

Why do social media users share private images: Ignorance or Social Reward

Joseph Sebastian
Washington State University
Joseph.sebastian@wsu.edu¹

Robert E. Crossler
Washington State University
Rob.crossler@wsu.edu

Abstract

As more and more users sign up on social media for networking, communication, sharing their opinions among other purposes, care needs to be taken in order to keep private information private due to their widespread use. The research looks at whether the users of social networking platform are ignorant of the issues involved in sharing images, or whether they choose to overlook in hope of a bigger reward. This is one of the first study to look at why people share private images on social media, and look at the factors that make them share images even with threats that exists in the current day scenario.

Keywords

Social media, image sharing, picture sharing, privacy

Introduction

Information privacy has been defined in the literature as one's ability to control and influence their information (Bélanger and Crossler 2011). It is a big concern with the widespread use of social networking (Rainie 2018). With picture sharing in social media, the concern is even more significant because images have the potential to give away more information than intended. As the English language-idiom goes, "A picture is worth a thousand words," images can be considered richer than plain text based on media richness theory (Daft and Lengel 1986). Its use requires less effort to recognize and process information than text (Dewan 2015) in an age where there are algorithms that can make the processing speeds higher even with deterministic techniques (e.g. Sebastian and Sharma 2012). In an age, where the addition of resources can decrease the probabilistic service wait times (e.g. Roy et al. 2013), it becomes a lot easier to find out more details behind an image. Misuse of private photos shared by its owners could have a lasting impact as information added to the World Wide Web stays there forever. Perpetrators leak these private images to the public, without the consent of the rightful owner (Newton 2018). Morphing of faces on adult websites for material gains or for seeking revenge (Today 2015), creating fake news or fake social media profiles of the user resulting in identity theft (Lenton 2018), and online stalking (Cambridge 2018) are just some of the rampant problems with sharing private images online. Bearing these issues in mind, users should think of the potential ill-effects keeping the context of the image in mind and share it only if it feels safe to do. Even though the risk perceptions of the heavy users in social media has increased as a whole since 2010 (Tsay-Vogel et al. 2018), there are users who still share their private images online without much thought. Some of these users may be ignorant of the issues involved in sharing private images, while some may be aware of it but still choose to overlook these concerns due to the benefits received through sharing.

Theoretical Model and Hypothesis development

We look at the following research question: What factors encourage an individual using a social networking platform, to share private and personal images, and what would it take for them to discontinue their behavior after knowing the potential risks associated with it?

Past IS studies have explored behavioral intention drawing on the Theory of Reasoned Action (TRA) (Ajzen and Fishbein 1980) and the Theory of Planned Behavior (TPB) (Ajzen 1985). Our investigation follows the

¹ We would like to thank Anne Mary Joy, for her valuable ideas, expertise and contributions towards the development of this research paper.

direction that specifies the model that focusses on the components of TRA and TPB – behavioral intentions and beliefs, which have been supported by other MIS scholars such as Dinev and Hart (2006). Specifically, we look at the beliefs that influence the behavioral intention to share personal images on a social networking platform. We believe that our study is an attempt to have a better understanding of how an individual decides to disclose private data in the form of images. We build the model based on the extended privacy calculus model (Dinev and Hart 2006), with additional concepts from Uses and Gratification theory (UGT) and Protection Motivation theory (PMT) (Rogers 1975).

UGT takes an approach to understand why individuals take a certain approach on social media to satisfy specific needs (Severin and Tankard 2001). They use the platform for their hedonic, social, and utilitarian gratification. UGT has been applied by earlier scholars to understand why individuals use a particular type of medium and the gratifications they receive from them (Ruggiero 2000). Liking and sharing on a social network can lead to an increase in the effects of popular cohesion and message diffusion and is another form of user gratification on social media.

PMT helps identify the influences that lead an individual to make an appropriate response to ensure their safety and well-being. PMT has also been used to explain individual choices between continuing to engage in the activity or refraining from pursuing the activity any further to protect oneself (Maddux 1993). Research done in this field shows that while some individuals decide to protect themselves, others simply continue committing risky behaviors. PMT has been used by researchers to investigate online safety and security-related behaviors (e.g. Anderson and Agarwal 2010), but it has not been used extensively to explain an individual's risky use of the internet and Information technology, that explains his/her response to the threats due to technology.

When individuals are threatened, they engage in a threat appraisal, whereby they look at how the risk could potentially affect their safety (McClendon and Prentice-Dunn 2001). The individuals weigh the perceptions of the threat against the rewards, both intrinsic and extrinsic, that they could get as part of their risky behavior. Intrinsic rewards deal with the mental satisfaction and psychological pleasure that they get as part of the behavior, while extrinsic rewards are the approvals and reputation that they stand to gain as part of their behavior (McClendon and Prentice-Dunn 2001). Individuals tend to disclose information if benefits seem at least equal to or greater than the perceived risks, i.e., if the rewards outweigh or balance the risks associated with their behavior, they might go ahead with their risky online actions (Culnan and Bies 2003). Research has also looked at how individuals with high privacy concerns, willingly share information (Davazdahemami et al. 2018).

Studies based on TRA that examines the effect of trust has found that it is a significant component that leads to behavioral intention (Gefen et al. 2003). Drawing on the extended privacy calculus model, trust may be defined as competence, reliability and safety beliefs that reflect the confidence that the personal information submitted to the website won't be used opportunistically (Dinev and Hart 2006) in an unsafe manner. This belief leads users to willingly provide his/her email addresses and other private data to gain access to the platform and make the most use of it. Previous literature has used 'willingness to share' as a dependent variable to study the intention of sharing information (Amiri et al. 2018; Dinev and Hart 2006; Nikkhah and Sabherwal 2017). In a nutshell, a lower level of perceived risk, anxiety and uncertainty leads to a higher level of trust in the competence, reliability and safety beliefs of the platform encouraging users to start using the platform and sharing pictures. Research has shown that belief in integrity has had a positive influence on the intention to share knowledge in travel-related online social networks (Bilgihan et al. 2016). This sense of trust increases user participation and contribution. Similarly, when a user doesn't trust the platform, he/she will not be inclined to share information on the platform.

H1: A higher level of perceived risk of the social networking platform is related to a lower level of willingness to provide images deemed personal to transact on the platform

H2: A higher level of perceived risk of the social networking platform is related to a higher level of privacy concern of the platform

H3: A higher level of platform privacy concern is related to a lower level of willingness to provide personal images deemed personal to transact on the platform

H4: A higher level of trust on the platform is related to a higher level of willingness to share images to transact on the social networking platform.

H5: A lower level of perceived risk of the social networking platform is related to a higher level of trust on the social networking platform.

Perceived benefits have a positive impact on information disclosure intention (Dinev and Hart 2006). When users share their information on a social networking website, they get a sense of enjoyment (Krasnova et al. 2010). Perceived enjoyment has captured the intrinsic motivation factor in the technology acceptance models (TAM) (Dinev and Hart 2006; Venkatesh 1999), and is the degree to which the users' sense of enjoyment and pleasure increases (Han and Windsor 2011) to make the hedonic IS use of social networking platforms (e.g. Sharma and Crossler 2014). Personal interest is another kind of intrinsic motivation that can motivate the individual to share pictures. Social media can generate a consistent supply of extrinsic rewards for the user in the form of reputation enhancements and social connection suggestions (Meshi et al. 2015). This may lead the users to continue seeking rewards- both intrinsic and extrinsic, through sharing pictures.

H6: A higher level of perceived enjoyment is related to a higher level of willingness to share images deemed personal to transact on the social networking platform.

Drawing from UGT, cool and new trend explains why individuals choose a certain platform. There is a fear of missing out due to which people try to go with the flow (Smock et al. 2011), blindly at times just to be considered cool and in sync with their peers.

H7: Cool and new trend will positively influence the user to share images on the social networking platform.

Some users share pictures to gain rewards that could be extrinsic as well as intrinsic. They share it with others, who may or may not have been present when the pictures were captured, for both personal and interpersonal benefits (Zauberman et al. 2017). If the rewards they perceive, outweigh the risks, they tend to behave in a maladaptive manner. The status, reputation and the general approval that they think they might receive once they share the pictures make them share it. These factors are consistent with the study's intention to better understand the factors that influence an individual to share images on the social networking platform.

H8: Intrinsic rewards will be positively associated with the willingness to share images on the social networking platform.

H9: Extrinsic rewards will be positively associated with the willingness to share images on the social networking platform.

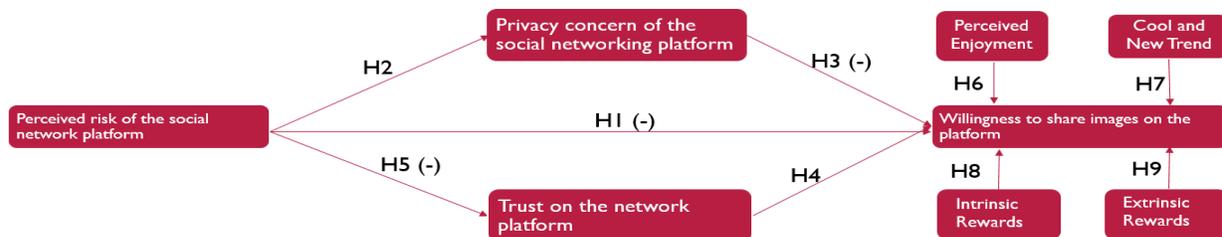


Figure 1. Research Model

Research Methodology

The research model will be tested on data collected using a survey administered to a group of students of a large public university in the Pacific Northwest of the United States. It is appropriate and generalizable to conduct this study with students as subjects, since youngsters, primarily those below thirty years of age, use social media as a main source for entertainment and news, with a major chunk of the college students reportedly using image sharing platforms such as Instagram, Snapchat, and other similar picture sharing platforms (Harvard 2015). Users of image sharing platforms will help us understand the user behaviors. Participants will use the Internet to take the survey online, where they will answer questions about the study. Student responses have been used previously in surveys conducted by researchers (e.g. Sharma and Crossler 2014).

Even though the scales have been pre-validated in other studies, we will utilize experts in the field to ensure they fit the context of our research. The survey will not collect any sensitive information from the respondents. We will use scales for privacy concerns, social networking platform trust, willingness to provide personal information items by adapting previous scales for the context from Dinev and Hart (2006). Scales for perceived risks will be adapted from Dinev and Hart (2004). The intrinsic and extrinsic rewards will be adapted from Maret et al. (2011), where they have used the seven-item scale for intrinsic rewards (Deci 1987) and a three-item scale for extrinsic rewards (Constant et al. 1994). The scales for 'perceived enjoyment' and 'cool and new trend' will be adapted from the scales used in the study by Sharma and Crossler (2014). The scales from Dinev and Hart (2006) will be modified to the context of the social networking platform for the study.

Conclusion

The study will examine the factors that influence the intentions of the users who share private images on a social networking platform. We measure the willingness to share, a behavioral intention, as part of this study. The limitation of this study is that we wouldn't be able to capture the actual sharing of images online, which is the actual behavior of the participants of this study. It will contribute to the literature in several ways. The study is one of the first of its kind to explore why people share images on social media. Prior studies have analyzed other aspects of social media, but there has not been a detailed study on the intentions behind image sharing. The second contribution of this study is the integration of extended privacy calculus model, Uses and Gratification Theory, Protection Motivation Theory, and Media Richness Theory to develop the proposed research model. Further, this study looks at how individuals perceive social media and use it to share personal information, even with the knowledge of the threats in the current age.

References

- Ajzen, I. "From Intentions to Actions: A Theory of Planned Behavior," in: *Action Control*, Springer, 1985, pp. 11-39.
- Ajzen, I., and Fishbein, M. *Understanding Attitudes and Predicting Social Behavior*, 1980.
- Amiri, I., Wang, L., Levy, Y., and Hur, I. "An Empirical Study on the Factors Contributing to Disclosing Personal Information Online: Insecurity in the Digital Age," *Americas Conference on Information Systems* (24) 2018.
- Anderson, C. L., and Agarwal, R. "Practicing Safe Computing: A Multimedia Empirical Examination of Home Computer User Security Behavioral Intentions," *MIS Quarterly* (34:3) 2010, pp. 613-643.
- Bélanger, F., and Crossler, R. E. "Privacy in the Digital Age: A Review of Information Privacy Research in Information Systems," *MIS Quarterly* (35:4) 2011, pp. 1017-1042.
- Bilgihan, A., Barreda, A., Okumus, F., and Nusair, K. "Consumer Perception of Knowledge-Sharing in Travel-Related Online Social Networks," *Tourism Management* (52) 2016, pp. 287-296.
- Cambridge, E. 2018. "Stranger Danger Why You Shouldn't Post Back-to-School Photos on Social Media." from <https://www.thesun.co.uk/news/7179819/reason-parents-shouldnt-post-first-day-school-photo-social-media/>.
- Constant, D., Kiesler, S., and Sproull, L. "What's Mine Is Ours, or Is It? A Study of Attitudes About Information Sharing," *Information Systems Research* (5:4) 1994, pp. 400-421.
- Culnan, M. J., and Bies, R. J. "Consumer Privacy: Balancing Economic and Justice Considerations," *Journal of Social Issues* (59:2) 2003, pp. 323-342.
- Daft, R. L., and Lengel, R. H. "Organizational Information Requirements, Media Richness and Structural Design," *Management Science* (32:5) 1986, pp. 554-571.
- Davazdahemami, B., Hammer, B., Luse, A., and Kalgotra, P. "The Role of Parallelism in Resolving the Privacy Paradox of Information Disclosure in Social Networks," *International Conference on Information Systems* (39) 2018.
- Deci, E. L. "Theories and Paradigms, Constructs and Operations: Intrinsic Motivation Research Is Already Exciting," *Journal of Social Behavior and Personality* (2:2) 1987, p 177.
- Dewan, P. "Words Versus Pictures: Leveraging the Research on Visual Communication," *Partnership: The Canadian Journal of Library and Information Practice and Research* (10:1) 2015.
- Dinev, T., and Hart, P. "Internet Privacy Concerns and Their Antecedents-Measurement Validity and a Regression Model," *Behaviour & Information Technology* (23:6) 2004, pp. 413-422.
- Dinev, T., and Hart, P. "An Extended Privacy Calculus Model for E-Commerce Transactions," *Information Systems Research* (17:1) 2006, pp. 61-80.

- Gefen, D., Karahanna, E., and Straub, D. W. "Trust and Tam in Online Shopping: An Integrated Model," *MIS Quarterly* (27:1) 2003, pp. 51-90.
- Han, B., and Windsor, J. "User's Willingness to Pay on Social Network Sites," *Journal of Computer Information Systems* (51:4) 2011, pp. 31-40.
- Harvard, I. 2015. "How Millennials Use Social Media." from <https://iop.harvard.edu/iop-now/how-millennials-use-social-media>.
- Krasnova, H., Spiekermann, S., Koroleva, K., and Hildebrand, T. "Online Social Networks: Why We Disclose," *Journal of Information Technology* (25:2) 2010, pp. 109-125.
- Lenton, A. 2018. "Woman Finds Stranger Copying Her Entire Life on Instagram." from <https://nypost.com/2018/11/20/woman-finds-stranger-copying-her-entire-life-on-instagram/>.
- Maddux, J. E. "Social Cognitive Models of Health and Exercise Behavior: An Introduction and Review of Conceptual Issues," *Journal of Applied Sport Psychology* (5:2) 1993, pp. 116-140.
- Marett, K., McNab, A. L., and Harris, R. B. "Social Networking Websites and Posting Personal Information: An Evaluation of Protection Motivation Theory," *AIS Transactions on Human-Computer Interaction* (3:3) 2011, pp. 170-188.
- McClendon, B. T., and Prentice-Dunn, S. "Reducing Skin Cancer Risk: An Intervention Based on Protection Motivation Theory," *Journal of Health Psychology* (6:3) 2001, pp. 321-328.
- Meshi, D., Tamir, D. I., and Heekeren, H. R. "The Emerging Neuroscience of Social Media," *Trends in Cognitive Sciences* (19:12) 2015, pp. 771-782.
- Newton, C. 2018. "Facebook's Morale Problem Is Getting Worse." from <https://www.theverge.com/2018/12/6/18128267/facebook-morale-uk-parliament-emails-privacy-competition>.
- Nikkhah, H. R., and Sabherwal, R. "A Privacy-Security Model of Mobile Cloud Computing Applications," *ICIS 2017 Proceedings* (17) 2017.
- Rainie, L. 2018. "Americans' Complicated Feelings About Social Media in an Era of Privacy Concerns." from <http://www.pewresearch.org/fact-tank/2018/03/27/americans-complicated-feelings-about-social-media-in-an-era-of-privacy-concerns/>.
- Rogers, R. W. "A Protection Motivation Theory of Fear Appeals and Attitude Change1," *The Journal of Psychology* (91:1) 1975, pp. 93-114.
- Roy, D., Sebastian, J., and Sharma, D. "Fleet Sizing for Transporters with Seasonal Demands," *International Journal of Automation and Logistics* (1:1) 2013, pp. 105-115.
- Ruggiero, T. E. "Uses and Gratifications Theory in the 21st Century," *Mass Communication & Society* (3:1) 2000, pp. 3-37.
- Sebastian, J., and Sharma, G. "The Pure Zigzag Model for Routing in a Noc," 2012 International Conference on Computing, Electronics and Electrical Technologies (ICCEET), IEEE, 2012, pp. 922-926.
- Severin, W. J., and Tankard, J. W. *Communication Theories: Origins, Methods, and Uses in the Mass Media* Pearson College Division, 2001.
- Sharma, S., and Crossler, R. E. "Intention to Engage in Social Commerce: Uses and Gratifications Approach," *AMCIS Proceedings* (20) 2014.
- Smock, A. D., Ellison, N. B., Lampe, C., and Wohn, D. Y. "Facebook as a Toolkit: A Uses and Gratification Approach to Unbundling Feature Use," *Computers in Human Behavior* (27:6) 2011, pp. 2322-2329.
- Today, I. 2015. "Misuse of Social Media with Photos of Children Comes to Light." from <https://www.indiatoday.in/india/video/misuse-facebook-photos-children-comes-light-429240-2015-04-22>.
- Tsay-Vogel, M., Shanahan, J., and Signorielli, N. "Social Media Cultivating Perceptions of Privacy: A 5-Year Analysis of Privacy Attitudes and Self-Disclosure Behaviors among Facebook Users," *New Media & Society* (20:1) 2018, pp. 141-161.
- Venkatesh, V. "Creation of Favorable User Perceptions: Exploring the Role of Intrinsic Motivation," *MIS Quarterly* (23:2) 1999, pp. 239-260.
- Zauberman, G., Diehl, K., and Barasch, A. "How the Intention to Share Can Undermine Enjoyment: Photo-Taking Goals and Evaluation of Experiences," *Journal of Consumer Research* (44:6) 2017, pp. 1220-1237.