

Information Privacy Awareness Among Young Generation in Malaysia

Nurul 'Ain Ahmad,
Nooraini Othman

Perdana Centre of Science,
Technology and Innovation Policy,
Universiti Teknologi Malaysia, Kuala
Lumpur, Malaysia.

*Corresponding author:
nurulain2utm@gmail.com

Submitted: 4th Dec 2019
Correction received: 30th Dec 2019

Abstract

The study aims at gaining insights of the awareness of information privacy among young generation specifically in Malaysia. As we know the awareness should not only be focused on the adults and professionals only but have to be delivered to the young generation also. The knowledge and understanding on the importance of information privacy would help from the occurrence of data breach and privacy intrusions. The youngster should be taught and explained how to keep their data safe and secure from third party interventions. Young children who are unprepared to protect themselves from online risks are likely to encounter individuals who wish to target them emotionally or financially. Bullied children may be more vulnerable to fraud as they are taken advantage of when they seek friendship online. Combating child identity fraud requires guardians to proactively manage their child's finances by regularly monitoring activity, even when they expect that nothing has occurred; reviewing statements online and leveraging account alerts, especially those that can be delivered to mobile devices. This paper has used literature review analysis in fulfilling the study aims. As the information privacy issues becomes the highlight in recent news, the access to the existing data are widely available. The findings show that the lack of awareness on the fundamental of Internet knowledge has increased the number of cases in Internet scams, online harassment, cross-site scripting and identity theft. Malaysia has recorded 10,000 cases of cyberbullying in 2018 and the cases increasing day by day. A comprehensive and relevant legal framework should be strengthened time to time in combating the issues.

Keywords: Information Privacy, Internet, Social Media, Young Generation

© 2019 Perdana Centre UTM. All rights reserved

■ 1.0 INTRODUCTION

The numbers of cases among youngsters in information privacy being abused are arising year by year. From the statistics, the most common age to experience cyberbullying is from 13 years old to 15 years old (Dalla Pozza, Anna Di Pietro, Sophie Morel, Emma Psaila, &, 2016). 3 from 4 youngsters says they have been bullied online and 89% of them did not take any action on it (Paolo, 2018). Some of them had embarrassing video of them posted online and some have been a victim of hate speech. These young people not only being bullied online but also facing with identity fraud cases from information privacy breach. In 2017, about a million children were affected by identity fraud as young people are easily become a target for their weak judgment when it comes to online scammers (Pascual & Marchini, 2018).

Young generation has different perspectives and attitudes on privacy compared to the adults (Chau & Ngai, 2010; Steeves & Regan, 2014). They are really comfortable on sharing and posting almost everything about themselves online (Johnson, 2010). This shows young generation is vulnerable to the privacy intrusion because they are really active in social media where a bunch of personal information reveals every day. Internet becomes the world's largest social network and a study in United State has recorded 85.2% of the respondent at least has one or more account (Norshidah Mohamed & Ili Hawa Ahmad, 2012; Salaway, Caruso, & Nelson, 2008). Meanwhile, 60% of the young people in European countries were using Internet every day (Livingstone & Brake, 2010). In Malaysia, the highest percentage age group of internet user (24.2%) and handphone users (18.8%) were the young generation from the age of 20-24 as reported in 2014 (MCMC, 2015).

Other than disclose themselves on social media, this generation also actively involved in outdoor activities such as sports, karaoke, bowling, shopping, watching movie and dine in a popular restaurant. These activities basically require the individual to be a member in order to benefit the discount price or any promotions (Noriswadi Ismail, 2013). This is the moment when personal data of the individual is exchanging to other party. A youngster with a knowledge and awareness of privacy might be carefully handling their information but the issue arises to those with no or little knowledge on this.

The technological advancement in communication has turns everything into data. Children data has been datafied either through social media platform or other platforms (Longfield, 2018). Their data been collected and shared across the board. Once the data leaks, the implications are unbearable such as identity theft, embarrassment, loss of employment as well as the leaking of bank's account information. Furthermore, online social networks' security and access controls are weak by design (Barrett-Maitland, Barclay, & Osei-Bryson, 2016). The information provided on private social networks is actually public data and exists as long as anybody has an incentive to maintain it.

Many youngsters are compelled to be online, not only socialization through social media but for educational purposes as well. For school pupils, they are required to complete the homework, assignment and report using school's portal (Shade & Singh, 2016). Same goes to college and university students, the online learning or out campus lecture is part of the teaching and learning activity. The used of internet is now could be considered a must to every student. This show us the amount of information have been shared online for both socialization and education specifically among young generation.

The awareness on data privacy is still new yet important to be focus on. The rapid changes of technology and the highest usage of internet among young generation are the reasons why the awareness is important. They are being exposed to multiple upcoming risks and threats from the internet abuse and unauthorized use of personal information. Thus, this paper aims to highlight the issues related to information privacy among young generation in Malaysia and the implications of it. This paper would also emphasize some recommendations to increase the awareness of information privacy specifically for this generation. The lack of experience, knowledge and understanding on their right to information privacy would increase the risks of information abuses (Steeves & Regan, 2014).

■ 2.0 LITERATURE REVIEW

■ 2.1 Information Privacy

In early years, privacy was focusing merely on the right to life and right to property (Warren & Brandeis, 1890). The rights specifically to protect individual from any physical attack and any intrusion to his cattle and land. Then the privacy protection evolved with the new technologies such as camera and press (Abdul Rahman Saad, 2005). These technologies allowed a mass scale of collection, recording and dissemination of information. The situation becomes worse when everybody nowadays depending on the computer networks and information technology on daily life (Jang-Jaccard & Nepal, 2014). Thus, the protection of information is crucial because cases and issues of information breach is increasing all over the world including Malaysia (Norshidah Mohamed & Ili Hawa Ahmad, 2012). The concentration on the information privacy not only to the corporate level or people in industry only but also to the young generation. Although we see these professionals are handling important and sensitive data in their daily work but the exposure among youngsters to the information threats should be focused as well.

The important of information privacy was highlighted by Warren and Brandies before (Glancy, 1979). Their understanding was the consequences held by interfere one's private information and made the information available to others are far greater than bodily injured. According to Black's Law Dictionary, information privacy defines as a right of an individual to determine to what extend his information is communicated to others (Garner, 2004). It shows every individual has the right to control his information especially involving sensitive and personal data. Information privacy or data privacy also known as data protection which uphold a claim that others should not obtain knowledge about us without our consent (Abu Bakar Munir, Siti Hajar Mohd Yasin, & Md. Ershadul Karim, 2014).

The lack of understanding on protecting information privacy has open the opportunities to privacy intrusion. Identity theft, credit card fraud, unauthorized use of personal data and cybercrimes are among issues arise from the breach of information privacy (Barrett-Maitland et al., 2016). Federal Trade Commission of United States has recorded identity theft as the top consumer complaints (Garrison & Ncube, 2011). While Malaysia is ranked sixth in the Asia-Pacific region and 33 globally in terms of social media scams (Symantec, 2016). Individual, government sectors and private industries has losses a vast amount of money as well as reputation damage from these new types of criminal.

■ 2.2 The Risks Faced by Young Generation in Unprotected Information Privacy

The young generation who has been raised in an era of remarkable socio-economic, cultural and technological changes certainly different to older generations on their values, beliefs, attitudes and preferences (Maiers, 2017). This generation seeing material and money as a personal success and enjoy collaboration and innovation (Chau & Ngai, 2010). This is the reason they find that technology is conveniently support their lifestyle by actively uses social media, do online shopping and participating in online activities.

Gerry, Muraszkievicz & Vavoula (2016) explained all forms of digital technologies such as social networking, mobile telephone and vehicle safety systems are able for location tracking. Location tracking is one of the risks arises from digital advancement which basically individual including youngsters voluntarily disclose information on their location without fully aware that their data are being accessed and processed by third parties.

Marketers and advertisers are now targeting teenagers or youngsters from their active participating in social media network. It is about two thirds of internet sites designed for teens are supported primarily by advertising revenues (Neuborne, 2001). It could be harmed when marketers started to collect teen's personal information without permission (Phelps, Nowak, & Ferrell, 2000). These unauthorized uses of personal

information would risk the teenagers in several ways such as online stalking, cyber bullying, received inappropriate advertising or unwanted commercial emails (Feng & Xie, 2014).

Recent news and headlines show several information breaches among young generation. In 2016, the world's first Parental Intelligence System has experienced database lacking for about 6.8 million private text messages, 1.8 million images and 1,700 in-depth child profiles (Brewster, 2016). The information was accessible for at least 48 days before it been locked down by the service provider. Then, in 2017 German government banned the Internet-connected or smart toys named 'My Friend Cayla' doll (Mathews, 2017). This is due to the concerns over hackers that it could be used to spy on children. The privacy of children has been comprised and sadly it comes from a toy. Meanwhile, Google's YouTube has to pay \$170 million fine in 2019 because the site failing to obtain parental consent in collecting children's data under the age of 13 (Singer & Conger, 2019). According to Federal Trade Commission (FTC) the company has violated children's privacy law. It has abused the privacy of those children from the illegal data collection. From the cases, it shows how important to educate young generation in protecting themselves.

Educating young generation to privacy protection and internet safety may prevent many safety risks (Moreno, Kelleher, Ameenuddin, & Rastogi, 2014). This generation is known as 'digital natives' because the widespread of internet access is relatively a new phenomenon according to Moreno et al., (2014). Therefore, this generation need to be aware and alert of the consequences they may face from the privacy breach.

■ 2.3 Statistics in Malaysia

As reported by Malaysian Communications and Multimedia Commission (MCMC) in Internet User Survey 2018 the age group of 20 until 30 recorded as the highest in daily use of Internet. They spent for about eight hours per day to be online (Figure 1). The study indicates this young generation are among the active internet user. As the highest number of internet users, this age group is vulnerable to the multiple risks from the digital advancements. The top visited web sites in Malaysia are social networking sites and there were 9.3 million Malaysian aged 15 and above who accessed the internet from various locations and spending nearly 14 hours online in a month (comScore, 2009). Because of that, Malaysia are amongst the fast developed Asian countries from the context of networked community (Zakaria, Watson, & Edwards, 2010).

As an active internet user, younger generations in Malaysia are also active online shoppers. They are interested to buy from online seller through Facebook and Instagram since the sites are less formal, contained testimonials from other customers and more trusted (Mazzini Muda, Rohani Mohd, & Salwana Hassan, 2016). However, this activity may lead them to the security risk of unauthorized access to their online account, loss of money, abuse or disclosure of personal information (Thakur & Srivastava, 2015).

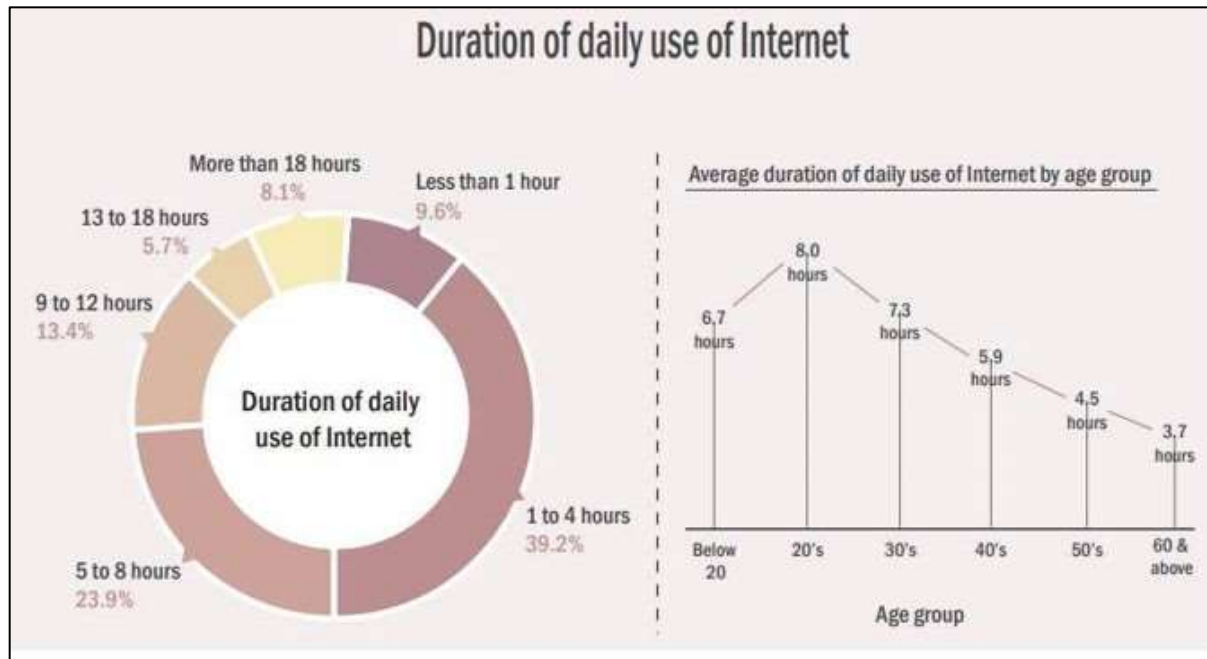


Figure 1 Average Duration of Daily Use of Internet
(Source: MCMC Internet User Survey 2018)

As reported by the United Nations' International Telecommunication Union (ITU), Malaysia is ranking the fourth-highest proportion of 'digital natives' in the world (Sipalan, 2013). It is counted about 3.9 million Malaysian or three quarters of the country's youths. Other than individual personal gadget, the youths also able to access the internet from school facilities as explained in the report. Although it is good on statistic, the excessive use of internet at the level of addiction may lead to depression, anxiety, interpersonal sensitivity and lack of physical energy (Mainul Haque, Nor Azlina A.Rahman, Md Anwarul Azim, & Seraj Zohurul, 2016). However, this study would only focus on the awareness of information privacy from any information abuse and misuse.

■ 3.0 RESEARCH METHODOLOGY

This study has used secondary data in fulfilling the objectives of the study as the existing data is available. Secondary data refers to the primary data collected by previous researcher for some other purpose and at different time in the past (Johnston, 2014). It is become practical today's for one study to use secondary data as it faster to access, save time and efforts as well as it provides a way to access the work of the best scholars all over the world. Utilizing the existing data for research is becoming more prevalent (Andrews, Higgins, Andrews, & J, 2012). A variety of secondary information related to this study are available and the study chose 'Internet User Survey 2018' to be the main source in providing data on the behavior of young generation towards online activities. It helps the study to understand more why this generation often involves in cases related to the used of internet.

Meanwhile, the several previous studies written by Feng & Xie, (2014); Mainul Haque et al., (2016); Thakur & Srivastava (2015) have assist the study by providing the data the risks from unhealthy and unprotective online activities among young generation. These studies have shown alarming issues involving them and how important to protect them from become worst. Several other studies help in digging the reasons of the misuse of teen's information, unauthorized data collection as well as data theft.

The study also used the statistics provided by Malaysian Communication and Multimedia Commissions (MCMC) as well as reported cases by Malaysian Police as a supporting data to the study. The data is the current data and reliable to be referred to.

Apart from that, in future, the study intended to collect its own primary data for supporting the existing secondary data. The primary data would help in serving the latest data for the study, suit the study objectives as well as it may possible to obtain additional data that would be used in the same study.

4.0 RESULT AND DISCUSSION

Data from previous studies reveals interesting findings on data privacy awareness among young generation. According to Mazzini Muda et al. (2016), large group of online shoppers from his study on *'Online Purchase Behaviour of Generation Y in Malaysia'* are among the newly employed. The finding is signifying with their age and level of income. The study also revealed that majority of the respondent from the study spent more than four hours daily browsing internet, indicating that they are heavy user of the Internet. The longer they spent on the Internet and online activities, the largest the risks of data privacy invasion would be.

The high dependence of telecommunication gadgets has been investigated from the study on *'The Use of Social Media Technologies Among Malaysian Youth'* by Yusop & Sumari (2013). The findings of the study showed that 100% of the respondents use internet, 97% use computer and 94% have telecommunication devices to check, send and receive emails (Figure 2). It illustrated the high dependency of information and telecommunication technology among youth in Malaysia.

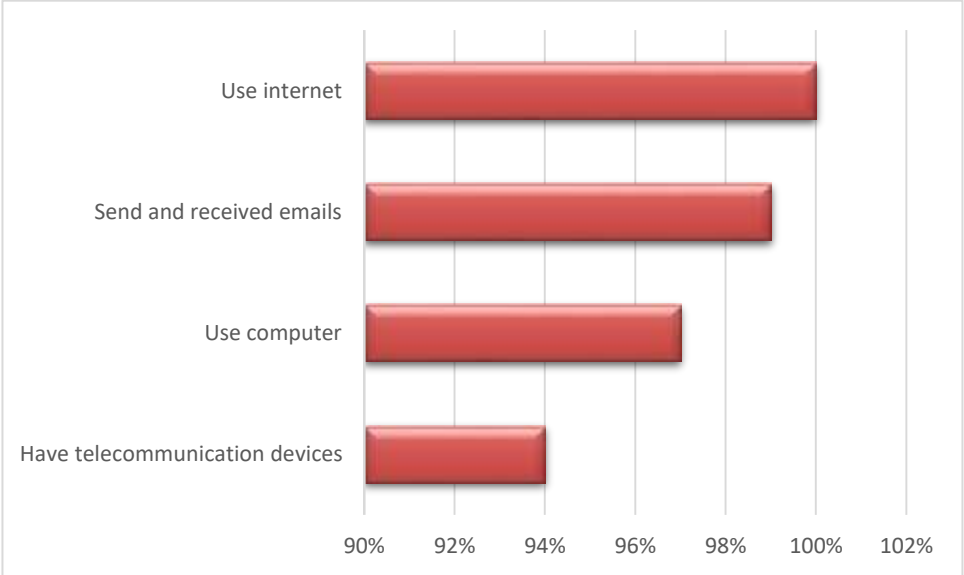


Figure 2: Access to telecommunication devices, computers and internet to send and receive emails (Yusop & Sumari, 2013)

According to the Yusop & Sumari (2013), the outcomes of the study revealed social media were mostly used for discussions on political issues, social sharing, click 'Like' to show preferences and supports towards comments and/or organizations and sharing both negative and positive comments.

Meanwhile, a study by Zakaria et al. (2010) on *'The Use of Web 2.0 Technology by Malaysian Students'* has revealed that commonly known Web 2.0 tools such as Wikipedia, Google, YouTube and blogs

have scored a fairly high rating among Malaysian students. The finding shows mostly student has use web for leisure reading and information browsing.

The highest involvement with 2.0 Web application is use the web to chat or instant messaging, followed by use social networking tools to socialize with friends and allowing others to access his profile from the web (Zakaria et al., 2010). This involvement shows how easily the information exchange from one hand to another in their daily activity.

In 2018 alone, 10,000 cases of cyberbullying attacks were recorded by CyberSecurity, Malaysia and young generation is the highest percentage of internet user in this country as reported by Internet User Survey 2018. CyberSecurity is a government agency which manage and respond to the cyber incidents in Malaysia. The highest number of cases may tell the public how internet users are lacks of capability to protect themselves while being online. According to Internet Governance Forum (IGF) ambassador, Aisyah Syakirah Suhaidi, Malaysian youth are frequently missing from important local and international discourse on Internet governance (Rafidi, 2019). It could lead to a result of lack understanding on how to make Internet safe to use, secure and reliable. She highlighted on the lack of awareness on the fundamental of Internet knowledge has increased the number of cases in Internet scams, online harassment, cross-site scripting and identity theft. This generation as well do not realize on the several issues from the Internet such as fake news, censorship, governance and online freedom. When they do not understand the fundamentals of the internet, the harasser easily targeted them as a victim. Deputy Superintendent of Police (DSP) Mahfuz bin Dato' Ab Majid reported 70% of the commercial crime cases now categorized as cybercrime and younger generation are the most vulnerable victims (Majid, 2013). He relates how the cyber threats can undermine any efforts to promote economic development and stability. The serious online threat can jeopardize years of any development effort.

The above studies show almost the same findings and outcomes on the current situation in Malaysia. Young generation in Malaysia today is too attached and high dependency of internet and social media in their routine of life. Unfortunately, it would open a wide range of cyber-attack and information privacy invasion if there is no prevention toward it. The important note is whether young generation aware of the risks and does they know how to protect their data privacy.

It is best to recommend the guidelines on how to protect personal and sensitive information while online to this young generation. The guideline could be a handbook in both forms of physical and virtual handbook. The distributions of the handbook should be starting from primary school, secondary school and higher education. This is to nurture the awareness as early as this generation started to use computer and internet. Besides, the information on how to protect data privacy should also advertised widely with a precise and concise content. CyberSecurity Malaysia should create joint-venture programs with other agencies, NGOs or corporate bodies to enhance the awareness program which has be started by them.

■ 5.0 CONCLUSION

In conclusion, this study noted that the issues related to information privacy among young generation in Malaysia are increasing year by year (Majid, 2013). The implications to this generation are unbearable. It could be seen to the higher number of cyberbullying attacks (Rafidi, 2019), ranked sixth in the Asia-Pacific region and 33 globally in terms of social media scams (Symantec, 2016) and information breach from the internet activities (Norshidah & Ili Hawa, 2012).

Information awareness is vital to the young generation in Malaysia. It is mainly due to the high dependence of digital technologies among those age groups in the most rapidly changing and growing technology. However, the blame should not to be on the youngsters alone but to all his social circle including parents, friends,

school and higher institutions as well as related authorities. Society and authorities have to play their roles in ensuring this generation from being trapped in the excessive disclosure of personal information.

It is a need to formulate comprehensive and practical awareness program or activities to ensure the message is delivered and young generation of Malaysia is enabling to the prevention. All parties from parents, schools, workplaces, mass media, corporate bodies as well as the related agencies should take part in promoting the best practices while securing personal information in digital access.

A proper oversight in the form of internet governance, a process where internet users, developers, network operators, online service providers, government and international organizations come together to resolve the issues regarding cyber threats (Rafidi, 2019). According to DSP Mahfuz, Malaysian police would implement information security practice in lowering the cyber threats as well as raising the awareness to the public (Majid, 2013).

It is a good start to train children to protect their identity in the digital world when they are young. Early training for children on properly managing their online activity will instill habits that will prove invaluable in their adulthood, reducing their risk of victimization early and later in life.

ACKNOWLEDGEMENT

All praise to Allah S.W.T for giving me the blessing and the strength to complete this paper. I would like to express my sincere gratitude to my supervisor Assoc. Prof. Datin Dr. Nooraini Othman for her time, guidance and encouragement throughout the process of completing this paper. I would also like to extend my deepest appreciation to my family, friends and faculty members for kind support and help.

REFERENCES

- Abdul Rahman Saad. (2005). *Personal Data & Privacy Protection*. LexisNexis.
- Abu Bakar Munir, Siti Hajar Mohd Yasin, & Md. Ershadul Karim. (2014). *Data Protection Law in Asia* (1st ed.). Hong Kong: Sweet & Maxwell Asia.
- Andrews, L., Higgins, A., Andrews, M., & J, L. (2012). Classic Grounded Theory to Analyse Secondary Data: Reality and Reflections. *The Grounded Theory Review*, 11(1), 12–26.
- Barrett-Maitland, N., Barclay, C., & Osei-Bryson, K. M. (2016). Security in Social Networking Services: A Value-Focused Thinking Exploration in Understanding Users' Privacy and Security Concerns. *Information Technology for Development*, 22(3), 464–486. <http://doi.org/10.1080/02681102.2016.1173002>
- Brewster, T. (2016). Child Tracker App “Leaks 6.8 Million Texts, 1.8 Million Photos” From Kids’ Phones. Retrieved November 1, 2019, from <https://www.forbes.com/sites/thomasbrewster/2016/02/22/kids-texts-and-photos-leaked-by-uknow/#73f05f37c3c3>
- Chau, V. S., & Ngai, L. W. L. C. (2010). The Youth Market for Internet Banking Services: Perceptions, Attitude and Behaviour. *Journal of Services Marketing*, 24(1), 42–60.
- comScore. (2009). Online Usage in Malaysia. Retrieved March 28, 2017, from www.comscore.com/%0APress_Events/Press_Releases/2009/8/Maybank_Leads_as_the_Most_Visited_Local_%0ASite_in_Malaysia
- Dalla Pozza, V., Limited Anna Di Pietro, M., Limited Sophie Morel, M., Limited Emma Psaila, M., & Limited, M. (2016). *Cyberbullying Among Young People Study*.
- Feng, Y., & Xie, W. (2014). Teens’ concern for privacy when using social networking sites: An analysis of socialization agents and relationships with privacy-protecting behaviors. *Computers in Human Behavior*, 33.
- Garner, B. A. (Ed.). (2004). *Black’s Law Dictionary* (8th ed.). West Group.
- Garrison, C. P., & Ncube, M. (2011). A Longitudinal Analysis of Data Breaches. *Information Management & Computer Security*, 19(4), 216–230.
- Gerry Qc, F., Muraszkievicz, J., & Vavoula, N. (2016). The role of technology in the fight against human trafficking: Reflections on privacy and data protection concerns. *Computer Law and Security Review*, 32(2).
- Glancy, D. J. (1979). The Invention of The Right to Privacy. *Arizona Law Review*, 21(1), 1–39.
- Jang-Jaccard, J., & Nepal, S. (2014). A survey of emerging threats in cybersecurity. *Journal of Computer and System Sciences*, 80(5), 973–993.
- Johnson, B. (2010). “Privacy no longer a social norm, says Facebook founder.” Retrieved November 22, 2016, from <https://www.theguardian.com/technology/2010/jan/11/facebook-privacy>
- Johnston, M. P. (2014). Secondary Data Analysis : A Method of which the Time Has Come. *Qualitative and Quantitative Methods in Libraries (QQML)*, 3, 619–626.
- Livingstone, S., & Brake, D. R. (2010). On the Rapid Rise of Social Networking Sites: New Findings and Policy Implications. *Children and Society*, 24(1), 75–83.
- Longfield, A. (2018). *Who Knows What About Me?*
- Maiers, M. (2017). Our future in the hands of Millennials. *Journal of the Canadian Chiropractic Association*, 61(3), 212–217.
- Mainul Haque, Nor Azlina A.Rahman, Md Anwarul Azim, & Seraj Zohurul. (2016). Internet Use and Addiction Among Medical Students of Universiti Sultan Zainal Abidin, Malaysia. *Psychology Research and Behavior Management*, 9.

- Majid, M. (2013). Cybercrime: Malaysia. *Royal Malaysia Police*. Malaysian Communication and Multimedia Commission. Retrieved from <http://www.skmm.gov.my/skmmgovmy/media/General/pdf/DSP-Mahfuz-Majid-Cybercrime-Malaysia.pdf>
- Mathews, L. (2017). The Latest Privacy Nightmare For Parents: Data Leaks From Smart Toys. Retrieved November 1, 2019, from <https://www.forbes.com/sites/leemathews/2017/02/28/cloudpets-data-leak-is-a-privacy-nightmare-for-parents-and-kids/#16fd4b9db0bf>
- Mazzini Muda, Rohani Mohd, & Salwana Hassan. (2016). Online Purchase Behavior of Generation Y in Malaysia. *Procedia Economics and Finance*, 37(July), 292–298.
- MCMC. (2015). *Internet Users Survey 2014*. Kuala Lumpur.
- Moreno, M. A., Kelleher, E., Ameenuddin, N., & Rastogi, S. (2014). Young adult females' views regarding online privacy protection at two time points. *Journal of Adolescent Health*, 55(3).
- Neuborne, E. (2001). For Kid on the Web, it's an ad, ad, ad, ad World. *Business Week*, 108–109.
- Noriswadi Ismail. (2013). *Understanding Personal Data Protection* (1st ed.). LexisNexis.
- Norshidah Mohamed, & Ili Hawa Ahmad. (2012). Information Privacy Concerns, Antecedents and Privacy Measure Use in Social Networking Sites: Evidence from Malaysia. *Computers in Human Behavior*, 28(6), 2366–2375.
- Paolo, D. A. (2018). 3 in 4 youngsters say they have been bullied online. Retrieved August 30, 2019, from <https://www.channelnewsasia.com/news/cnainsider/3-in-4-teens-singapore-cyberbullying-bullied-online-survey-10001480>
- Pascual, A., & Marchini, K. (2018). 2018 Child Identity Fraud Study, (April), 4–6.
- Phelps, J., Nowak, G., & Ferrell, E. (2000). Privacy Concerns and Consumer Willingness to Provide Personal Information. *Journal of Public Policy & Marketing*, 19(1), 27–41.
- Rafidi, R. (2019, June 26). Youth and Internet Governance. *The New Straits Time Online*. Kuala Lumpur. Retrieved from <https://www.nst.com.my/education/2019/06/499319/youth-and-internet-governance>
- Salaway, G., Caruso, J. B., & Nelson, M. R. (2008). *The ECAR Study of Undergraduate Students and Information Technology*. EDUCAUSE Center for Applied Research (Vol. 8).
- Shade, L. R., & Singh, R. (2016). “Honestly, We’re Not Spying on Kids”: School Surveillance of Young People’s Social Media. *Social Media and Society*, 2(4). <http://doi.org/10.1177/2056305116680005>
- Singer, N., & Conger, K. (2019). Google Is Fined \$170 Million for Violating Children’s Privacy on YouTube. Retrieved November 1, 2019, from <https://www.nytimes.com/2019/09/04/technology/google-youtube-fine-ftc.html>
- Sipalan, J. (2013, October 12). Report: Malaysian Youths Fourth Most Active Internet Users. *The Malay Mail Online*. Retrieved from <http://www.themalaymailonline.com/malaysia/article/report-malaysian-youths-fourth-most-active-internet-users-globally>
- Steeves, V., & Regan, P. (2014). Young People Online and the Social Value of Privacy. *Journal of Information, Communication and Ethics in Society*, 12, 298–313.
- Symantec. (2016). Cybersecurity Threats: The Risk Is Real In Malaysia. Retrieved November 30, 2016, from <http://www.malaysiandigest.com/technology/605954-cybersecurity-threats-the-risk-is-real-in-malaysia.html>
- Thakur, R., & Srivastava, M. (2015). A study on the impact of consumer risk perception and innovativeness on online shopping in India. *International Journal of Retail & Distribution Management*, 43(2), 148–166.
- Warren, S., & Brandeis, L. (1890). “The Right to Privacy.” *Harvard Law Review*, IV(5).
- Yusop, F. D., & Sumari, M. (2013). The Use of Social Media Technologies Among Malaysian Youth. *Procedia - Social and Behavioral Sciences*, 103, 1204–1209.
- Zakaria, M. H., Watson, J., & Edwards, S. L. (2010). Investigating the use of Web 2.0 technology by Malaysian students. *Multicultural Education & Technology Journal*, 4(1), 17–29.