

An Analysis Report on The Edge of Cyber Jihad

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Abstract— Cyber jihadist does an activity through internet and spread information online, social media in worldwide. Now in this technological era terrorist organizations are using latest information technologies for full feeling their holy war, such as software, computer, telecommunication devices and the Internet to organize and circulate their coordinating activities. The internet helps to spread information about the jihadists and their goal toppling regimes in the region and establishing a state according to what they believe to be Islamic principles. It has also increasingly become a web technology to recruit new online members, raise online funds, and conduct new types of online attacks which do not involve explosives or bullets. In this paper we have analysis such attacks and activity which is done through web based or social media.

Key words: Cyber Jihad, Web Application, Social media

I. INTRODUCTION

According to research and study, Cyber Jihadist describes four main objects which involves Communication, Fund raising, Recruitment, and Propaganda. In today’s world internet is hosted as an open platform so cyber terrorist can easily access decisive information and disrupt information processing in critical areas. [1] Such attacks may come from individuals, non-state actors such as cyber jihadist organizations, or states. The largest threat in today’s security environment is from terrorist organization such as ISIS and al-Qaeda may seek to use information systems as Weapons of Mass Effect to gather information that will harm the state communication infrastructure or significant portions of it. [2] Now a days Cyber jihadist Developments on the Internet take place rapidly with new applications appearing all the time and the use of the Internet is becoming more and more interwoven with our daily lives.

II. OBJECTIVE

Cyber Jihadist’s today utilize the Internet for a growing number of strategic purposes which includes such as:

- 1) Public communications and media promotion.
- 2) Indoctrination and recruitment.
- 3) Terrorist financing online fundraising.
- 4) Training and operational planning.[1]

In this generation's all the activists terrorist groups, led by the Islamic State, are younger and Internet savvy, having heeded previous jihadi leaders' calls to turn to the Internet. They are connected via Facebook, Twitter, YouTube, Instagram, Flickr, and every other emerging social media platform, adopting them almost as soon as they are created just like the younger generation. According to Table I we have mentioned main objective of cyber jihadist and its explanation. [3]

Objective	Explanation
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Communication	The use of communications media by terrorist organizations is not new, but the technological web tools available in recent years has affected the nature of their activities and thereby changed the nature of the threat.
Fundraising	Internet fundraising techniques illustrates terrorists’ technological sophistication and strategic manipulation of readily-available technology in order to raise funds for militant campaigns
Recruitment	Jihadist organization use internet to promote their agendas, spread their messages, call for attacks against American and Western interests & recruit new members and build their audience of sympathizers, jihad, and other purposes
Training	Many violent extremist Web sites have become one-stop terrorist training and planning centers. So cyber jihadist use of the Internet as a command and control platform to hacking or web base attack.
Information Attack	Cyber Jihadist attacks focused on altering or destroying the content of electronic files, computer system, or the various materials therein
Infrastructure attacks	Cyber jihadist attacks designed to disrupt or destroy the actual hardware, operating platform, or programming in a computerized environment.
Technological facilitation	Use of cyber communication to send plans for jihadist attacks, incite attacks, or otherwise facilitate traditional terrorism or cyber jihadism.

Table 1: Objective of cyber jihad

III. PHENOMENON OF CYBER JIHAD

By the mastermind union (ISIS) Anwar Al-Awlaki said "The Internet is a great medium for Spreading Jihad".so they use a web as a big resource. Web servers are broken into every 20 seconds by hackers, identity thieves, and other suspected people who want to cause broken the networks. Jihadist could easily copy the techniques of these groups and disrupt parts of the cyber web technology.[4] Jihadist develop website, tools, forums and their research development give to providers using of training for hacking, spreading viruses and other forms of cyber-attack. See figure phenomenon of cyber jihadist. [5]

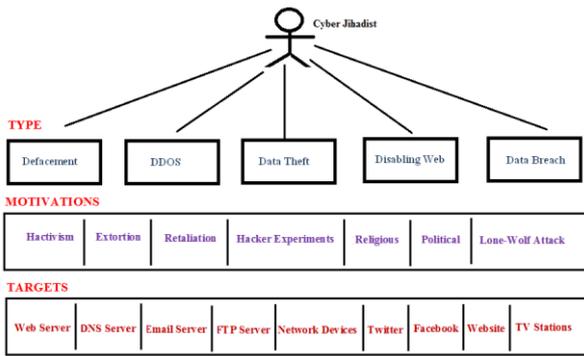


Fig. 1: Phenomenon of Cyber Jihadist

Jihadist takes advantage of the web technology to provide courses and training in explosives manufacture, weapons training, and hacking.

Today, jihadi people have using Android cellphones and laptop in real time and receive message, tweets or Facebook posts from ISIS, Al-Qaeda and its offshoots directly to their web server and can immediately share them message to far and wide distance. Another aspect of cyber Jihad is direct communicated to other Islamic people; jihadi groups are obtaining funds to hacking a financial Institutions and individuals reachable person. This jihadist attack will continue to become more widespread in the future.

A. Techniques and Tactics of Cyber Jihadists:

- Encrypted Messages & Files
- Codes & Steganography
- E-Groups
- E-mail Dead Drops
- Secure Web Sites
- Hydra Web Links
- Spam Mimicking

Cyber jihadists exploit through Internet and use free and widely available tools so it can be easily applied techniques that can exceedingly difficult for authorities to restrict. Among the tactics terrorists employ are: encrypted and coded e-mail, steganography messages, e-groups and chat rooms, e-mail dead-drops, openly accessible and password protected Web sites, hydra web links, and spam mimicking. [3]

B. Best Uses of Social Media:

Social media are increasingly techniques for spreading Al-Qaeda's & ISIS ideology to the younger generation, now in their 20s or even younger, who have grown up watching video clips on YouTube and for whom social media are an integral part of life. [6] Al-Qaeda and its supporters have now infested in YouTube, Twitter, Facebook, Instagram, and Flickr, and spreading to the newer media then they develop like as: Ask.fm, Kik, Friendica, and, most recently, VK.com, Diaspora, JustPaste.it, and SoundCloud. These same users are also utilizing apps that are available on Google Play and iTunes for Apple. [7]

Social Media	Uses by Jihadist
YouTube	The Internet's Primary and Rapidly Expanding Jihadi Base
Twitter	Hash tag Jihad And Fundraising For Jihad
Facebook	Friending and chat

Skype	Fundraising And Media Interviews
What's app	Mobile Jihadi Messaging
Flickr	Snapshots Of Martyrdom
Instagram	Sharing Photos Of Al-Qaeda & IS Leaders and Used By Jihadist IS
Tumblr	Micro blogging Jihad
Ask.fm	Jihadi Q&A
Kik	More Privacy
Sound Cloud	Jihadi Recordings
Algorithms	Helping Jihadist Find Each Other Even After Social Media Accounts Are Shut Down
TOR	Anonymous Web Browser

Table 2: cyber jihadist used different social media [7]

IV. STATISTICS

Jihad is essential throughout all cultures. We just tend to call it different things. We struggle in our daily lives to get ahead economically or to elect someone that fits our views. We struggle at work to gain knowledge or get the inside track. The cyber jihad use different forms of Jihad for personal and organizational gains to the end goal that being the expansion of their extremist brand of Islam and the removal of Western influences in Muslim lands. [8]

A. Different Types Of Cyber Jihadist Groups:

- ISIS
- Many Islamic Groups.
- Muslim Brotherhood.
- Army of Islam.
- Hacktivists Group.
- Ideological Extremist Groups.
- Criminal Organizations.
- Enemies of Country.
- Cyber Terrorist Group.
- Many More....

Many cyber jihadist groups can create a many website and communication media to spread & help of each other. [9] This following all jihadi groups documents use of the Internet, from IS, Al-Qaeda's and other Jihadi groups' earliest websites and forums in the 1980s to what we see today with the Islamic State: highly professional video productions and widespread presence on social media, which are integral for recruiting and training the next generation of jihadist. Terrorist uses of the internet, whereas jihadi activity in cyberspace seems to grow daily. [9]

B. The Important Elements of Threat In Cyber Terrorism:

In Cyber Terrorism a survey of researchers give important to main threat is cyber jihad. So 27 % of high rates Number of responder give their votes to cyber jihad. [10]

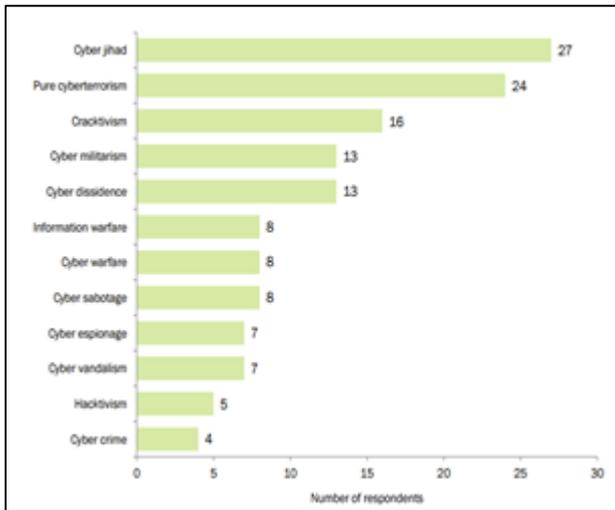


Fig. 2: CYBER TERRORISM THREATS REPORT

New, scientific poll conducted by the non-partisan Pew Research Center indicates substantial support for the Islamic State across the Islamic world. The poll by pointing out that the overwhelming majority of Muslims profess a negative view of the Islamic State, but what is more ominous are the raw numbers of Muslims who have a positive view of the IS. Just about one in ten Muslims in Turkey, Nigeria, Malaysia, Senegal and Pakistan has a “favorable” view of the Islamic State. [8]

Saudi Arabia and Qatar, two nations whose populations have provided Jihadist groups with substantial financial support and who have seen numerous members of their young, military age male populations join Jihadist movements. So the millions of Muslims around the world with a favorable view of the Islamic State.

Country name	Unfavourable	Favourable	Don't know
Lebanon	100 %	0	1
Israel	97 %	1	2
Jordan	94 %	3	4
Palestine	84 %	6	10
Indonesia	79 %	4	18
Turkey	73 %	8	19
Nigeria	66 %	14	20
Burkina Faso	64 %	8	28
Malaysia	64 %	11	25
Senegal	60 %	11	29
Pakistan	28 %	9	62

Table 2: Islamic states support the Jihad in ISIS

C. Effectiveness: Cyber Jihad Crime In Top 20 Country:

There have already been arrests for cyber jihad in the past few years, in the U.S., the U.K., Canada, Spain, Belgium, Denmark, Norway, France, Italy, Switzerland, Russia, and other Western countries, on charges including making terror threats via Facebook, posting terror-inciting material to websites and blogs, inciting terrorism via YouTube, and downloading jihadi media from the Internet.

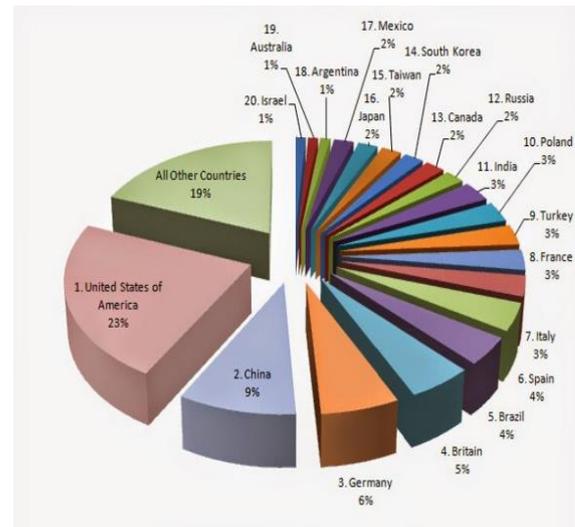


Fig. 3: Cyber jihad crime in Top 20 country

V. ANALYSIS REPORT

Terrorists and cyber criminals will exploit vulnerabilities, including technical, legal, political, and cultural. Internet connected computers or servers are broken into every 20 seconds by hackers, identity thieves, and other mischievous people who want to cause havoc to networks. Terrorist could easily copy the techniques of these groups, giving them the power to disrupt parts of the cyberspace network. [9]

According to the global terrorism index (GTI) is a comprehensive body of work which systematically ranks the nations of the world according to their terrorist activity. We have mentioned top 5 ranked countries where terrorist activity has count. [11]

Rank	Country	Terrorist activity
1	Iraq	9,556
2	Pakistan	9,049
3	Afghanistan	8,669
4	India	8,147
5	Yemen	7,305

Table 4:

Al-Qaida is one of the most notorious terrorist organizations; its name is synonymous with terrorism. In terms of targets of terrorist attacks, private citizens, government facilities, and police are the three most commonly targeted at 29%, 17% and 14% respectively. [2]

Different uses by social media for messaging and voip a service which is listed below.

- Skype, the instant-messaging and VoIP service, has come into increasing use by Al-Qaeda and Al-Qaeda affiliates
- The use of the mobile messaging app what's app, for communication and fundraising purposes.
- Google Services – Mapping, Blogging, And Apps Google Earth, Picasa
- Instagram is an extremely popular online photo and video-sharing service
- Flickr, the popular online photo management and sharing application, is now one more of the large U.S. social media companies that are infested by jihadist and are being used to help drive jihad in Syria.

- Micro blogging platform Tumbler, which was bought by Yahoo in May 2013 for over \$1 billion, and is rapidly gaining popularity among Western jihadist.[7]

VI. CONCLUSION AND FUTURE WORK

Cyber jihadist use of the internet as part of cyber security. Many cyber jihadi terrorist movements continue to exploit the Internet as an operational platform for the indoctrination, recruitment, fundraising, training, and more recently, planning and coordination of terrorist attacks.

Cyber jihadists' unrestricted online activities continue to lead to the killing and maiming of thousands of innocent civilians worldwide each year. Domestic and international policies toward cyber jihadists' online activities that focus on deterrence and passive enforcement of content regulations are no longer. Current educational efforts at training would be cyberjihad focus on computer science with the results seen in hacker tool developments. Much of this education takes place in Western universities with a shift moving to other global locations as computer science takes center stage at some educational institutions. In future we require more strong penetration testing tools that will be used to avoid such types of scam and also provide more security to the ISP that will directly stop accessing malicious activity and phishing url to the user. Establish a centralized monitoring and enforcement section at Internet Corporation for Assigned Names and Numbers to track illicit Internet activities and Create an Internet sanctions blacklist of banned users, providers and computers which are associated with illicit online criminal activity.

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