

I Will Use This, Because I Just Want to: Social Media Users' Groundless Reliance on Social Media Companies

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Abstract -This study addresses the relationships between the personal data revelation by users on social media sites and recognition of personal data handling by social media and other companies. In order to accomplish the purposes of the study, a questionnaire survey and follow-up interviews were conducted. The survey results showed that respondents engage in social media without recognising that companies use their personal data. These findings suggest that social media users rely on social media companies for personal data handling without any reasonable and solid ground, rather than managing it themselves.

Keywords: Social media, Personal data, Privacy, Business model.

1. Introduction

In recent years social media has become widely used around the world. Anywhere, and at any time, social media users can post in various forms of expression, including text, audio, images, and moving images, using mobile devices. As in other industrialised countries, many people in Japan use social media, and LINE, Twitter, and Facebook are popular amongst the younger generations. However, it is well known that social media companies collect and store as much personal data as possible, which they utilise and share for various business purposes. Personal data, including user names, e-mail addresses, phone numbers, dates of birth, genders, and affiliations, are often required for social media user registration. Social media users appear to voluntarily provide personally identifiable information to the companies. Data analysis is conducted on site visitation trends and usage, with collection of user relationships and online activity, including search keywords, posts, names/handles of their friends/followers, photos with name tags, and communication metadata. Social media sites are designed to encourage active communication between users, prompting disclosure of personal data at every opportunity, as these data are crucial for the profitability of social media companies.

Personal data obtained from a social media site are utilised by the operating company for execution of their business models. For example, social media companies sell advertising placements on their sites and/or provide advertising platform services to their customer organisations. Social media advertisements are then personalised based on user preferences or behavioural patterns online. Profiling data is derived from analysis of user personal data stored in the social media company databases. Social media companies may also sell users' personal data to other organisations. These data are usually anonymised and/or aggregated to avoid prosecution for violation of personal data protection laws. Buyers then use these data to analyse their (potential) customers' preferences, real opinions, and consumption propensities, and the results of the analysis may be sold to third-party businesses. Various kinds of personal data (provided by social media users and collected, stored, processed, and distributed by social media

companies) are now considered a crucial component of 'big data' analysis and a precious resource for streamlining the business operations of many companies.

On the other hand, typical social media users seem unaware of how the personal data they post online are utilised by social media companies and other organisations, although it has been repeatedly alleged that societal awareness of privacy and personal data protection has been enhanced in Japan (Quality of Life Council, 1986; Public Relations Department of Cabinet Office, 2006; ECOM, 2008; JIPDEC, 2012). Orito et al. (2013) and Murata et al. (2014) investigated privacy awareness of Japanese online shoppers and found that concerns about privacy invasion and personal data misuse were centred on financial and/or physical damage caused by, for example, misuse of credit card data. Therefore, how do the users of "free" online services (such as social media) recognise the privacy issues related to utilisation? Even for users who are cautious regarding personal data handling by organisations, it is not clear whether there is recognition of the full extent of use and circulation of personal data provided to social media sites. However, it is plausible that knowledge of personal data handling by social media companies could influence user disclosure of their and others' personal data. As far as we are aware, no research has examined social media users' understanding of how social media companies and other organisations use the personal data collected.

This study investigated the attitudes of Japanese social media users with regard to their personal data provision on social media sites. A questionnaire survey was administered and follow-up interviews were conducted in November and December 2013, respectively. We also discuss the social responsibility of social media companies in terms of personal data handling.

2. The Overview of the Survey

The survey was conducted in November 2013 using an online survey site. The respondents were university students from the School of Commerce at Meiji University in Tokyo and at the Faculty of Law and Letters at Ehime University in Matsuyama. A total of 368 valid respondents (110 at Meiji University, 258 at Ehime University) were included in the study, and there was no significant difference between the two sample groups. Respondent attributes and their social media usage are shown in Table 1.

Table 1. Respondent attributes and social media usage.

Age	(The number of respondents (%))					
	18	19	20	21	22	23+
	83 (22.6)	141 (38.3)	38 (10.3)	55 (14.9)	29 (7.9)	22 (6.0)
Gender	Male 209 (56.8)		Female 158 (42.9)		I don't want to answer 1 (0.3)	
Q1. How often do you use social media?	Always connected with social media and frequently check postings by others					111 (30.3)
	More than 3 times per day					158 (43.2)
	Once per day					46 (12.6)
	3 times per week					9 (2.5)
	Once per week					8 (2.2)
	I seldom use social media					24 (6.6)
	I don't use social media at all					10 (2.7)
Q1-2. What kind of devices do you use to access social media? (multiple answers allowed)	Desktop PC 35 (10.8)	Laptop PC 138 (42.6)	Tablet PC 9 (2.8)	Smart Phone 294 (90.7)	Feature Phone 13 (4.0)	
Q2. Which social media do you usually use? (multiple answers allowed)	Facebook	161 (49.7)	Google+		36 (11.1)	
	Twitter	239 (73.8)	LinkedIn		3 (0.9)	
	LINE	304 (93.8)	Others		13 (4.0)	
	mixi	6 (1.9)	I don't use any social media		4 (1.2)	
Q5. What is your purpose for using social media? (multiple answers allowed)	Post articles, photos, and videos					154 (50.8)
	View articles, photos, and videos posted by other users, click "Like", comment, and repost					193 (63.7)
	View articles, photos, and videos posted by other users without clicking "Like", commenting or reposting					86 (28.4)
	Others					10 (3.3)

Respondents who used social media less than three times per week (Q1) and those who did not use social media at all (Q2) were excluded from the analysis. The questionnaire response trends and relationships between questions were examined through statistical tests including Pearson's chi-squared test and Fisher's exact test. After the online survey, 14 respondents at Meiji University were interviewed in December 2013.

3. Survey Results

3. 1. Recognition of Privacy Protection and Privacy Policies

Whereas greater than 90% of respondents (284/299) recognised the importance of privacy protection during the use of social media, the majority of respondents (152/299) were unaware of the right to privacy, and almost half of the respondents (134/285) could not describe why protection of the right to privacy was important. In addition, more than 70% of respondents who used Facebook and Twitter had not read the terms of service and/or privacy policy of the social site used (138/195 and 174/235, respectively). These findings are similar to the results of previous studies on young Japanese online shoppers' attitudes towards online privacy (Orito et al., 2013; Murata et al., 2014). Many of the respondents did not regard the terms of service and privacy policies of social media as a good source of information on privacy protection. Even respondents who had read the terms of service and/or privacy policies might not read them with caution. In fact, several interviewees stated that they had read only part of the terms or policies concerning the charging of information and the cancellation or termination of their membership.

3. 2. Personal Data Protection Behaviour on Social Media Sites

Whereas many respondents de-emphasised the importance of terms of service and privacy policies, the majority of respondents seemed to take care in disclosure of their personal data on social media sites. The survey revealed that 56.7% (165/291) of respondents published their true names, but more than 80% (135/165) of respondents refrained from revealing personal data unnecessarily on social media sites. On the other hand, 36.4% (106/291) of respondents used handles (pseudonyms) and tried to control disclosure of their personal data. In addition, more than 60% (177/288) of respondents had changed their privacy settings to limit accessibility to the personal data and/or articles they posted on social media sites, and more than 70% of respondents did not post location data with tags of their and/or others' names (183/230 and 164/228, respectively).

The majority of respondents considered personal data protection when they used social media sites even though they tended not to read the terms of service or privacy policies. For example, the results of the tests of independence between the responses to Q9 and Q10 (Table 2) and between those to Q9 and Q11 (Table 3) statistically confirmed that, for both Facebook and Twitter users, the frequency distribution of responses to Q10 and Q11 was not affected by those to Q9 (chi-squared (4) = 4.792, $p > 0.1$ in the relationship between the responses to Q9-1 and Q10; chi-squared (4) = 5.339, $p > 0.1$ in the relationship between the responses to Q9-2 and Q10; chi-squared (3) = 6.481, $p > 0.05$, in the relationship between the responses to Q9-1 and Q11; chi-squared (3) = 5.691, $p > 0.1$, and in the relationship between the responses to Q9-2 and Q11).

3. 3. Awareness of the Secondary/Tertiary Usage of Personal Data

While a significant number of respondents were cautious with regard to personal data protection on social media sites, this does not signify full understanding of the use of their data by social media companies. While 33.0% (99/282) of respondents presumed that the personal data from posted information would be processed for secondary/tertiary use by social media companies and other organisations, 95.7% of respondents (266/278) presumed that the information they themselves had posted on social media sites had not been put into secondary/tertiary use.

Table 2. Respondent attitudes towards the terms of service/privacy policy (Q9) and personal data disclosure and user name (Q10).

Q10. How do you usually register and/or disclose your personal data such as your name, current and previous schools, and interests on social media sites?	Q9. Have you ever read the terms of service and/or privacy policy for Facebook or Twitter that explains how the social media company uses personal data provided by individual users?					
	9-1. Facebook			9-2. Twitter		
	1. I've read	2. I've not read	Total	1. I've read	2. I've not read	Total
1. I use my true name and honestly disclose my personal data as much as possible	11	18	29	6	18	24
2. I use my true name, but disclose as little personal data as possible	23	78	101	18	76	94
3. I use a handle and disclose as little personal data as possible	8	16	24	19	34	53
4. I use a handle and disclose my personal data in the way that only my close friends understand	8	15	23	13	32	45
5. I adopt different ways of registering and disclosing my personal data on different social media sites	7	10	17	4	14	18
Total	57	137	194	60	174	234

Table 3. Respondent attitudes towards the terms of service/privacy policy (Q9) and privacy settings (Q11).

Q11. Have you modified your privacy settings on social media sites to limit accessibility to your personal data and/or articles you post on social media?	Q9. Have you ever read the terms of service and/or privacy policy for Facebook or Twitter explaining how the social media company uses personal data provided by individual users?					
	9-1. Facebook			9-2. Twitter		
	1. I've read	2. I've not read	Total	1. I've read	2. I've not read	Total
1. Only users approved by me (e.g., Facebook friends) can access my personal data disclosed on social media sites	42	79	121	39	95	134
2. Only I can access my personal data disclosed on social media sites	1	4	5	3	4	7
3. I don't know that it's possible for me to change my privacy settings on social media sites	2	6	8	2	13	15
4. I know I can change my privacy settings on social media sites, but I use them in the default privacy settings	9	46	55	13	61	74
Total	54	135	189	57	173	230

Table 4 is the cross tabulation between Q9-1 (Facebook) /Q9-2 (Twitter) and Q16, which asked respondents their assumptions about secondary/tertiary utilisation of personal data by social media companies and other organisations. As shown in that table, approximately one third of respondents assumed secondary/tertiary use of personal data by social media companies (31.7% of Facebook users and 31.3% of Twitter users). However, there was no significant difference in the tendency to read the social sites terms of service or privacy policies between respondents who did/didn't assume their personal

data were put into secondarily/tertiary use (Q9-1. Facebook: chi-squared (1) = 0.037, $p > 0.1$; Q9-2. Twitter: chi-squared (1) = 2.544, $p > 0.1$). That is, respondent recognition of social media company usage of their personal data did not influence their behaviour toward reading the terms of service and/or privacy policies.

Table 4. Respondent attitudes towards the terms of service/privacy policy (Q9) and recognition of the secondary/tertiary use of personal data (Q16).

Q16. When you post information (articles, photos, videos, etc.) on social media sites, do you suppose that your personal data will be put into secondary/tertiary use by the social media company or other companies?	Q9. Have you ever read the Facebook/Twitter terms of service and/or privacy policy detailing how the social media company uses personal data provided by individual users?					
	Q9-1. Facebook			Q9-2. Twitter		
	1. I've read	2. I've not read	Total	1. I've read	2. I've not read	Total
Yes	18	41	59	23	48	71
No	37	90	127	35	121	156
Total	55	131	186	58	169	227

Similar outcomes were also observed in the statistical analysis of the cross tabulation between Q9 and other related questions. The results further support the finding that respondent expectations and knowledge about secondary/tertiary use of self-disclosed personal data on social media sites did not significantly influence whether they read the terms of service and/or privacy policies on social media sites.

The following tables describe the relationships between recognition of corporate secondary/tertiary use of personal data and behavioural dimensions of social media usage. Table 5 shows the influence of respondent recognition of secondary/tertiary use of self-disclosed personal data. Chi-squared analysis revealed that recognition of secondary/tertiary use of personal data did not significantly influence disclosure of personal data (chi-squared (4) = 3.268, $p > 0.1$). In Table 6, the relationship between respondent recognition of secondary/tertiary use and their privacy settings is described. There was no statistically significant relationship between the two variables (chi-squared (3) = 6.245, $p > 0.1$). Respondent recognition of secondary/tertiary use of personal data did not influence users to modify the privacy settings to control their personal data disclosure.

There was also no statistically significant relationship between respondents' recognition of social media-posted personal data utilisation by the social media companies (Q22: How do you think social media companies use your posts (articles, photos, videos, etc.) on the social media sites?), attitude towards personal data disclosure (chi-squared (4) = 2.942, $p > 0.1$), and modification of privacy settings (chi-squared (1) = 2.773, $p > 0.1$).

If social media users assume that companies will utilise their personal data for profit, it is plausible that they would adopt a cautious attitude towards posting personal data, or would be motivated to modify their privacy settings. However, the survey results revealed that recognition of social media company personal data handling had no influence on the attitudes of respondents towards personal data disclosure and privacy settings.

Table. 5. Respondent attitudes towards personal data disclosure (Q10) and recognition of the secondary/tertiary use of personal data (Q16).

Q10. How do you usually register and/or disclose your personal data such as your name, current and previous schools, and interests on social media sites?	Q16. When you post information (articles, photos, videos, etc.) on social media sites, do you suppose that your personal data will be put into secondary/tertiary use by the social media company or other companies?		Total
	1. Yes	2. No	
1. I use my true name and honestly disclose my personal data as much as possible	10	18	28
2. I use my true name, but disclose as little personal data as possible	45	86	131
3. I use a handle and disclose as little personal data as possible	19	39	58
4. I use a handle and disclose my personal data in a way that only my close friends understand	16	29	45
5. I adopt different ways of registering and/ disclosing my personal data on different social media sites	3	17	20
Total	93	189	282

Table. 6. Respondent attitudes on modification of privacy settings (Q11) and recognition of the secondary/tertiary use of personal data (Q16).

Q11. Have you modified your privacy settings on social media sites to control the extent of the disclosure of your personal data and/or articles you post on social media?	Q16. When you post information (articles, photos, videos, etc.) on social media, do you suppose that your personal data will be put into secondary/tertiary use by the social media company or other companies?		Total
	1. Yes	2. No	
1. Only users who have been approved by me (e.g. Facebook friends) can access my personal data disclosed on social media sites	60	102	162
2. Only I can access my personal data disclosed on social media sites	5	5	10
3. I didn't know it was possible for me to change the privacy settings on social media sites	3	17	20
4. I know I can change my privacy settings on social media sites, but I use them in the default privacy settings.	25	63	88
Total	93	187	280

3. 4. Recognition of Social Media Business Models and the User Risks Involved

Many survey respondents did not have a clear understanding of social media business models and the user risks involved. Only 4.3% of the respondents (12/278) recognised that they had experienced secondary/tertiary use of information they posted on social media (Q17: Have you experienced secondary/tertiary use of your social media posts (articles, photos, videos, etc.) by site operating companies?). However, almost all user-provided personal data are utilised by the social media companies

and/or other organisations as a precious resource central to their business models. In addition, many of the responses to the open questions: "How do the social media companies and/or other organisations utilise the personal data posted on social media sites for secondary/tertiary purposes?" (Q16-1) and "How do social media companies use your posts on the social media sites?" (Q22-1) were ambiguous, suggesting a lack of understanding.

One interviewee acknowledged that it was difficult to imagine the risks of personal data provision on social media because she had not suffered as a result of her personal data disclosure online. Several respondents feared misuse of personal data by individual users, rather than business organisations. Thus, they did not want other users to know details of their personal life. Conversely, one interviewee stated that it was personally beneficial to reveal factual personal data to the social media sites to enhance the quality of the online personalised services provided.

Large differences were observed in terms of recognition of social media company accessibility to personal data. Almost 70% of respondents (188/280) thought their posts would be stored by social media companies over time, with deletion at some future date. However, there was a range of their expectations of the durations. Thus, many respondents may not fully comprehend the social media business models and user risks involved.

4. Implications of the Survey Results

The perceptual and behavioural dimensions of social media usage were investigated through statistical analysis of the survey results, and the relationships between them were confirmed. Many respondents recognised the importance of privacy protection, but their perception was not supported by knowledge of the right to privacy, or by thoughtful judgment regarding privacy protection. The inconsistent personal data protection behaviour of respondents was also confirmed statistically. In particular, there was no statistically significant relationship detected between the three behavioural dimensions: whether or not respondents read privacy policies, how they attempted to properly control personal data provision to social media sites, and how they modified privacy settings on social media sites. Moreover, there was no significant relationship between the behavioural dimensions and respondent perception of secondary/tertiary use of personal data. Considering that over 90% of respondents recognised the importance of privacy protection, the authors expected that most of those who acknowledged secondary/tertiary use of their personal data would take appropriate action to protect their online privacy. However, this was not the case.

Although almost all of the respondents recognised the importance of privacy protection and a majority were concerned about the use and protection of online personal data by social media companies and other organisations, such recognition and concern did not motivate them to understand personal data use or protection. One plausible reason for this could be a lack of transparency regarding the business models adopted by social media companies. Social media are seemingly free-of-charge online services, and typical users may not fully comprehend the cost of usage and how social media companies profit from their users' data. The outcomes of the follow-up interviews support this hypothesis. Users' lack of knowledge regarding the business models could result in underestimation of the risks of using social media.

In addition, many of the respondents appeared to trust the social media companies and have confidence in the security of data posted on social media sites. In the absence of clear evidence, respondents tended to believe that social media companies and other organisations did not misuse user personal data. Many of the interviewees also thought that misuse would never happen to them. This study revealed that respondents use social media sites, regardless of how social media companies benefit from their personal data. Social media users would continue to use social media site because they just want to use it, regardless of how they consider social media companies reap the benefit from users' personal data.

It is difficult for anyone to completely erase personal data posted on the internet. Once personal comments, photos, and videos are uploaded on a social media site, personal data are collected by social media companies. Data may be stored and used by them, other organisations, and individual users outside the context in which the personal data were uploaded. Users are required to understand the importance of

careful personal data handling on social media sites. On the other hand, social media companies should provide users with comprehensive, clear explanations about how they collect, store, use, share, or sell personal data. Considering the significant influence of social media companies over the mental status (O'Keeffe et al., 2011), identity (Marwick and boyd, 2011), autonomy (Murata and Orito, 2013) and intellectual freedom (Orito, 2011) of their users, social media companies should fulfil their social responsibility and accountability.

5. Conclusion

This study examined social media user recognition of personal data handling by social media and other companies, and its influence on the disclosure of personal data. The survey results revealed that the respondents use social media as they like regardless of their recognition of social media companies' and other related companies' ways of using personal data they provide on social media sites. These findings suggest groundless reliance of users on social media companies for personal data handling.

The tremendous advances in big data technology have rendered social media business models unintelligible to typical users. There is also a lack of user understanding of the commercial value and sensitivity of personal data. Personal data should be protected in the current socio-economic and technological environment, as there is potential for serious social risks, including violation of human dignity and rights. Ensuring the transparency of social media business models should be recognised as an urgent social issue.

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