

A Study on Self-Disclosure Behavior in Social Network – The Effects of Privacy Concerns and Incentives

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Abstract

The explosive growth of information and communications technology has also led to changes in the way of business and academic conduct surveys. The popularity of the Internet is a powerful driving force. In the past, it took a long time for the paper questionnaires to be delivered to the informants. Now, electronic questionnaires can be quickly sent to and from the informants through e-mail. It is inevitable that disclosures of private information are encountered in the process.

Regardless of paper-based or electronic questionnaires, most past researches on self-disclosure in surveys have focused on the design format and items of the questionnaires, and the incentives provided by the investigator. With the rises of social network services, the power of the masses on the Internet is growing. Many studies have employed social network communities, such as Facebook, as a channel to distribute survey questionnaires. In such cases, could “peer pressure” (or group pressure) become an antecedent of self-disclosure?

This study attempts to explore the effects of group pressure, incentives and privacy concerns on self-disclosure behaviors through a model based on the Theory of Planned Behavior. Through a quasi-experiment, a simulated scenario was designed to manipulate levels of incentives and group pressure from peers, and assessed their influence on resulting self-disclosure. Results reveal that privacy concerns and incentives both affect self-disclosure, while group pressure moderates the influence of incentives on self-disclosure. The means that questionnaire administrator can consider providing appropriate incentives and group pressure to the subjects in real life, and thus improve the recovery rate and authenticity of the surveys.

Keywords: Privacy Concern, group pressure, incentives, theory of planned behavior

1. Introduction

The General Data Protection Regulation (GDPR), which is known as the “most stringent Personal Data Protection Law in history,” has been officially launched on May 25, 2018 (Wikipedia, 2019). GDPR requires EU residents to have the highest personal privacy data control in any service content that accesses the privacy of individual users. It also regulates the strict personal privacy and the rights which are forgotten, that is, it is necessary to make it easier for the user to understand what effect it will

have, and the user’s private information cannot be stored on the web server for a permanent or long time unless he or she agrees, once the user does not want personal privacy to remain on the network service, service provider must offer an option to fully remove user privacy when the service content is used for any user privacy information. For example, as Apple’s user privacy policy updated in 2018, in addition to enabling users in Europe to delete, and download data that has been used by Apple services in the past, such as account and device information, or even the backup data syncs to iCloud, and operation records in Apple Music, App

Store, even Apple-Care and online shopping records on Apple Store can be packaged and downloaded, as well as will be extended to allow users worldwide to easily remove personal information from Apple services (Apple Inc., 2018).

Most of the research on self-disclosure in the past focus on the user's own influence of self-disclosure, and less on the impact of self-disclosure to the network platform. Therefore, this study is based on the users of the social business website, "Fashion Guide," (a Fashion Makeup Media) to explore the personal social presence and the network characteristics on the situational phase, including the impact level of the self-disclosure from network power and the centrality of the Internet, and further explore the commitment of self-disclosure to the platform from the perspective of exposing the decision model. Through the questionnaire survey, this study collects a total of 303 valid questionnaires and the result shows that social presence, network centrality and network power would positively affect the depth of self-disclosure; social presence and network power would positively affect the extent of self-disclosure; the depth and breadth of self-disclosure would enhance the users' awareness of the virtual community and further enhance the commitment to the platform. (Li, Jiaying, Dai, Wangru, 2018)

Today's era can be called the information age, and everyone can easily receive or transmit any information as long as they are connected to the Internet. Compared to the past, there was no Internet, but now you can accomplish things that took a lot of resources before with a little cost. Many Internet users have started to use social networking services such as Facebook and Twitter, etc. and those social networking services have become one of the ways for individuals to conduct social network activities.

Goodwin (1991) has pointed out that companies have a lot of applications for social networking services in the market, the most common is to develop new marketing

techniques through social networking services, e.g. the Coca-Cola fan page. Business could also collect consumers' information in a faster and cheaper way from social networking services, either interact with web users by fan pages or view other people's information from social networking services. One of the incentives for the subjects to fill out the e-questionnaire was "anonymity" because the willingness to fill would raise relatively when a subject was in an anonymous environment. Anonymity could increase the sense of security of respondents, eliminate social pressure, reduce wariness and anxiety, and increase self-disclosure (Siegel et al., 1986).

In this research question, I want to know whether these group pressures will also affect the self-disclosure behavior of Internet users. In real life, there are many people with different levels of privacy and manufacturers need to recycle questionnaires to have different countermeasures for network users with different privacy concerns. This study thus attempts to understand these effects, and try to enhance the response rate for business questionnaires.

2. Literature Review

2.1 Privacy Concern

Privacy Concern is an important and often considered construct in the field of self-exposure. It refers to the general feeling of individuals who are depressed about information privacy (Li, Sarathy & Xu, 2011). Awad and Krishnan (2006) have done the research that the intent of information sharing based on the privacy concerns of Internet users and found that although the website provides many privacy protection mechanisms, the willingness of Internet users with highly sensitivities to reveal themselves was very low still.

2.2 Incentives

According to the social exchange theory, when a network user gains more benefits on the Internet than his cost, he or she will have self-disclosure behavior (Kankan-

halli, Tan, & Wei, 2005). One is more willing to fill out the questionnaire if they get more benefits than pay (Paxson, 1995). In the study of the entity questionnaire, Paxson (1995) also indicates that the higher the value of the perceived benefit of the respondent, the higher the questionnaire recovery rate. When collecting questionnaires, most of the incentives offered to respondents emphasize substantial material feedback or actual monetary gifts, such as discounts, gift vouchers, etc. (Trice & Layman, 1984).

2.3 Group pressure

Conformity research stems from psychology, and modern exploration for conformity mostly focus on social psychology or consumer behavior. Allen (1965) has defined conformity as a behavior of an individual being influenced by other members of the group. Deutsch and Gerard (1955) have stated that conformity mentality consists of Informational Influence and Normative Influence in Social Influence. Normative influence is the impact of an individual's perception of the group. It means one's behavior or attitude changes when individual desires to be liked, accepted, or rewarded from a group (Ross, Bierbrauer, & Hoffman, 1976). A famous research for the behavior of conformity in a group can be tracked to Solomon E. Asch (1955-1956). The "Line Segment Experiment" has been conducted in his research and the results of the experiment is stunning. Even though the answer was obvious, in one-third of the cases, the subjects will follow the incorrect answers of the group, and 75% of the subjects will follow at least once, and even in a group which is not big also have such a conformity behavior. When a group has 1 to 2

persons, as long as there are 3 to 4 experimenter's assistants in it, conformity behavior will be effective under the group pressure. Therefore, the conformity behavior results in the group pressure. This study tries to observe the behavior of the respondents through the group pressure.

2.4 Theory of Planned Behavior

The Theory of Planned Behavior is an extension of Theory of Reason Action, which was proposed by Ajzen and Fishbein in 1975. Fishbein and Ajzen (1975) points out the basic premise of Theory of Reason Action is that individuals are rational in their behavior and can be controlled under their own will. It is advocated that the behavior results from intention, and the behavioral intention will be affected by the attitude of the individual (Attitude) and the subjective norms of the society (Subjective Norm). The premise of Theory of Reason Action is that individuals can control their behavior by their will, but they cannot escape from real life when human behavior is interpreted. People's behaviors result from external factors such as time, money, and ability. Therefore, Ajzen (1985) has proposed the theory of planning behavior as Figure 1, based on the theory of rational behavior and increased the variable, Perceived Behavior Control, to explain the easiness of an individual behavior. In addition to affecting intentions with attitudes and subjective norms, Cognitive Behavioral Control also affects attitudes and subjective norms and directly affects behavior (Ajzen, 1989). However, Perceptual Behavioral Control depends on the resources and opportunities required for action, consists of control faith, convenience, and perception (Ajzen, 1991).

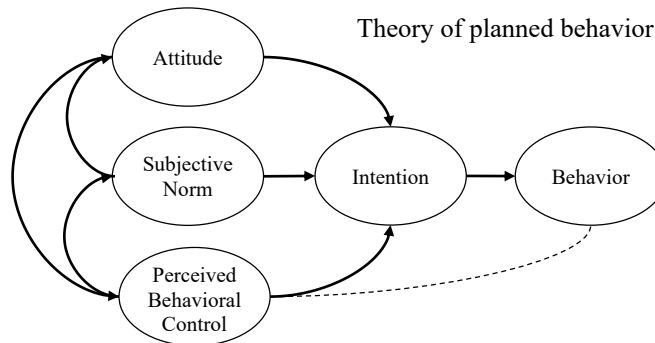


Figure 1: Theory of Planned Behavior (Ajzen, 1991)

3. Research Model and Hypothesis

This study is based on the theory of planned behavior to develop the research structure as shown in Figure 2 by summarizing the past literature. The attitude of the theory of planning behavior is replaced by privacy concerns; the perceptual behavioral control of the theory of planned behavior is performed by incentives; the behavioral nature of the theory of planned behavior is carried out by self-disclosure behavior. According to the theory of planned behavior, attitudes and perceived behavioral control may also influence each other. In this study, the subjective norms of the theory of planned behavior are beyond the scope of this study.

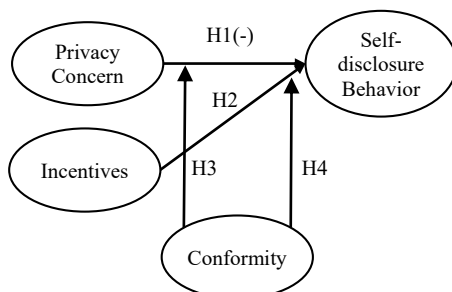


Figure 2: Research Model

3.1 The Impact of Privacy Concerns on Self-Disclosure Behavior

Privacy concerns affect the self-disclosure behavior of Internet users and make them feel that they will have to pay tangible or intangible costs. Therefore, when a web user is asked to fill out a questionnaire, he or she will refuse to provide personal information and avoid additional costs. A web

user has high privacy concerns when filling out a questionnaire, probably the questionnaire comes from an untrusted website, or the online user has high privacy concerns about the questions in the questionnaire itself and think the information, which is filled in the questionnaire, will be collected by third parties for use in other ways, so further psychological anxiety, uneasiness, etc. will lead to a significant decline in the willingness to fill out the questionnaire. Therefore, this study proposes the following hypothesis:

H1: Privacy concerns have a negative impact on self-disclosure behavior.

3.2 The Impact of Incentives on Self-Disclosure Behavior

In this study, we mainly explore the extent to the self-disclosure behavior of Internet users, who are affected by incentives. In order to improve the recovery rate of questionnaires, many organizations have engaged questionnaire surveys with incentives to enhance the cooperation of respondents. Paxson (1995) has indicated that many previous studies have suggested that incentives can effectively improve the recovery rate of questionnaires. And people will have different view point of benefits for the same incentives due to different growth environments and personal factors. Therefore, when the investigators issue questionnaires and provide some more pragmatic benefits to the respondents in real life, the perceived benefits of the respondents are not necessarily the same. However, it can be inferred from

the literature that respondents will be more likely to do self-disclosure (fill in the questionnaire) because they perceive higher benefits. Therefore, this study proposes the following hypothesis:

H2: Incentives has a positive impact on self-disclosure behavior.

3.3 The Impact of Group Pressure on Self-Exposure Behavior

Banerjee (1992) has indicated that when people would like to know the correctness of a thing, it is easy to ignore the information they have and obey the opinions of others. Deutsch and Gerard (1955) have proposed that conformity is caused by “informational influence” and “normative influence” in social influence. This study explores the group pressure which is caused by the social influence of conformity.

When the Internet users fill out the questionnaire, the information which they obtained is only the official questionnaire information provided by the questionnaire provider, except for the past experience. Internet users determine the cost they have to pay and that is personal privacy concern, and also to distinguish their own benefits by this information. The social influence of conformity is important when information is insufficient. Internet users will perceive different levels of group pressure and change the perception of privacy concerns and incentives for this self-disclosure because of their conformity. Therefore, this study proposes two hypotheses at the same time:

H3: Group pressure has a regulatory effect on the relation between privacy concerns and self-disclosure behavior.

H4: Group pressure has a regulatory effect on the relation between incentives and self-disclosure behavior.

4. Research Process and Pre-test Introduction

4.1 Experimental Process and Data Analysis Method

The main purpose of this study was to explore the impact of privacy concerns and incentives on the self-disclosure behavior of

Internet users, and to discuss whether the regulatory variables, which is formed with or without group pressure, would have an impact on privacy concerns, incentives and self-disclosure behaviors. The purpose of this study was to explore the actual behavior of Internet users, therefore, the method to carry out this study was using the quasi-experiment.

This study simulates the social networking service such as Facebook to conduct experiments, and the participants can browse the web-page according to their habits. The entire experimental environment is divided into 4 groups, and the subjects are randomly assigned to perform experiments in one of the situations as per all the manipulated variables. This study requires Internet users to conduct this experiment in accordance with past Internet habits.

This study used SPSS 21.0 statistical software as a data analysis tool after questionnaire recovery and did the pre-testing with manipulated variables (incentives, group pressure), and the measuring variables (self-disclosure behavior). The purpose of the pre-test is to confirm the validity of the manipulated variables and the measuring standard of self-disclosure behavior, and the sensitivity of personal privacy information.

4.2 Pre-test

This study focused on the impact of privacy concerns and incentives, in order to effectively master the incentives would work and there was no preconception, this study conducted the pre-test to ensure the effectiveness of incentives. The analysis of the 47 subjects who participated in the pre-test for the amount of the gift voucher at NTD 500, showed that 90% of the subjects will be affected by the quantity.

According to the pre-test result of group pressure, when the number of people reached 100,000, about 70% of the subjects would be affected by the experimental amount. There were a lot of population in the Internet, but 100,000 people were not a small number. The participation of 100,000

people in an activity had been considerable, so this study conducted this amount.

The first six items that were most concerned about the personal privacy sensitivity in the pre-test were: mobile phone number, current work, address, financial related items currently in existence, the average personal income per month, and the personal account used in the social networking services. They would be used as a follow-up experiment.

In order to exclude the interference of the questionnaire provider to the self-disclosure behavior, the selection of the questionnaire provider was quite important. This study proposed a virtual questionnaire provider, which could not be found with a duplicate name in the network, however, in order to ensure that the Internet users were not really impressed with “CFKSurvey”, and it would not be misunderstood with some manufacturers in real life. The pre-test results showed that “CFKSurvey” made no impression on the most of the subjects.

5. Data Analysis

This experiment was conducted in 2018, and the research target is Internet users. Nowadays, not using the Internet was rare for college students. Therefore, the junior or senior students in the three universities in the north of Taiwan were targeted, the volunteers are the main subjects and they were randomly assigned to the context of realization when filled out.

The main purpose of this study was to explore the impact of incentives and privacy concerns on self-disclosure behavior, and considered the regulatory variable, group pressure, to detect the regulatory effects on incentives, privacy concerns and self-disclosure behavior. Therefore, the experimental environment of this study allowed the subjects to use their own network terminal devices to enter a simulated social networking service as Facebook, in which the subjects would see a message requesting the network users to fill out the questionnaire. However, the social networking services and the electronic forum are used as sample

sources, it is impossible to require the subjects to use the network terminal device as the actual environment of the experiment, and thus the environmental requirements of the “closed laboratory” cannot be achieved.

5.1 Questionnaire Scale Reliability and Validity

This study used SPSS 21 for confirmatory factor analysis (CFA) to determine the reliability and validity of the questionnaire. The construct of this study is that only privacy concerns are measured in the form of questions, group pressure and incentives are manipulated variables, and self-disclosure behaviors are experimental actual results. Therefore, only the privacy concerns are tested for the reliability and validity. The Cronbach's α for privacy concerns is 0.92, well above the acceptable level of 0.7.

Validity is the test of whether the scale can correctly measure the traits it wants to measure, and also the correctness of the degree of construction to be measured. The criterion of validity is judged by discriminant validity, which is determined by the square root of the average variability extraction of each construct is greater than the correlation coefficient between the construct and other constructs. The average variability extraction (AVE) of privacy concerns is 0.913, greater than the correlation coefficient between constructs.

In general, the reliability and validity is well above the acceptable levels.

5.2 Hypothesis Testing

In this study, ANOVA (Analysis of Variance) was used to determine whether there were significant differences in the self-disclosure behavior of “have no group pressure” and “with or without incentives” under different operational situations.

However, the privacy concerns construct is a continuous variables in the experiment. The average value of this variable, 4.103, is chosen as a threshold of high a low (above 4.103 is HIGH privacy concern, and LOW otherwise), convert privacy concerns into category variables. Through the presence or absence of incentives, the presence

or absence of pressure from the public, and the level of privacy concerns, the samples were divided into eight groups for ANOVA analysis. The results of the verification are shown in Table 1. There is a significant relationship between incentives and privacy concerns, so both the H1 and H2 of this study are supported.

In the regulation part of this study, the significance of the impact of group pressure on privacy concerns and self-disclosure behavior is 0.390, representing a significant relationship, and H3 is not supported. The significance of the influence of group pressure on incentives and self-disclosure behavior is less than .001, representing a significant relationship, so H4 is supported.

Table 1: Three Way ANOVA Results

Dependent variable: Self-disclosure Behavior						
Source	Type III square	df	Average of squares	F	Significance	
Corrected mode	163.799	31	5.284	6.887	less than	.001
intercept	238.118	1	238.118	310.361	less than	.001
Conformity	16.449	1	16.449	21.439	less than	.001
Incentives	11.799	1	11.799	15.379	less than	.001
Privacy Concern	21.943	8	2.743	3.575	less than	.001
Incentives x Conformity	25.532	1	25.532	33.278	less than	.001
Privacy Concern x Conformity	5.681	7	.812	1.058		0.390
Privacy Concern x Incentives	6.311	7	.902	1.175		0.315
Privacy Concern x Incentives x Conformity	2.443	6	.407	.531		0.785
error	360.597	470	.767			
total	1270.500	502				
Total number after correction	524.396	501				

Table 2 is a summary of the verification results for each hypothesis of the study. The part of the pressure regulation of the masses is tested by the ANOVA analysis. Prior to the verification, the privacy concerns were converted to continuous variable variables to category variables based on their average.

Finally, it is determined whether the “Conformity” has a positive effect on the “Incentives” and “self-disclosure behavior” and “privacy concerns” and “self-disclosure behavior”. According to the analysis results of this chapter, all hypotheses are supported except for H3.

Table 2: Hypothesis Testing Summary

Hypothesis	Content	Result
H1	Privacy concerns have a negative impact on self-disclosure behavior.	Supported
H2	Incentives has a positive impact on self-disclosure behavior.	Supported
H3	Group pressure has a regulatory effect on the relation between privacy concerns and self-disclosure behavior.	Not Support
H4	Group pressure has a regulatory effect on the relation between incentives and self-disclosure behavior.	Supported

6. Conclusions and Recommendation

Based on the results of the previous statistical analysis, the statistical results will be discussed and the research results of this research will be proposed for academic and practical. Finally, the limitations of this study and the recommendations for future follow-up studies are described.

6.1 Privacy Concern and Self-Disclosure Behavior

In this study, users are afraid that personal data will be disclosed or used by the organization. It is a consideration of the privacy of the user in the face of disclosure. Zeng et al. (2009) expressed a negative impact on privacy concerns and self-disclosure willingness. According to the statistical analysis of this study, there are significant

differences between privacy concerns and self-disclosure behaviors and the path coefficient is negative. According to the experimental results, when the network users fill out the questionnaire in the experimental environment, if they have high privacy concerns for the questionnaires and questionnaires, they are less willing to disclose themselves. It also means that Internet users with low privacy concerns have more self-disclosure behavior than Internet users who have high privacy concerns about the questionnaire.

6.2 Incentives and Self-Disclosure Behavior

In the simulated environment of this study, the incentives have a positive impact on self-disclosure behavior. It means that when the network user perceives the incentive, the network user is more willing to expose himself. This result is consistent with the arguments put forward by Church (1993), and respondents will increase their self-disclosure willingness because of their interests.

From the statistical analysis results of this study, the pressure of the masses has a regulatory effect on the incentives and self-disclosure behavior. It indicates that if there is pressure from the masses, there is no incentive or influence for the self-disclosure behavior of Internet users. On the other hand, if the pressure of the masses does not exist, there are incentives and no incentives for the self-disclosure behavior of Internet users. Post hoc analysis was further conducted to show the moderating effects, as shown in Figure 3.

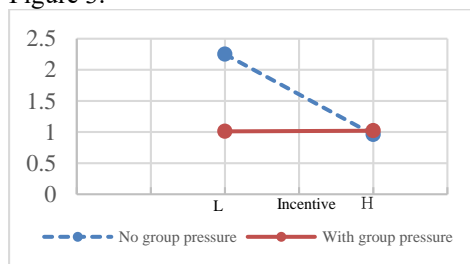


Figure 3: Self-Disclosure Behavior: Moderating Effects

This study found an interesting topic. For those who have no incentives in the situation without group pressure, the self-disclosure behavior of Internet users is more obvious than the self-disclosure behavior of Internet users. This result also shows that Internet users will think more about topics when there is no pressure from the masses and there are incentives, such as whether they will be fraudulent, whether there will be traps, and so on. So if the self-disclosure behavior of the Internet is more obvious, the provision of incentives will be a key point. This is also the result of the analysis of this study. If there is further research in the follow-up, it is recommended to consider the privacy risk into the model for research. I believe there will be other findings.

7. Management Implications

7.1 The Impact of Group Pressure on Self-Disclosure

The results of this study indicate that the privacy concerns of Internet users will affect their self-disclosure behavior, and the more people with higher privacy concerns, the more they prefer to retain their personal data. The incentives will increase the willingness of Internet users to reveal themselves. In addition, when there is group pressure in the environment (a large number of users have filled out this questionnaire), Internet users will adjust their behavior by accepting this information. In the past, research has been conducted to manipulate information providers' articles and personal evaluations to understand how information seekers influence their purchasing intentions through perceived reliability and professionalism. (Mei-Ju Chen et al., 2012)

In the results of this study, it is said that mass information will affect the relationship between privacy concerns and self-disclosure of Internet users. Deutsch and Gerard (1955) point out that people will judge the correctness of the information they receive because of the performance of the masses. In real life, Internet users often receive information from unfamiliar vendors. Therefore, the number of people will reduce the

uncertainty of the network users to the manufacturers. As predicted, Internet users may influence his privacy concerns about unfamiliar vendors because of this mass information, and further choose to expose themselves. Therefore, if in practice, manufacturers want to reduce the impact of Internet users on their concerns, and add another piece of information to indicate how many people agree with you, there are many ways to identify, in this study is to fill out the number of people is used as a basis.

In this research question, I want to know whether these group pressures will also affect the self-disclosure behavior of Internet users. As a result, as expected, Internet users may influence their concerns about unfamiliar vendors because of these pressures, and then choose to expose themselves. So in practice, vendors want to reduce the impact of Internet users' concerns. An additional piece of information can be added to indicate how many people agree with you, and there are many ways to identify them. This study is based on the number of people who have completed the survey. In summary, the manufacturer can achieve the goal more easily.

7.2 Increasing Questionnaire Response Rate

Incentives and mass information do affect self-disclosure behavior. In real life, there are many people with different levels of privacy and manufacturers need to recycle questionnaires to have different countermeasures for network users with different privacy concerns. The results of the analysis reveal that privacy concerns, incentives, and crowd pressure do affect self-disclosure behavior. In real life, there are many people with different levels of privacy and manufacturers need to recycle questionnaires to have different countermeasures for network users with different privacy concerns. Internet users themselves have higher self-disclosure behaviors because of incentives. However, in this study, it is found that there is no way for group pressure to break through the incentives, and the self-disclosure behavior is limited. So in practice, if the

vendor wants to collect as much information as possible from all network users. Regardless of their privacy concerns. It is possible to use incentives to entice web users to fill out questionnaires and to increase public interest in their privacy concerns, while also considering high privacy concerns and low privacy concerns for web users.

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