pakistan, women terrorism nexus cannot be ignore by the state and the security officers. Their active recruitment in terrorist groups is a threat to state. This necessitates an approach with a more gender neutral perspective to counterterrorism.

In 2015, a pro ISIS female aggressors' group was grabbed in Karachi for disseminating pamphlets and CDs containing ISIS proclamation substance, matchmaking and raising money. The individuals from this female militant group belonged to well off and instructed families. In January 2016, an in like manner female wing of ISIS aggressors was found in Karachi. This group came in front of people when important commander of ISIS, Kamran Gujjar was arrested. Kamran's better half and sister-in-law were additionally working for ISIS. Both were engaged with enlistment and publicity activities.[14]

Female suicide bombers have become a major security threat to our society. They have capacity to effortlessly get to the security check points, covering suicide coats beneath their burqas. This issue is connected to the less number of enrollments and recruitments of females inside the Pakistan police and military. With regards to this long haul risk, ladies liberation could help in forestalling the developing footing of extremist stories.

Use of Social media and Cyber Security of Pakistan

Today almost everything is going to be cybernetic but it is so vulnerable that no state can profess to have infallible cybersecurity. But countries can maximize the scope of their cybersecurity. Following the Zarb-e-Azab militaristic operations against aggressors and extremist clumps in FATA, especially North Waziristan, the terrorist's places of refuge and forts have been annihilated. Thusly, the physical space has become pressed for extremist gatherings to do their tasks.

The Information Economy Report 2017 ranked Pakistan amongst top 10 booming cyber economies of the world.[15] In a period of just three years (2012-2015), around 16% Pakistanis got internet access. The penetration rate increases from 3% to 15%. The introduction of 3G and 4G technologies in Pakistan in recent years, are the main causes of this rampant increase in internet access. Currently, there are 65 million broadband subscribers in Pakistan. Out of the total, 63 million broadband subscribers get internet access through 3G and 4G smartphones.[16]

According to a Gallup Survey of 2016 in Pakistan, the regular consumers of social media are more than 92%. In Pakistan youth is in majority. Almost 62% population of Pakistan ranged between 18-24 years. Majority of youth is a frequent user of social media particularly urban inhabitants.

Social media has turned into a trend in Pakistan. Pakistanis have more than 44 million accounts on Social media. The most popular among social websites is Facebook. It has almost 30 million users across the country.[17] Social media platform has now considered as a two sided blade.[18]At one end, it has connected several voices of critical of religious extremism to the cutting end but on the other it is giving opportunity to the people to accuse others of blasphemy, propagate phony news that may prompt seditious results. Beforehand, in Pakistan, crowd savagery was radiated out of provocative sermons (khutbas) however now social media is turning into another podium.

There are certain incidents that clearly portray the misuse of social media platform. For example in April 2017, Mashal was hauled out of his college by a horde of several of his fellow students. He was succumbed to death, then shot and his body mutilated. This event only reached the public's eye when a rumor spread that Mashal had posted blasphemous content online. In Pakistan, the most alarming development happened in the year 2018 when data of thousands of Pakistanis was extracted and sold openly in Public on WhatsApp groups, Twitter, Facebook and other

---

[14] Pakistan Today (2016). Nabbed terrorists reveal another women wing in Karachi. Available at
https://www.pakistantoday.com.pk/2016/01/05/nabbed-terroristreveals-another-daesh-women-wing-in-karachi/,

[15] Ahmed, A. (2017) Pakistan Among Top 10 Economies in Terms of its Internet Users. Dawn,
https://www.dawn.com/news/1361586

[16] Shad, R. (2019). Cyber Threat Landscape and Readiness Challenge of Pakistan. Available at http://issi.org.pk/wp-content/uploads/2019/04/1-SS_Muhammad_Riaz_Shad_No-1_2019.pdf accessed on 25 March 2019.

[17] Zaheer, L. (2018). New media technologies and Youth in Pakistan. Journal of the Research Society of Pakistan, Volume No. 55, Issue No. 1, available at http://pu.edu.pk/images/journal/history/PDF-FILES/8_55_1_18.pdf

[18] Mohsin, A. (2018). Politics and the power of social media. Pakistan Today
available at https://www.pakistantoday.com.pk/2018/06/07/politics-and-the-power-of-social-media/

mobile apps for as low as PKR100. The data was leaked through the Punjab Information Technology Board (PITB) and the hacker's access to NADRA records through API keys. NADRA gave access to PITB to digitize citizen's data and to link with departments such as police, health, education and land registry.[19]

Cyber Security Threat to Financial Institutions

Today only few banks in Pakistan are operating solely via internet while different banks are attempting to develop their financial framework with the innovative technologies. In 2004, for the first time online banking system was introduced in Pakistan and the pioneer of this technology was the Allied Bank. It has the also the biggest ATM networking. In Pakistan, the top banks which are providing online and mobile banking facilities are Habib Bank Limited (HBL), National Bank of Pakistan (NBP), United Bank Limited (UBL), Allied Bank Ltd (ABL), Standard Chartered Bank, Bank Alfalah and Askari Commercial Bank Ltd. [20] Last year, financial services organizations and particularly banks were the target of 25.7% of all malware attacks. The percentage is more than any other industry.

Pakistani banks were hacked several times. On the Global Cyber Security Index, Pakistan stands on 67th. [21] Almost every day cyber-attacks are taking place. The cyber-attack of 26th October 2018 on Pakistan's financial framework is considered as the greatest digital assault throughout the entire existence of Pakistan. Hackers used international ATMs. Some customers of Bank Islami complained to their bank as they received text messages about those transactions which they even did not do. Bank Islami took an action. The bank blocked its international payment scheme for time being.

The strange transactions were of about 2.6 million rupees. The national bank taught every single commercial bank to monitor the use of their cards and furthermore guarantee security of all payment cards. Pakistan's Computer Emergency Response Team, PakCERT researched that just about 19,864 debit cards of nearly 22 Pakistani clients were undermined. HBL, the biggest bank in the nation, was badly hit. In excess of, 8,000 cards were undermined. It was trailed by UBL, Standard Chartered Bank, MCB, and Meezan Bank whose in excess of 1000 cards were being deserted on the dark web. Among banks, Bank of Punjab, Bank Alfalah and Bank Islami were those whose more than 500 cards were dumped.[22]

Security system of ATMs is also one of the most vulnerable sectors. In 2017, through ATM cards 559 accounts of Habib Bank Limited were hacked in China. About Rs.10.2 million were stolen. It is surely the result of the negligence of the Government of Pakistan, state institutions and banks. In 2016, it was reported that some Chinese nationals had installed skimming devices in ATMs. They were arrested from Karachi.[23]

It was discovered from the hacking attacks on the bank that the entire security architecture of financial system of Pakistan is flawed. For example, someone would expect that if one institution is attacked then it would trigger an alert for other institutions so that they can take some preventive steps. It can also be expected that the alert would be shared by the central authority i.e. State Bank in a timely manner so that they can take steps to breach the plug as well as protect customers. But unfortunately, there is no such system of generating alerts exists. Moreover, they prefer to bury the news of an attack and cover up its impact. They are in the hope that nobody would find out the affected customers so that they can return to business as usual.

---

[19] Atta, A. (2018). Govt Officials in Punjab Allegedly Sold NADRA Records, Call and Police Data of Pakistani Citizens. Pro Pakistan, available at https://propakistani.pk/2018/05/07/govt-officials-in-punjab-allegedly-sold-nadra-records-call-and-police-data-of-every-pakistani/

[20] Omar, A.B., Sultan, N., Zaman, K., Bibi, N., Wajid, A., & Khan, K., Customer Perception towards Online Banking Services: Empirical Evidence from Pakistan, Journal of Internet Banking and Commerce available at http://www.icommercecentral.com/open-access/customer-perception-towards-online-banking-services-empirical-evidence-from-pakistan.php?aid=38254

[21] Ashraf, Z. (2017). In Pakistan, banking sector most vulnerable to cyber-attacks. The News, available at https://www.thenews.com.pk/print/257280-in-pakistan-banking-sector-most-vulnerable-to-cyber-attacks

[22] Baloch, F. & Firdous,I. (2018). Pakistani banks hit by biggest cyber-attack in country's history. Available at https://www.samaa.tv/news/2018/11/pakistani-banks-hit-by-biggest-cyber-attack-in-countrys-history/

[23] Ibid.

Senator Rehman Malik, the Ex-Interior Minister of Pakistan considered that although there are many cyber security laws in Pakistan yet enough efficient countering measures have not been taken.[24]

Conclusion

The proliferation within ICT infrastructure, inventions of newer technologies and internet applications have deeper impact on our lives. Digital connectivity has brought us to that environment where no country is immune from this threat. Internet has emerged as a new medium for terrorist groups to radicalize and recruit more and more persons. Pakistan is also facing this challenge. Various terrorist groups are exploiting cyber technology in innovative ways to spread their ideologies. It makes them easy to reach out to the vulnerable population, radicalize them even without personal contact. The government of Pakistan mainly use hard power against terrorist's online activities. They usually filtered online content or block the websites. However such coercive practices are neither desirable nor practicable in democratic societies. In this context, this research attempted to balance these two competing requirements. To counter online radicalization, the strategies of the U.S., Indonesia and Malaysia can be adopted. Despite taking strict measures by the government yet extremists and terrorists are keeping up contacts with global terrorist groups and continually making different virtual connections. Government of Pakistan usually adopt coercive measures against extremist's activities. It either filters the online content or denies the web access to the users. This provisional blockade seems fruitless since many web clients use proxy server to bypass the online restrictions. Web clients by and large discover new ways even within the sight of government bans. That is the reason the coercive measures adopted by the legislature so as to control the radical activities, seems useless . Sometimes online radicalization is anticipating but it also encroaches citizen's access to information. By preventing them from the information, it hinders the financial and social headway. So the Pakistani Government needs to determine an optimum balance between two contradicting needs: to confine the online radicalization and also to ensure easy access of the clients to the information. In this situation, the Pakistani Government ought to vigilantly comprehend the effectiveness of its program to stop the online radicalization. It ought to likewise ascertain the freedom of speech and the reach of the web users to the significant data.

References

- Retrieved from https://www.internetlivestats.com/internet-users/pakistan/

- "Telecom Indicators," Pakistan Telecommunication Authority, available at https://www.pta.gov.pk/en/telecom-indicators, accessed on March 22,2019

- Ahmed, A. (2017). *Pakistan Among Top 10 Economies in Terms of its Internet Users.* Dawn, https://www.dawn.com/news/1361586

- Ashraf, Z. (2017). *In Pakistan, banking sector most vulnerable to cyber-attacks*. The News, available at https://www.thenews.com.pk/print/257280-in-pakistan-banking-sector-most-vulnerable-to-cyber-attacks

- Atta, A. (2018). *Govt. Officials in Punjab Allegedly Sold NADRA Records, Call and Police Data of Pakistani Citizens.* Pro Pakistan. available at https://propakistani.pk/2018/05/07/govt-officials-in-punjab-allegedly-sold-nadra-records-call-and-police-data-of-every-pakistani/

- Baloch, F. & Firdous, I. (2018). *Pakistani banks hit by biggest cyber-attack in country's history*. Available at https://www.samaa.tv/news/2018/11/pakistani-banks-hit-by-biggest-cyber-attack-in-countrys-history/

- Dr. Shahid. *Women Radicalization in Pakistan*. Development Advocate Pakistan, Volume 3, Issue 1 available at https://www.undp.org/content/dam/pakistan/docs/DevelopmentPolicy/DAP_Volume3-Issue1.pdf

---

[24] Malik, R. (2018). Pak cyber security and cyber-crime. Available at https://www.thenews.com.pk/print/395551-pak-cyber-security-and-cyber-crime

- Haque, J., & Bashir, O. (2017). *Banned outfits in Pakistan operate openly on Facebook.* Dawn, Retrieved from https://www.dawn.com/news/1335561

- Malik, R. (2018). *Pak cyber security and cyber-crime.* Available at https://www.thenews.com.pk/print/395551-pak-cyber-security-and-cyber-crime

- Mohsin, A. (2018). *Politics and the power of social media*. Pakistan Today. Available at https://www.pakistantoday.com.pk/2018/06/07/politics-and-the-power-of-social-media/

- Omar, A.B., Sultan, N., Zaman, K., Bibi, N., Wajid, A., & Khan, K. *Customer Perception towards Online Banking Services: Empirical Evidence from Pakistan*, Journal of Internet Banking and Commerce. Available at http://www.icommercecentral.com/open-access/customer-perception-towards-online-banking-services-empirical-evidence-from-pakistan.php?aid=38254

- Pakistan Today (2016) *Nabbed terrorists reveal another women wing in Karachi*. Available at https://www.pakistantoday.com.pk/2016/01/05/nabbed-terroristreveals-another-daesh-women-wing-in-karachi/,

- Rasool, S. (2015). *Cyber security threat in Pakistan: causes Challenges and way forward*. International Scientific Online Journal, 21-34, Retrieved from http://sociobrains.com/website/w1465/file/repository/21_34_Sadia_Rasool_Cyber_security_threat_in_Pakistan_causes_challenges_and_way_forward.pdf

- Shad, R. (2019) *Cyber Threat Landscape and Readiness Challenge of Pakistan.* Available at http://issi.org.pk/wp-content/uploads/2019/04/1-SS_Muhammad_Riaz_Shad_No-1_2019.pdf accessed on 25 March 2019

- Shishani, M. B. A. (2010). *Taking al-Qaeda's Jihad to Facebook.* Terrorism Monitor ,Volume: 8 Issue: 5. Retrieved from https://jamestown.org/program/taking-al-qaedas-jihad-to-facebook/

- Volz, D. (2015). *U.S. federal agencies refuse to testify about OPM hack*. Technology News. Retrieved from https://www.reuters.com/article/us-usa-cybersecurity-cyberattack/u-s-federal-agencies-refuse-to-testify-about-opm-hack-idUSKCN0T62K420151117

- Zaheer, L. (2018). *New media technologies and Youth in Pakistan.* Journal of the Research Society of Pakistan, Volume No. 55, Issue No. 1, available at http://pu.edu.pk/images/journal/history/PDF-FILES/8_55_1_18.pdf

- Bernard, R. (2017). *These are not the terrorist groups you're looking for: an assessment of the cyber capabilities of Islamic State*. Journal of Cyber Policy, 2 (2), July 31,2017, 255-265, doi:10.1080/23738871.2017.1334805

- Cheema, U. (2015). *20 men, women and children from Lahore joined Daesh.* The News. Available at https://www.thenews.com.pk/print/85370-20- men-women-children-from-Lahore-join-Daesh-go-to-Syria

- Hassan, K. (2018). *Social Media, Media Freedom and Pakistan's War on Terror*. The Commonwealth Journal of International Affairs, The Round Table, 107(2), 189–202, doi:10.1080/00358533.2018.1448339

- Khan, Z. (2014). *Cyberia: A New War Zone for Pakistan's Islamist*s. *Georgetown University Press*, pp 178–

- Zaman, M. Q. (1998). Radicalization of Shi'i and Sunni Identities. Cambridge: Cambridge University press. 1979-2009. Washington DC: Washington DC: The Middle East Institute.