TRUSTING THOSE WHO TRUST YOU:
A STUDY ON TRUST AND PRIVACY ON FACEBOOK
Research-in-Progress

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Abstract

Over more than a decade, IS research has examined the role of trust in the context of technology adoption such as website acceptance (Gefen et al. 2003), successful online interactions (Coppola et al. 2004) and recommendation agents usage (Wang and Benbasat 2005). The primary antecedent of trust in the line of research is often trustee’s trustworthiness. However, Dashiti et al. (2011) articulated the role of trust-received (trustor’s felt trust from trustee) will cause trust-given (trustor’s trust in trustee) and later the trusting behaviors in the e-government context. Drawing on the recent development, this study aims to investigate the context of online social networks (OSNs) and to test whether trust-received plays a similar role in forming the interpersonal trust among Facebook user’s interactions. We aim to find out (i) whether users are more willing to trust others and share their personal information with them when individuals experienced trust-received and (ii) what IT features influence trust-received.

Keywords: Trust, trust-received, privacy, reciprocity, online social networks, information sharing
Introduction

Facebook is a social platform that connects people with friends and family. People use Facebook to keep up with friends by sharing what is on their minds, uploading photos or videos, posting links of web pages of interest, and by also consuming the contents shared by their friends. While people might not find sharing personal information on the Internet safe, Facebook was able to successfully alleviate such concerns as is evident in the growing number of active Facebook users. Such endeavors include new IT features like “choose your audience” and “view as”, they all aim to undo users’ fear in information privacy breach and encourage them to share. However, some users still hesitate to share as indicated by studies of Krasnova (2009), they are worrying about the social threat as well as the organizational threat.

Trust has often been viewed as a driver of information sharing (Zand 1972), and more importantly the most important factor influencing information disclosure (Hoffman et al. 1999; Rubin 1975; Steel 1991; Wheless and Grotz 1977). This is because trust reduces the perceived risks involved in revealing private information (Metzger 2004). Studies on trust in the extant literature mostly take the unidirectional perspective in which trustworthiness leads to trust. The IT artifact or the characteristics of the websites (trustee) are often viewed as the source of trustworthiness in most studies in IS. For example, users are more likely to use a website if they find the website possess benevolence, integrity, and ability (Mayer 1995). And evidence has been found that IT features could have a positive effect on trust among users inside online communities (Benlian and Hess 2011).

However, a new approach of analyzing trust has been introduced into IS field: Dashti et al. (2011) distinguish trust-received (trustor’s felt trust from the trustee) from trust-given (trustor’s trust in the trustee). This broadens our understanding of trust by introducing this bidirectional perspective in which trust is not only driven by trustworthiness of trustee, but also trust-received of trustor. This may shed lights on a new way of increasing users’ trust toward the websites like Facebook as well as her contacts inside that website, which is receiving trust from others at first. Then, IT features that will lead to trust-received should be created, analyzed and put into practice. This study thus aims to fill this gap in the literature and focuses on the influence by IT features over trust-received on Facebook.

Trust in the Facebook context is more complex than the one in the traditional contexts. It becomes a multi-level construct as the uniqueness of the platform enables interactions between different entities such as individuals, organizations, and the platform in the form of one-to-one, one-to-many, and many-to-many communications. Sledgianowski and Kulviwat (2009) categorize various kinds of trusts into two domains: interpersonal trust and institutional trust. Interpersonal trust deals with the trust between people, while institutional trust characterizes the trust between people and institutions that support services, like Facebook itself and some third parties applications.

The existing literature sheds light on the role that trust has played between Facebook merchants and potential customers (Brock et al. 2011) and Facebook official websites and users (Dwyer et al. 2007). However, less attention has been paid to interpersonal trust which governs individual to individual interactions in the OSN field. As Facebook encourages information sharing among users in order to maintain or reinforce existing relationships as well as to build new ones, the role of interpersonal trust influencing users’ behavior on the platform should be understood. Furthermore, indirect information disclosures may happen more often than the direct ones on Facebook. Your contacts could act as intermediaries, which means, the organizations and third parties access the your information through your contacts. Therefore, to some extent, trusting the people on Facebook, in other words, interpersonal trust, will become a key factor to information sharing on Facebook. Thus, our research will focus on interpersonal trust-received and interpersonal trust-given.

In conclusion, we will adapt the bidirectional perspective of trust into the context of Facebook and study the role of interpersonal trust-received and trust-given among Facebook users. In particular, we aim to answer (i) whether users are more willing to trust the others and share their personal information with them when individuals experienced trust-received and (ii) what IT features influence the trust-received.
Literature Review and Background

The Definition of Trust

In the last 15 years, due to the rapid growth of e-business and e-government, trust has been a major topic of interest in the IS field. Trust has been identified as an important predictor of successful online interactions (Coppola et al. 2004; Jarvenpaa and Leidner 1998; Piccoli and Ives 2003), the adoption of the e-websites (Gefen et al. 2003; Belanger and Carter 2008), and the use of the IT artifacts such as recommendation agents (Wang and Benbasat 2005).

Rousseau et al. (1998) defined trust as the willingness to be vulnerable based upon positive expectations of the intentions or behavior of the other party, trust is a kind of belief and attitude hold by the individual. Trusting behavior, however, is defined in the similar way by Deutsch (1962) who contended that trusting behavior consists of actions that increase one’s vulnerability, to another whose behavior is not under one’s control, in a situation in which the penalty (disutility) one suffers if the other abuses that vulnerability is greater than the benefit (utility) one gains if the other does not abuse that vulnerability.

Most of the studies on trust are from the perspective of trustworthiness, they assumes that trustworthiness is the antecedents of trust. Kramer (1999) describes six antecedents of trustworthiness dispositional trust, history-based trust, role-based trust, rule-based trust, third-party trust and category and identity-based trust. Mayer (1995) concluded there exist three crucial factors, ability, benevolence, and integrity that will lead to trustworthiness. Both studies are conducted from the perspective of the trustor, as long as the trustor believes in the trustworthiness of trustee, they will place trust in the trustee afterwards. Antecedents of trustworthiness are given in Table 1.

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Description</th>
<th>Source</th>
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<tbody>
<tr>
<td>Dispositional Trust</td>
<td>A person’s general belief in the trustworthiness of others; an explanation for individual differences in initial trust formation.</td>
<td>Kramer(1999)</td>
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<tr>
<td>History-based trust</td>
<td>Repeated interactions where the experience with others provides evidence for their reliability, information from these transactions provides a basis for predicting future behavior. Individuals engage in an ongoing evaluation of their relationship, updating their perceptions of the other’s trustworthiness based on the outcome of interactions.</td>
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<tr>
<td>Role-based trust</td>
<td>The role people play in society. The individual possesses knowledge, having undergone sufficient training to competently carry out the functions of their role.</td>
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<tr>
<td>Rule-based trust</td>
<td>A shared understanding of a system of rules and appropriate behavior in a given context, formed through a combination of explicit rules and implicit socialization processes.</td>
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<tr>
<td>Third-party trust</td>
<td>In the absence of a relationship history, information from known trustworthy people facilitates the initial decision to trust an unknown party, also described as trust transference.</td>
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<tr>
<td>Category (Identity)-based trust</td>
<td>A person is more willing to trust someone if there is a perception of shared social identity; social identity is that part of our self-definition that is based on the groups in which we claim membership.</td>
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By taking a unidirectional perspective, many studies attributed the trustor’s trust in the trustee to the trustworthiness of the trustee. That is, the perception of the trustee’s trustworthiness by the trustor is the prelude to trustor’s trust in trustee.

Deutsch-Salamon (2004) and Deutsch-Salamon and Robinson (2008) showed that trust could be formed from a different perspective in which trustor’s feeling of being trusted by the trustee will lead to trustor’s trust in trustee. When employees in an organization perceive that they are trusted by management, they will trust the management as a result of reciprocity, leading to a stronger bond of trust. The “felt trust” is explicaded as when management (trustee) repeatedly takes actions in an organization that communicate to the workforce (trustors) that they are trustworthy, members of that organization (trustors) will tend to share a common perception that they, as a group, are trusted by their management (trustee).

Introducing the notion of “felt trust” into IS context, Dashti et al. (2008;2009;2010) described felt-trust as the citizens’ perception of e-government. They used trust-received and trust-given to refer to felt trust and trust respectively for the sake of clarity. Trust-received is defined as trustors’ perceptions of the level of trust bestowed initially on them by trustee. “Trust-given” is defined as trustors’ trust in the trustee. Both “trust-given” and “trust-received” are attitudinal beliefs held by the perceiver (the trustor). It is the trustor who places trust in trustee and perceives to have (or receive) the trust of the trustee. Trust-given and trust-received diverge, however, in terms of the object of trust. The trustee is the object of trust-given, while the trustor is the object of trust-received (Dashti et al. 2011).

The logic of trust formation is summed and displayed in Figure 1.

<table>
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<tr>
<th>Ability</th>
<th>Groups of skills, competencies and characteristics that enable a party to have influence within some specific domain.</th>
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<tr>
<td>Benevolence</td>
<td>The extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive.</td>
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<tr>
<td>Integrity</td>
<td>The trustor's perception that trustee adheres to a set of principles and behaves honestly.</td>
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</table>
show that interpersonal trust has significantly influenced users’ intentions to exchange information (Ridings et al. 2003). Institutional trust is the users’ perception that effective mechanisms are in place to assure that the OSN’s services will behave in a way that is consistent with the users’ favorable expectations (Gefen et al. 2006). In our study, institutional trust accounts for the trust in Facebook placed by Facebook users while interpersonal trust captures the trust between Facebook users. In short, we ground our study in the theory of trust-received leading to trust-given and explore the interpersonal trust among Facebook users.

**Perceived Privacy Risk and Trust**

Self-disclosure or information disclosure has been shown as an outcome of trust. Trust is a precondition for self-disclosure because it reduces perceived risks involved in revealing private information (Metzger 2004). Various studies have confirmed such a role of trust in the context of interpersonal exchanges (Rubin 1975; Steel 1991; Wheelless and Grotz 1977). Trust facilitates interpersonal acceptance of an openness of expression, whereas mistrust evokes interpersonal rejection and arouse defensive behavior (Gibb 1961). Trust is perhaps the most important influence on information disclosure (Hoffman et al. 1999).

On Facebook, information posted by a user can be read by other users, and actions on Facebook are personally identifiable. Therefore, information sharing on Facebook can be regarded as a self-disclosure. The information sender can choose her targeted audience by using the privacy options available to her on Facebook. One can choose public, friends, friends’ friends or a limited audience as the target audience of information to be shared. There are risks that the information disclosed by a user could be abused by stalkers or identity thieves (Whelan 2005), read by individuals the information was not intended for, such as university officials or family members (Schweitzer 2005), mined and stored for future reference. This information can become a threat to the poster’s future if, for example, he/she runs for a political office or are placed in the public eye for any other reason. The information can also be published or utilized by future employers or the government for judgments of character. Krasnova(2009) identified social threat and organizational threat in terms of privacy risks related to information sharing on Facebook. Social threats are defined as feats stemming from the OSN user environment, they range from tagging a user in unwanted photos and leaving inappropriate comments about the user on his/her Wall or other public areas, disclose the user’s information to others without permission to user harassment or denigration on the platform. Organizational threats describe the collection and secondary use of information by organizations or third parties.

However, all of these risks are likely to be enhanced by the carelessness or deliberate actions of the information recipients, the recipients could act as the intermediaries, which means, the organizations and third parties access the users’ information through the recipients. The more sensitive and private the information is shared, the greater the risk of information disclosure with regards to possibly dangerous consequences. Drawing on the recent development in the trust literature, the action of posting information on Facebook could be seen as a signal of trust-received sent by the trustee (sender) to the trustor (recipient), the sender put herself in a vulnerable situation toward the recipient and undertake risks. When the recipient (trustor) receives the information from the sender (trustee), the trustor will probably feel she is trusted by the trustee. The level of trust-received could be varied according to information sensitivity/privacy level. The more sensitive/private information is disclosed, the higher trust-received as such information is potentially riskier and makes the user more vulnerable in case the information is disclosed to other unwanted parties. We also propose that the level of trust-received is also affected by the limitation of the audience. Facebook allows you to choose exactly who you want to share the information with by using privacy options such as sharing with public, friends’ friends, friends, or CUSTOM. All of these limitations are visible to the recipients. Once the recipient recognizes that she is among a few people who receive the information, it is likely for her to feel she is trusted. Therefore, we propose that information sensitivity and audience limitation are the antecedents to trust-received.

**Hypothesis 1:** Information privacy level positively affects Trust-received.

**Hypothesis 2:** Audience limitation positively affects Trust-received.
Trust reciprocity on Facebook

As a trustor has already perceived the trust-received from the trustee, will she trust the trustee in turn? A proximal effect can be explicated within the framework of social exchange theory (Blau 1964). Social Exchange Theory is concerned with the general processes and principles that govern the exchange of valued psychological, social and material commodities (McClintock, Kramer and Keil 1984). It postulates that people seek balance in their exchanges to eliminate dissonance or stress caused by unbalanced relationships. Stress caused by unbalanced relationships can come in the form of debt or lingering obligation as a result of an inability to reciprocate equally in a relationship. People avoid being in debt by undertaking equal reciprocation in order not to risk losing the relationship. In Facebook, in order to balance between input and output and stay out of debt in social interactions and communications, trust-received is likely to emerge in the mind of the trustor after her perception of the trust-received from the trustee. Specifically, low trust-received will lead to low trust-given while high trust-given will be a response to high trust-received. Studies viewed trust as a psychological state (Rousseau et al. 1998), an attitudinal belief (Dashti at al. 2010), based on the theory of reasoned action which postulates that behaviors are driven by a person’s attitudinal beliefs (Ajzen and Fishbein 1980). In face-to-face interactions, trust is a critical determinant of sharing information and developing new relationships (Fukuyama 1995, Lewis and Weigert 1985). Trust-given, an attitudinal belief hold by the trustor in a Facebook communication, will be a conduit for trusting behavioral such as sharing information. The behavior is consistent with the behavioral belief, in other words, high trust-given brings about more information sharing, low trust-given results in less information sharing. That is:

Hypothesis 3: Trust-received positively affects Trust-given.

Hypothesis 4: Trust-given positively affects Information sharing.

Receiving signal of being trusted is one reason for giving trust to the sender under the rational of reciprocity. However, the other reason for trusting which is based on the trustworthiness of the other’s should also be considered. For example, even if the other person does not explicitly show that she trusts you, you may still trust her because she has always delivered on her promises, which constitutes a kind of trustworthiness and leads to trust-given.

Hypothesis 5: Trustworthiness positively affects Trust-given.

To summarize, the overarching model used in this study is presented in Figure 2.

![Figure 2. Research Model](image-url)
Methodology

Two phases will be included in this study.

**Phase One:** Confirmation of the basic theory

First, in order to know the participants’ basic demographics, Facebook general use and privacy setting use, they will be invited to fill in a pre-questionnaire at first. After that, they will read one scenario and answer several questions in a post-questionnaire according to those contexts. The scenarios are basically about someone on Facebook is sharing some kind of information with the subject by certain privacy settings.

In the scenario, we first control the relationship between the sender and subjects into two kinds: physical (real life) friends and non-physical (virtual) friends, then we manipulate the level of trust received by changing information sensitivity and audience limitation (Table 2). A scenario based survey with a mixed 2 (High sensitivity/Low sensitivity) *2 (share with friends/share with certain people) design will be implemented.

<table>
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<tr>
<th>Table 2: Manipulations of Phase One Constructs</th>
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<tbody>
<tr>
<td>Constructs</td>
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<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Information Sensitivity</td>
</tr>
<tr>
<td>Audience limitation</td>
</tr>
</tbody>
</table>

Subjects will be invited to participate in scenario-based surveys we’ve developed for this study. We will award each individual with $5. The four scenarios will be based on the manipulations shown in Table 2. Then, a manipulation test to confirm whether trust is involved in this study will be done by inviting the subjects to answer a question on whether she feels any potential risk or vulnerability toward the recipient. Furthermore, questions on social threats and organization threats are also included, although we’ve explicited that the focus of our study is on interpersonal trust, institutional trust should be controlled for because some previous study contended its importance in OSN adoption (Krasnova 2010). Afterwards, the participants will be asked to finish one questionnaire to test the trust-received level held by the receiver toward the sender. As explicited above, trust-received emerges if trustor perceives that trustee think she is trustworthy, so we will use three dimensions of trustworthiness (Mayer 1995)- competence, benevolence, integrity- to measure trustor’s perception of trustee’s feeling of her trustworthiness. That is the level of trust-received perceived by the trustor from the trustee. However, we think benevolence is of no significant meaning on Facebook because this is not a problem solving or help seeking website, as a result we only adopt competence and integrity in our study. After the recipient finishes the trust-received measurement, she will be tested her willing to share information toward the sender in terms of amount, and privacy control.

We will operationalize the dimensions of information sensitivity according to a former study on privacy and photo sharing online (Ahern et al. 2007), in which all kinds of photos shared on OSN were analyzed on their privacy level. Our scenarios tell the subject that someone (virtual friend or real life friend) is sharing some photos on Facebook with some kind of privacy controls. We only provide scenarios that are related to the respondents’ life, this is done to make the study more realistic because it would be hard for subjects to perceive potential privacy risks when they sense that the context rarely happens. The structural model tested in this phase is shown in Figure 3, the trustworthiness is developed into dispositional trust( for virtual friends) and history trust(for real life friends).
Phase two: Exploration of more antecedents

The two antecedents used to manipulate the trust-received level in Phase one is restricted in two aspects, first, they are proposed by us without asking for opinions from users, second, they are existent privacy settings/IT features on Facebook, new settings could be explored and invented for the purpose of increasing trust-received. These new settings could be, to name a few, displaying the percentage of audience to all friends, disabling copy and paste function, providing watermark proof, allowing digital signature and encryption etc. Thus, we develop two functions/IT features that do not currently exist on Facebook into our study (Table 3): download and re-share is a function to enable or disable copying and paste as well as second-hand sharing; percentage of audience displayed is like an extension of audience limitation which shows not only the “truth” of “limitation” but also the exact number.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Download and Re-share</td>
<td>Enable/Disable</td>
</tr>
<tr>
<td>Detail of the audience: percentage and number</td>
<td>10%/20%/50% + number</td>
</tr>
</tbody>
</table>

In this phase, we will also use scenario-based survey. At first, the scenario will create a medium level of trust-received from the result of phase one, then the manipulation of the constructs in Table 3 will be added to the scenarios, independent scenarios will be formed according to the 5 dimensions in Table 3. The questionnaires used afterward include the manipulation test and trust-received test identical to those in phase one.

Later, we are going to test which of the 5 dimensions increase trust-received, at the same time, which of them decrease trust-received.

The structural model in this second phase is shown in Figure 4.
Conclusion

This study offers both theoretical and practical contributions. The main contributions to research and practice are summarized below. First, this is the first time to study individual interpersonal trust among OSN’s users from the bidirectional perspective in which trust-received and trust-given are considered. We’ve pointed out the importance of interpersonal trust which has been put less emphasis on in the past and conduct a thorough research on it. The brand new bidirectional perspective on trust theory is also enriched by our study, we’ve broaden its scope onto the OSN field as well as explored the antecedents to trust-received which are incomplete in the former literature. This will be quite informative for the future research on the influence of this bidirectional theory over information sharing and IT adoptions.

Second, our research has practical use for IT designers. As we’ve mentioned before, Facebook users still hesitate to share their information because of privacy risks, how to decrease their concern, encourage them to share and let them experience the value and fun of sharing information become an urgent task for Facebook designers. In our study, antecedents (IT features) have been tested on their influence over trust-received and information sharing in the later phases. This may provide some directions for designers to create further IT features that will lead to trust-received increase and encourage information sharing behavior.

Our study is limited in several ways and could be extended in the future.

First, our study only test one-time trust from the perspective of the trustor (information recipient) in that only the causality from trust-received to trust-given hold by the trustor is analyzed. Zand (1972) implied that the potential cycle inhibited in the trust formation and demonstrated that when others encounter low-trust behavior, initially they will hesitate to reveal information, reject influence, and evade control, this short cycle feedback will reinforce the originator’s low trust, and unless there are changes in behavior, the relationship will stabilize at a low level of trust. All of this behavior, following from a lack of trust, will be deleterious to information exchange. From this perspective, studies on the trust cycle effect that consists of several round of trusting games can be conducted in the future.

Second, the dimensions of trust-received antecedents included in this study are limited. An actual scenario in real life on Facebook can be much more complicated, for instance, we operationalized the tie strength by relating it to friendship in real life. However, this does not take into account for a possibility that some truly close Facebook friends may never see each other in the physical world. Future research should aim to make the experiment setting more realistic.
References

Ahern, S., Eckles, D., Good, Nathan., King, S., Naaman, Mor. And Nair, Rahul. 2007. “Over-Exposed? Privacy Patterns and Considerations in Online and Mobile Photo Sharing,” In proceedings of CHI 2007, San Jose, CA, USA.


