



Digital Surveillance in Crisis Reporting and Performance of Media Professionals of Khyber Pakhtunkhwa Pakistan

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ABSTRACT

Ah! My! My! I lost my data on the phone.

Pooh!-Pooh! There's nothing on my computer.

Ugh!-Ugh! With my password, what's wrong?

Hey, oh no! Somebody's hack my account.

These are the issues that media professionals face in Khyber Pakhtunkhwa, Pakistan. The objective of the study was to investigate the level of knowledge of the media staff of Khyber Pakhtunkhwa, Pakistan, regarding digital and internet security. In this research, a quantitative approach was applied. The survey was carried out in three districts of KP, including Peshawar, Charsadda, and Swat, because the region's journalists were more vulnerable than others to attacks. Data was obtained via a simple random sampling process from 469 journalists. The findings showed that 67% of them did not know about digital security, while 60% did not have an understanding of cyber security tools. 70 percent of media workers were unaware of the tools used to secure their automated communication systems, such as email, mobile phones and telephones. A clear association between digital security and .109 * with a significant value of 0.002 with the output of journalists is shown by the Correlation test values. Providing information security training for media professionals in Pakistan is recommended.

Keywords: Digital Surveillance Awareness, Crisis Reporting, Media Professionals, KP, Pakistan

I. INTRODUCTION

Digital hacking is also a big problem for media workers to save their data on their computers, laptops, and cell phones. Henrichsen, Betz, and Joanne (2015) cited that a human rights organization Pakistan working for digital training and awareness named "Bytes for All" surveyed the journalist in 2012 where they interviewed 37 journalists and 15 bloggers in the country. They found that 45% of them have little awareness of digital security in the country, while these journalists are using the internet, email, and social media daily for sending and receiving information. The majority of the respondents do not have protection tools and strategies in the country. They identified that Bytes for All, Digital Rights Foundation, and "Bolo Bhi" are non-profit organizations that are working for digital awareness and training in Pakistan. The organization reported that most of the media professionals of the country have lost their data due to a lack of awareness and proper training about digital safety. A leading Pakistani English newspaper, 'Pakistan Today' (2013) made public a story that Pakistan Telecommunication Authority (PTA) and Ministry of Information Technology jointly decided to regulate, filter, and monitor websites and its contents around the country and for this they in collaboration installed a censorship internet system. At the end of the story, it was assumed that journalists could also be victimized as they are using the internet for the dissemination of information. They demanded to establish a commission for the safety of the journalists. They also proposed a plan to make sure the field and digital security of the journalists in the country.

II. REVIEW OF LITERATURE

The media professionals, facing personal and family problems due to coverage of crisis and danger scenes, while on the other hand, they are also facing digital and cybersecurity problems in securing and sending the

data through computer, laptop and cell phones. Majority of the journalists don't know about hacking and tracing of the digital tools, they are using every day for the dissemination of information due to lack of knowledge and training. Ramos (2016) conducted a study to find out the media professional regarding the digital or cyber security. He said that digital knowhow could increase the physical, digital and psychological security. For this purpose, in the first two weeks of September of 2015, he conducted an online survey research. Data was collected from 154 media professionals of Africa, middle East, southeast and central Asia, East Europe, Latin America and North America. He found that 60% of them didn't use any security digital tool. 70% haven't idea about the methods that protect communication process such as email, cell phone, telephone etc. among them 70% haven't awareness about the tool for sharing files and information. 83% of the journalists rarely using encrypting technique for the security of mobile, laptop, computer and tablets. There are so many Geo-tracking application, but it is not authentic, while 90% of them didn't know any application that make sure their security. It shows that majority of the journalists haven't cyber security understanding. Eldridge (2013) disclosed in his study that journalists are facing threats of internet security as they haven't technical awareness and training. He explained that the terrorists are knows all those reporters and correspondents who covering the armed conflict zones as the journalists are informing public through online journalism. While the media professionals who are working for the traditional or mainstream journalism are facing physical issues and threats. Being human's dependency on one another is a common phenomenon in society. In their relationship to fulfill their basic needs with the help of others. It is a well-established fact that no one can live independently in this world. In this sense, different people involve in various kinds of works in different field that not only fulfill their daily needs but also engage them in a social network. They are needed training and also awareness and knowledge towards safety to execute their duties well and overcome the sensitivity and risks in respective spheres of life. It is concluded that media professionals over the world are facing internet security problems. Due to which they can't protect their data from the state and non-state actors, hackers and criminals. It is asserted that Khyber Pakhtunkhwa based journalists are also confronting cyber i.e. email, blogs and information sharing security in the country. Trolling and smear campaign against media workers is a major issue all over the world. Holleran (2015) said that cyber bullying is a growing problem for journalists throughout the world. Cyber bullying the media is a major health and safety concern and it is very important that we work with major agencies to address the grown problem. He described major challenges to journalists worldwide, which include smear campaigns on social media, usually involving trolls, with the aim of damaging credibility and intimidating sources, online threats of violence, and online harassment. He further said that no journalist should be on the receiving end of threat of violence against them and people close to them, just because of what they reported. They hesitate before covering a particular story; they feel unsafe in their own home, are fearful for their safety and are seriously concerned for the safety of members of their families. They have suffered abuse of a political, sexist, racist, religious and sexist nature and threats of violence have been made against them and their families. Carlo and Kamphuis (2016) guided the journalists about the protecting of computer system, operating system, safe browsing, data security, email data protection, instant messaging safety, phone, voices and password protection in their handbook titled "Information Security for Journalists". Inter-News Center for Innovation and Learning Commissioned with collaboration of the Intern-News (2011) cited that a human rights organization working in Pakistan on Information and Communication Technologies (ICTs) named "Bytes for All" (B4A), conducted a survey on the awareness and practices of internet and online security strategies of the media organizations personnel's in Pakistan. It interviewed 52 persons throughout the country; among them 37 were field journalists and 15 were daily updated bloggers. 60% of the respondents answered that they have personal security problems in daily journalism practices, while the rest of the other respondents unaware to the security risks. About the online bloggers, the results showed that they couldn't save their data from online hackers. The survey disclosed that 90% of the journalists were unaware about online documents security. The organization recommended to the government of Pakistan that the journalists need security awareness and safety training for their personal, family and confidential documents security. It is also suggested to the Pakistani journalists to extend their understanding about cyber and personal security under the country laws. Web Application Security Consortium an organization working for the internet security released a report in 2006 about the internet security. It conducted a research in which it tested 30,000 websites all over the world through internet evaluation system. The results showed that 84% websites are not secure. In the report, it

has been explained that in some extend the hackers hacking the websites and personal information of the public.

Objectives of the Study

- To explore the awareness and knowledge of the journalists towards internet security.
- To find out the threats they are facing due to lack of digital security.
- To investigate the tactics the media professional is using for their security.
- To dig out their family security in this regard.
- To find out what channel the attackers use for the journalist's personal and family threats and harassment in the selected areas.

Hypothesis

H1: Lacking technological know-how of the journalists regarding the internet, increasing chances of easy traceability and accessibility during the transformation of data through the internet.

Research Design

A quantitative research method was used, while, the researchers collected data by Survey technique from three Press club comprises Peshawar, Swat, and Charsadda districts of Khyber Pakhtunkhwa Province of Pakistan to measure the level of awareness regarding their safety and families. Data was collected from 635 media workers through a simple random sampling methodology by the use of a questionnaire. An adapted questionnaire was applied in this study. Total respondents of Peshawar, Swat, and Charsadda were 430, 135, and 70 respectively (n=635), while the response rate was 73%, (n=469). Data were analyzed through the Statistical Package of Social Sciences (SPSS) as descriptive and inferential statistics.

III. FINDINGS

Cyber or digital security is one of the big issues journalists faced nowadays and it is due to their unawareness and knowledge about digital tools and equipment. Media professionals need to know about the different methods and techniques as well as the tools to secure their data from damaging and stealing. For collecting and disseminating information journalists daily use a computer, laptop, and mobile phones and they need awareness that how to save their data.

Opinion about didn't know methods to increase digital security. The Table 1 illustrates views of the Khyber Pakhtunkhwa journalists, as to how they understand the methods of increasing digital security of information and individuals using online platform. 66.5% of the respondents said "Yes" that they didn't know about any method of increasing digital security of information and the usage of online platform by an individual, whereas 33.5% of the respondents believed that they know about some methods to increase the digital security of information and individuals using online platform. Mostly security breach, because of poor knowledge or information about the digital security system. This problem reduces through the training programs.

Table 1. Opinion about didn't Know Methods to Increase Digital Security

	F	%
Yes	312	66.5
No	157	33.5
Total	469	100.0

Actions to eradicate digital risks. For the cyber security people are using different techniques, and journalists should also essentially apply them for their data safety. The Table 2. demonstrates different opinions of media practitioners from Khyber Pakhtunkhwa about the action that they have heard about digital security. 47.3% of the respondents considered that they strong passwords should be used for email or other Internet accounts, although 26.4% of the respondents believe that they should use anti-virus software. 10% of the respondents said that they have heard others ways, while 8.5% of the respondents said that they have heard about Encrypting data. 3.8% of the respondents replied that they have heard about using IP disguisers/blockers, whereas 3.2% of the respondents answered that they are keeping their operating system updated with the latest security patches and updates. 0.4% of the respondents viewed that they are using anti-censorship software, though 0.2 % of the respondents stated that they are using a Virtual Private Network (VPN). It probability, that those journalists who are using these tactics are more secure than the others.

Table 2. Taking Actions to Eradicate Digital Risks and Threats by the Journalists in KP

	F	%
Using strong passwords for your email or other Internet accounts	222	47.3
Encrypting data	40	8.5
Using anti-virus software	124	26.4
Keeping your operating system updated with the latest security patches and updates	15	3.2
Using IP disguisers/blockers	18	3.8
Using anti-censorship software	2	.4
Using a VPN	1	.2
Others	47	10.0
Total	469	100.0

Important feature for selecting an email service. Important feature for the selection of email or blog is also a significant element in the awareness of cyber security. The Table 3 show views of the Khyber Pakhtunkhwa media professionals regarding the most important feature for selecting an email service. 46.5% of the respondents said that they selected those email services which are secured. 27.3% of the respondents considered that they selected those email services which are easy to use. 20.5% of the respondents believed that they selected those email service which have storage space. 5.8% of the respondents stated that they selected those email service which have any others import feature. Security is a big issue for the media workers to select a blog or email for daily use.

Table 3. Opinion regarding the Most Importance Feature for Selecting an Email Service

	F	%
Security	218	46.5
Storage space	96	20.5
Ease of use	128	27.3
Any others	27	5.8
Total	469	100.0

Important feature for selecting blogging service. Blog is service on the internet, where a person can write his views and opinion on an issue. Selection of safe root for the blog is also a part of cyber safety. The Table4 illustrates opinions of Khyber Pakhtunkhwa media workers that, the most important feature for selecting blogging or micro-blogging services. 45.4% of the respondents considered that they selected blogging or micro-blogging services for security and privacy, while 16.6% of the respondents said that they selected blogging or micro-blogging service for design and appearance. 14.9% of the respondents stated that they selected blogging or micro-blogging service to acquire abilities to customize, whereas 14.7% of the respondents viewed that they selected blogging or micro-blogging service for popularity. 3.2% of the respondents assumed that they selected blogging or micro-blogging service for costs, although 2.8% of the respondents expressed that they selected blogging or micro-blogging service for the ease to use. 2.3% of the respondents considered that they selected blogging or micro-blogging service for any others important feature. Popularity, Security and privacy is the important features for the media workers to select a blog for personal information use.

Table 4. Opinion regarding the Most Important Feature for Selecting Blogging Service

	F	%
Popularity	69	14.7
Design/Appearance	78	16.6
Ability to customize	70	14.9
Costs	15	3.2
Security/Privacy	213	45.4
Ease of use	13	2.8
Any others	11	2.3
Total	469	100.0

Effective tool for digital security. Use of different tool for cyber safety is also effecting the performance of the media workers. The Table 5 shows the different options of the Khyber Pakhtunkhwa media professionals, that they use various tool for digital security. 54.6% of the respondents considered that they used strong passwords for their emails or other Internet accounts, while 14.7% of the respondents said that they use anti-various software for digital security. 7.5% of the respondents believed that they used safe deletion of data, whereas 4.9% of the respondents stated that they used encrypting data. 3.6% of the respondents expressed that they used keeping their operating system updated with the latest security patches and updates, although 2.1% of the respondents replied that they used secure backups to prevent any information loss. 1.9% of the respondents answered that they used IP disguisers/blockers, while 1.5% of the respondents responded that they used a VPN. 1.5% of the respondents uttered that they used firewall protection, whereas 0.2% of the respondents said that they used anti-censorship software. It is predicted that performance is based on the digital safety also.

Table 5. Views about Using Effective Tool for Digital Security

	F	%
Using strong passwords for your email or other Internet accounts	256	54.6
Encrypting data	23	4.9
Using anti-virus software	69	14.7
Keeping your operating system updated with the latest security patches and updates	17	3.6
Using IP disguisers/blockers	9	1.9
Using anti-censorship software	1	.2
Using a VPN	7	1.5
Firewall protection	7	1.5
Safe deletion of data	35	7.5
Secure backups to prevent any information loss	10	2.1
Other	35	7.5
Total	469	100.0

Opinion about the use of different tools for computer and phone data security. The use of different tools for computer and phone data security also illustrates the digital awareness of the journalists. The Table 6 illustrates that among them 77.6% used different tools, while 22.4% didn't know about any tool to secure their data on phone and computer.

Table 6. Opinion about the Use of Different Tools for Computer and Phone Data Security

	F	%
Yes	364	77.6
No	105	22.4
Total	469	100.0

Methods used to secure the data on computer and mobile phone. Commonly most of the people use different digital tools for information without keep in mind the security of the devices. The Table 7 illustrates different opinions of the Khyber Pakhtunkhwa journalists that they used different types of security tools for securing data on their computers and mobile phones. 58% of the respondents said that they used password protection to secure the data on their computer and mobile phone, whereas 32.8% of the respondents considered that they used safe deletion of data to secure the data on their computers and mobile phones. 5.3% of the respondents believed that they used external drivers to secure the data on their computers and mobile phones, while 3.2% of the respondents stated that they used any other tools to secure the data on their computers and mobile phones. 0.6% of the respondents expressed that they used encryption to secure the data on their computers and mobile phones. Some companies claim security or safety of data because they have strong architecture or system to protect the data and devices, but it is also impossible in this hacking age.

Table. 7. Method Used to Secure the Data on Computer and Mobile Phone

	F	%
Password protection	272	58.0
Safe deletion of data	154	32.8
Securing the data in External drives	25	5.3
Encryption	3	6
Any other	15	3.2
Password protection	272	58.0
Total	469	100.0

Digital problem faced covering crisis. Cyber issues during coverage of crisis also affect the performance of the media workers. The Table 8 demonstrates different views of the Khyber Pakhtunkhwa media professionals, that they face various digital problems when they cover crisis. 76.5% of the respondents said that they faced very much digital problems when they cover crisis, although 23.5% of them stated that they never faced digital problems while covering crisis. If the people aware and have proper information about the digital machines or equipment then the work would be faster, which would improve the performance level in any kind in the existing environment.

Table. 8. Response about Digital Problem faced Covering Crisis

	F	%
Yes	359	76.5
No	110	23.5
Total	469	100.0

Personal threats faced by journalists and channels. In this digital era information passes on within seconds anywhere and put many systems vulnerable due to this rapidity. This boom also affect media professionals personally. The Table 9 shows different views of the Khyber Pakhtunkhwa media personals, that they have faced different types of problem due to their digital coverage of crisis reporting. 48.4% of the respondents considered that they were warned due to their digital coverage of crisis reporting, whereas 35.6% of the respondents believed that they have been pressurized due to their digital coverage of crisis reporting. 11.5% of the respondents stated that they have faced threats and harassments due to their digital coverage of crisis reporting, while 3% of the respondents said that they faced Death threats to their digital coverage of crisis reporting. 1.5% of the respondents expressed that they have faced kidnapping risks due to their digital coverage of crisis reporting.

The attackers are using various methods for pressurizing, threats and harassment of these journalists. The table also explains opinion of the Khyber Pakhtunkhwa media personals, that they have been warned by different channels. 42% of the respondents believed that they have been warned by call, whereas 23.9% of them considered that they have been warned by SMS. 13.9% of the respondents said that they have been warned by others channels, while 8.1% of them replied that they have been warned through friends or colleague. 7.7% of the respondents stated that they have been warned face to face, although 4.5% of the respondents expressed that they have warned by email.

Table 9. Personal Threats Faced by the Journalists due to Digital Coverage and the Channels of Threats of the Party

Threats faced personally	F		%		Channels for threats	
	F	%	F	%		
Threats and harassment	54	11.5	36	7.7	Face-to-face	
Warning	227	48.4	38	8.1	Through friend or colleague	
Pressurized	167	35.6	197	42.0	By call	
Kidnaping	7	1.5	112	23.9	By SMS	
Target killing	14	3.0	21	4.5	By email	
Others			65	13.9	Others	
Total	469	100.0	469	100.0	Total	

Problem faced by the journalists' families due to digital coverage of crisis. Cyber issues during coverage of crisis also affect the performance of the media workers. The Table 10 demonstrates different views of the Khyber Pakhtunkhwa media professionals, that they face various digital problems when they cover

crisis.67.6% of the respondents said that their families faced very much digital problems when they cover crisis digitally, although 32.4% of them stated that their families never faced problems while reporting crisis digitally.

Table.10. Response about Problem Faced by the Journalists' Families due to Digital Coverage ofCrisis

	F	%
Yes	317	67.6
No	152	32.4
Total	469	100.0

Threats faced by media workers' families and channels used for threats. The journalists sometimes kill the story, when they know that their family could face problems. The Table 11 illustrates different opinions of the Khyber Pakhtunkhwa journalists that their families have faced various types of problem due to their digital coverage of crisis reporting.40.7% of the respondents considered that their families have faced warning due to digital coverage of crisis reporting, while 32.2% of the respondents believed that their families have been warned due to their digital coverage of crisis reporting. 16% of the respondents said that their families have faced threats and harassments due to their digital coverage of crisis reporting, whereas 5.5% of them stated that their families have faced kidnapping risks due to their digital coverage of crisis reporting. 3.8% of the respondents expressed that their families have faced target killing risks, although 1.1% of them replied that their families have been exiled or displaced due to their digital coverage of crisis reporting.

For harassing the families of the media men, assailants apply various tactics. The table also respondents view of the Khyber Pakhtunkhwa journalists that their families have been warned by different channels. 41.6% of the respondents said that their families have been warned by call, whereas 33.3% of the respondents believed that their families have been warned by SMS. 13% of the respondents considered that their families have been warned through friends or colleagues, while 6.6% of them relied that their families have been warned by others channels. 3.6% of the respondents expressed that their families have been warned by email, although 1.9% of them stated that their families have been warned face to face.

Table11. Family Threats Faced by the Journalists due to Digital Coverage and the Channels of Threats of the Party

Threat faced family	Channels for threats	
	F	%
Threats and harassment	75	16.0
Warning	191	40.7
Pressurized	154	32.8
Kidnapping	26	5.5
Target killing	18	3.8
Exile/displacement	5	1.1
Total	469	100.0

Knowledge about different tactics to protect themselves and families. The Table 12 show the awareness about tactics for personal and family protection due to digital coverage of crisis, 75.6% of the media professional said that they know, while 25.4% of them didn't know any method for their personal and family safety.

Table 12. Respondents Knowledge about Different tactics to Protect Themselves andFamilies

	F	%
Yes	350	74.6
No	119	25.4
Total	469	100.0

Tactics use to protect themselves and family during crisis due to digital reporting. The use of different methods for prevention of themselves and families show awareness of the respondents. The Table13 reveals the different opinions of the Khyber Pakhtunkhwa media workers that they have used a variety of tactics to protect themselves and family during crisis. 22.6% of the respondents believed that they have followed ethics and laws to protect themselves and family during crisis, but 22% of them said that they have changed or killed the story to protect themselves and family during crisis,while 33% of them answered that they are aware geographical conditions to protect themselves and family during crisis, though 4.3% of the respondents stated that know the sensitivity of the issues.3.4% of the respondents replied that they are

aware of security measures to protect themselves and family during crisis, 9.4% believed to embed with the other party, whereas, 2.8% of the respondents expressed that they have hidden identity to protect themselves and family during crisis.

Table 13. Tactics Use to Protect Themselves and Family during Crisis due to Digital Reporting

	F	%
To change or kill the story	103	22.0
To follow ethics and laws	106	22.6
To know the geographical conditions	155	33.0
Know security measures	16	3.4
To know the sensitivity of the issue	20	4.3
To embed with other party	44	9.4
All	13	2.8
Other	12	2.6
Total	469	100.0

Knowledge about different methods to increase digital security and lack of knowledge about use of tools for digital security. The Table 14 show that among them .9% were very frequently used, 4.9% frequently used, 27.3% were to some extent, 27.5% didn't use, while 23.5% never used any method to increase digital security. This table also illustrates that .6% have never use any tool, 7.5% didn't use, 37.3% to some extent, 43.5% frequently used, whereas, 11.1% very frequently used different tools for digital safety.

Table 14. Opinion of the Respondents regarding Knowledge about Different Methods to Increase Digital Security and Lack of Knowledge about Use of Tools for Digital Security

Using methods			Using tools		
	F	%		F	%
Strongly Agree	4	.9	Strongly Agree	3	.6
Agree	23	4.9	Agree	35	7.5
Neutral	128	27.3	Neutral	175	37.3
Disagree	204	43.5	Disagree	204	43.5
Strongly Disagree	110	23.5	Strongly Disagree	52	11.1
Total	469	100.0	Total	469	100.0

Opinion about personal and family didn't face problems due to digital coverage during crisis. The Table 15 demonstrates that .6% of the view that they never faced problems, 9.4% didn't faced, 38.45 faced to some extent, 39.4% frequently faced, whereas, 12.2% very frequently faced problems. The table also show that 6.4% said that their families didn't faced problems, 36.2% to some extent faced threats, 40.7% frequently faced risks and 16.6% very frequently faced problems by their families due to digital coverage of crisis.

Table 15. Views that They and their Family Didn't Face Problems due to Digital Coverage during Crisis

Family problems			Tactics for protection		
	F	%		F	%
Strongly Agree	3	.6	Agree	30	6.4
Agree	44	9.4	Neutral	170	36.2
Neutral	180	38.4	Disagree	191	40.7
Disagree	185	39.4	Strongly Disagree	78	16.6
Strongly Disagree	57	12.2	-----	----	-----
Total	469	100.0	Total	469	100.0

Opinion of the respondents regarding they didn't know different tactics to protect myself and family due to digital coverage during crisis. The Table 16. show that .4% didn't know any tactics for their family protection, 4.7% haven't know any tactic, 22.6% to some extent know, 44.8% frequently used and 27.5% frequently used various tactics to secure their families due to digital coverage of crisis.

Table 16. Opinion of the Respondents that they didn't Know Different Tactics to Protect Myself and Family due to Digital Coverage during Crisis

	F	%
Strongly Agree	2	.4
Agree	22	4.7
Neutral	106	22.6
Disagree	210	44.8
Strongly Disagree	129	27.5
Total	469	100.0

Hypotheses Testing

Correlation between awareness, about digital security with the performance of journalists. The correlation analysis was applied to identify the relationship between digital security with the performance of journalists.

The table 17 reveals the values of Laws & ethics as $-.109^*$ with a significant value of 0.002 with journalists' performance. From the statistical values, it is confirmed that there is a positive relationship between Digital security with performance.

Furthermore, this study confirmed the hypothesis **“Lacking technological knowhow of the journalists regarding internet, increasing chances of easy traceability and accessibility during transformation of data though internet”** that due to lacking technological knowhow of the journalists regarding internet, increasing chances of easy traceability and accessibility during transformation of data though internet (H4).

Table 17. Correlation between digital Safety and its Effects on the Performance of Media Professionals in Peshawar, Swat and Charsadda

Correlations		DS	PERF
DS	Pearson Correlation	$-.109^*$	$.146^{**}$
	Sig. (2-tailed)	.018	.002
	N	469	469

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

IV. DISCUSSION

The results of the study also explored the digital security awareness that majority 67% of them know the digital security, while fewer of them have understating of digital measures. Reklam (2008) explored that most of the media workers all over the world also face digital security problems and risks, while covering hazardous moments. Henrichsen, Betz and Joanne (2015) cited an organization named *“Bytes for All”* working for cyber security in Pakistan, which conducted a study to find out the understating and awareness of the media workers, where 45% of journalists know a little about cyber security.

Whereas those who know the digital security are using different methods to reduce digital security, where majority 47.3% of them are using strong passwords for their emails or other Internet accounts, anti-virus software 26.4%, encrypting data 8.5%, using IP disguisers/blockers 3.8% and keeping their operating system updated with latest security patches 3.2%.

Ramos (2016) explored that 60% of the journalists didn't know about cyber protection tools. Among them, 70% didn't know the methods to protect their digital communication process such as email, cell phone, telephone etc., whereas 78% have awareness about the tool for sharing files and information. 83% of the journalists rarely using encrypting technique for the security of mobile, laptop, computer and tablets. There are so many geo-tracking applications, but it is not authentic, while 90% of them didn't know any application that make sure their security. Its shows that majority of the journalists have no cyber security understanding. The results also exposed the awareness of the journalists regarding the most important feature for selecting an email service that majority of them selected those email services which are secured 46.5%, easy to use

27.3 % and more storage space 20.5%. While knowledge and awareness of the media workers about the most important feature of selecting blogging or micro-blogging services that which have no security issue and have privacy 45.4%.

The study also disclosed the awareness and knowledge about effective tool for digital security that majority 54.6% of them are using strong passwords for their emails or other Internet accounts, using anti-virus software 14.7%, using safe deletion of data 7.5%, using encrypting data 4.9%, keeping their operating system updated with the latest security patches 3.6%, using secure backups to prevent any information loss 2.1%, using IP disguisers/blockers 1.9%, using a VPN 1.5%, using firewall protection 1.5%, whereas some of them are using anti-censorship software 2%. This is also support Henrichsen, Betz, Lisosky (2015) explored that most of the journalist are using different tools for data safety as well as most of them don't know about the tools. They also claimed that due to low literacy rate and low income, most of the media workers can't purchase the digital tools and software's to protect them.

The results of the study also revealed the method to secure the data on computer and mobile phone that were using password 58%, safely deleting their data 32.8%, using external drives 5.3%, by using encryption to secure the data on their computers and mobile phones. Majority of them only used password while having less knowledge about the other methods to protect the data on their mobiles and computers. The study exposed that majority 33.9% of them have the views that they faced less digital problem due the coverage of crisis.

Responding to the question the journalists said they faced warning 48.4%, pressurizing 35.6%, threats and harassment 11.5% through calls 42%, SMS 23.9%, emails 4.5%, through colleague 8.1% and somehow face-to-face 7.7% due to the digital coverage of crisis and conflicts in their respective areas.

The study also explored that 68% of the media professionals' families faced threats, including warning 40.7%, pressurizing 32.8%, threats and harassment 16.0% faced through phone calls 41.6%, SMS 33.3%, emails 3.6%, by colleague 13% and somehow face-to-face 1.9% due to digital coverage of conflicts in their beats.

For their own protection and their families, the media workers used various tactics in which majority of them filed the news story according to the geographical sensitivities 33%, some of them used to follow ethics and laws 22.6% and to change or kill the news story 22% during digital crisis coverage; this is also support the study of Holcomb, Mitchell and Purcell (February 5, 2015) to find out the perception of the investigative journalist. The results revealed that most of the media professionals do not have any cyber training to protect their data as well as themselves and families. The results also explored that investigative journalists were of the views to quit the job. The research also disclosed that 71% have no confidence that ISP can protect their data as well as 50% of the respondents believed that their organizations are failed to protect them against hacking and surveillance.

V. CONCLUSION

The results disclosed that most of the respondents belong to Peshawar, Charsadda and Swat have awareness about the cyber security, whereas, they are using different tactics including strong password for their email or other accounts and anti-virus software for the protection of digital safety. It is also disclosed that majority of them know the tools for sharing information through mobiles, laptops, computers and tablets, while some of the journalists don't know any application for their cyber safety. It shows that majority of the journalists have no cyber security understanding. For security reasons, they select those email services which are more secured instead of easy in use and storage space. It is also found that the methods of the media professionals about the securing of data on computer and mobile phones including password, safely deletion of data and use external drives.

Most of the journalists of Peshawar, Charsadda and Swat are facing digital problems such as pressurizing, warnings, harassment by phone calls, SMS and emails. Their families also face problems due to cyber coverage of crisis and conflict including warnings, harassment, pressurizing through cell calls, SMS and emails as well as face-to-face. For their own and their families' protection, the media workers use various tactics in which majority of them filed the news story according to the geographical sensitivities, some of them used to follow ethics and laws and to change or kill the news story during digital crisis coverage. Overall, the research disclosed that media professionals believe that their organizations are failed to protect them against hacking and surveillance.

Recommendations

- The reporters should have understanding regarding digital knowhow.
- Record the telephone chat, via call or SMS as well as email and blogging comments.
- The journalists should to know about the security issues of cyber journalism.
- The media professionals also need to know about the combating strategies of cyber/digital journalism.

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