



Initial Investigation on Privacy Preferences: A Preliminary Study on User Priority, Concern, Perception and Expectation

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Abstract— This paper reports on the findings of an initial study on the user's preference towards their own privacy. The study is important in having user's opinion especially when dealing with security of their privacy. It is vital to know what the most important priorities are when dealing with privacy as this could lead to the requirements that the user expected when using a website. In addition, this study tried to gather information of user perceptions on privacy and the expectations that they have when dealing with organizations through a survey by using questionnaires. Results showed that Malaysians does have privacy concerns when dealing with organizations. Therefore, this study has achieved the objective s of gathering data on user perceptions and expectations towards privacy.

Keywords— user preference, privacy, priority, concern, perception, expectation.

I. INTRODUCTION

In the advent of software and hardware technology the Internet have made a tremendous change in business transactions. Goods and services which are being offered by e-commerce companies are one of the facilities that Internet provides. With the list of services provided by e-commerce, consumers do not need to be physically present in the service provider places to do all the transaction. E-commerce transaction facilities such as on-line banking and on-line shopping have facilitated human needs tremendously. It is a norm that consumers will have to fill in membership and registration form before any transaction could be made. There are controversies regarding the information that e-commerce made compulsory for consumers to fill in which are sometimes irrelevant to the transaction. These open a debate on consumer's rights when dealing with e-commerce transactions as there are information those consumers reluctant to provide. Privacy plays a major role in the relationship between companies and Internet users [1]. This study aims to investigate user preference towards privacy by

looking at their priority on personal data and the concerns that arise due to revealing such information. Investigation towards user perceptions and expectations was done in attempt to know user preference when dealing with their personal data. This study will also contribute to the understanding of user preference for designing electronic form for website developers and policy makers.

II. LITERATURE REVIEW

Each consumer has different sensitivity level. In order to address this issue, different comfort levels are required to set apart each data field and provide different explanations of privacy practices and personalization [1]. From a research on website privacy in obtaining the expectations of Internet users' has shown that there are inconsistency between user expectations and what stated in privacy policies [7]. Another research unfold about consumer perceptions and concerns towards their personal information might be manipulated and disclose by companies albeit they have become fully aware in providing their personal information [5]. User preferences are crucial in enhancing the efficiency for

market research and obtaining the suppliers responsiveness by making their preferences automatically available [8]. However, users' concern towards consumer privacy affected their shopping behaviours [9]. Additional complexity of privacy problem are sharing information amongst agencies and distinguishing privacy requirements [11]. There are various regulations to comply with besides understanding user's desires in protecting user privacy [12].

From the above discussion, the study on user preference does contribute to the information needed when dealing with one's privacy. This is important for a web developer, organizations and policy makers in considering the most appropriate manner in obtaining and handling user information.

III. RESEARCH METHOD

This preliminary study was focused on investigating user preference in securing their privacy. Convenient samplings of 100 undergraduate students from Faculty of Technology and Defence Science, National Defence University of Malaysia were used to measure their priorities, concerns, perceptions and expectations towards privacy. Using students as a subject was useful for the concept of identification construct analysis and the homogenous nature of the students sample allowed for more exact theoretical predictions [2]. The samples amount is reasonable as taking the consideration of prescribe minimum number of samples which exceeded 40 (4 x 10) [3].

A. Research Model

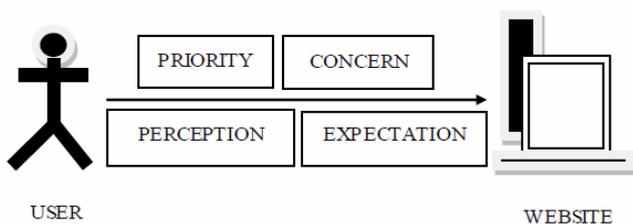


Fig. 1 Fig. 1 Research model

This study's research model was derived from the relationship between the user and the website which examines privacy factors through user preference. In investigating user preference through user privacy priority, users concerned towards their information and users perceptions towards invasion of privacy and users expectations from e-commerce transaction are being measured. User privacy priorities explained that users indicated different degrees of willingness to give out personal data [1]. Studies have repeatedly shown that users are increasingly concerned about their privacy when they go online [4]. Internet users' behavioural responses to their perception of information privacy threats that can arise from companies' information practices [5]. Previously studied evidence that users and businesses found that 87.5% of surveyed users expect to see comprehensive information regarding privacy practices when visiting a commercial website [6][7].

In designing a system, an organization should avoid the need to include personal information as the highest priority for the user. This is to confirm that the information given are

factual rather than user have to give false information as there is no opt-out options. Most of the online registration forms may include asterisk (*) as notation that the field are compulsory and the registration will be void if user does not fill in any information. In building a business relationship it is important to look at users' expectation when dealing with organizations. Organizations should have the commitment in notifying users towards their personal information transactions.

B. Questionnaires

This survey uses tested written questionnaire with examples of privacy related phenomena in Malaysia. The questionnaire was divided into three sections which in the first section respondents were told to fill in their gender. The second section of the questionnaire was designed to obtain respondents perceptions towards privacy through questions such as their privacy priority, reasons for their priority and frequency of leaving their information off the forms. While the third section of the questionnaire is designed to obtain respondents expectation when dealing with organizations through questions on their privacy concerns.

IV. RESULTS AND FINDINGS

The results and findings for this study are based on the results gathered and statistically computed by using SPSS 16.

A. Privacy Priorities

To investigate respondent's highest priority of privacy when dealing with personal information, the questionnaire listed out all the personal information for the respondents to rank. The categories listed in the table have been scaled down according to respondent's priorities while answering the survey.

TABLE I
HIGHEST PRIORITY OF PRIVACY

| Type of information | Respondent (%) |
|---------------------|----------------|
| Financial detail | 80 |
| Phone number | 73 |
| Income detail | 71 |
| Home address | 40 |
| Email address | 31 |
| Health information | 15 |
| Name | 7 |
| Genetic information | 4 |
| Religion | 4 |
| Marital status | 2 |

The information gathered is important as to assist organizations in handling their customer's personal information. Through this statistics the organization also will know what is the information that user reluctant to provide during the transaction especially when they have to fill in the registration form.

B. User Concerns

All of the respondent have their own reasons for choosing or rating their privacy priority. To know their reasons the questionnaire given have been design to evaluate user concerns when deal with their personal information.

TABLE III
REASON FOR PRIVACY PRIORITY

| Reasons | Respondent (%) |
|---------------------------------------|----------------|
| May lead to financial loss | 62 |
| Information might pass to third party | 58 |
| Information may be misused | 47 |
| I don't want other people to know | 42 |
| Invasion of privacy | 42 |
| For safety or security | 40 |
| I don't want to be disturbed | 29 |
| I don't want to be identified | 20 |
| Irrelevant to the transaction | 4 |

To notify how people engage their behaviour in protecting their privacy the next questions asked on how often respondents leave their personal information off forms as a way of protecting their personal information. This survey is more relevant to the form of manual registration as it will be impossible if it was an online transaction as most of the fields for online registration are compulsory.

TABLE IIIII
REASON FOR PRIVACY PRIORITY

| Frequency | Respondents (%) |
|-----------|-----------------|
| Always | 16 |
| Often | 13 |
| Sometimes | 62 |
| Rarely | 7 |
| Never | 2 |

Through respondents selection it is advisable when designing an online registration form, there should be an option for user to choose such as the op-in and op-out options. Through the options user could have choices in what to provide and not to, if they feel reluctant to provide.

C. Privacy Perceptions

To investigate respondent's privacy perception, four scenarios have been given for all the respondents to answer with a yes/no questions.

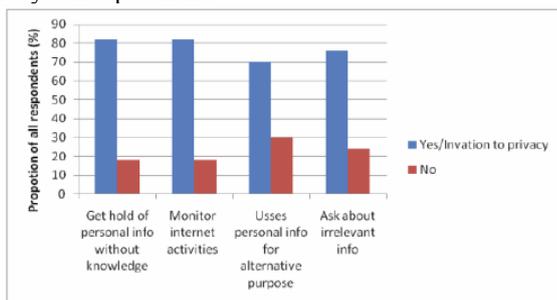


Fig. 2 Respondents' perception on invasion of privacy

From all the four scenarios given, more than 80% of the respondents agreed that it is an invasion of privacy if a business they never dealt before get hold of their information without their knowledge. More than 80% of the respondents also agreed that monitoring Internet activities and collecting information about the history files without ones knowledge is an invasion to privacy. 70% of respondents agreed that it is an invasion of privacy if the business that they have a dealt before with specific purpose, use their information for another purposes. Whilst more than 80% of respondents also

agreed that it is an invasion of privacy if a business try to get their personal information that was irrelevant to the services. This shows that the respondent's perceptions on privacy are in the right track.

D. User Expectations

Respondents than being asked on the most important, second most important and the third most important things they need from the companies to provide notification in any kind of transactions. This will show respondents expectations from the companies when dealing with their personal information.

TABLE IVV
NOTIFICATION TO CUSTOMER

| Elements of information | Most (%) | 2 nd Most (%) | 3 rd Most (%) |
|-----------------------------------|----------|--------------------------|--------------------------|
| How it will be used | 42 | 44 | 9 |
| What will be kept | 29 | 29 | 20 |
| When it will pass on | 13 | 18 | 31 |
| How to prevent disruptions | 16 | 9 | 13 |
| How to access and do modification | 2 | 2 | 27 |

From respondent's responses it shows that those users are concerned on their personal information for how it will be handled. Users do expect that organizations will notify or informs their customers for those elements that are listed above. The solutions suggested that organizations should have the commitments precisely by including all of the elements listed in their privacy policies.

V. CONCLUSION AND FUTURE WORK

This research is to investigate people perspective in their privacy and their expectation towards privacy issues in Malaysia. People opinions could be varied as different people have different perspectives on privacy. Nevertheless most of the respondents choose financial details as the highest priority in privacy as in their opinion the exposure of financial details may lead to financial loss. From this survey it showed that sometimes people are reluctant to provide their personal information if it is irrelevant to the transaction, which is the evidence gathered from the respondent answers to leave their personal information off form. This showed that Malaysians are concerned on their privacy aspects when dealing with organizations. As this is a fundamental study to perceive and evaluate user perceptions and expectations towards privacy, it is expected that there will be a continuation on the study which will engage in preserving privacy during the development or designing of a website.

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