Is online trust and trust in social institutions associated with online disclosure of identifiable information online?

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ABSTRACT

This study investigated the association between trust in individuals, social institutions and online trust on the disclosure of personal identifiable information online. Using the Internet attributes approach that argues that some structural characteristics of the Internet such as lack of social cues and controllability are conducive to a disinhibitive behavior it was expected that face to face trust and online trust will not be associated. In addition, it was expected that from the three components of trust, online trust only will be associated with the disclosure of identifiable personal information online. A secondary analysis of the 2009 Pew and American Life of Internet users (*n* = 1698) survey was conducted. In contrast with the Internet attribute approach the effect of trust in individuals and institutions was indirectly associated with the disclosure of identifiable information online. Trust in individuals and institutions were found to be associated with online trust. However, online trust only, was found to be associated with the disclosure of personal identifiable information. While trust online encourages the disclosure of identifiable information, perception of privacy risks predicted refraining from posting identifiable information online. The results show a complex picture of the association of offline and online characteristics on online behavior.

1. Introduction

The concept of privacy is variously defined, but consensus exists that privacy is about personal information, its control, and its disclosure (Altman, 1977; Joinson & Paine, 2007; Tufecki, 2008). Thus, with the increase in the use of the Internet, interest has also increased in the notion of self-disclosure, a dimension of privacy and a key area affected by Internet use (Bargh, McKenna, & Fitzimmons, 2002; Joinson, Reips, Buchanan, & Paine, 2010; Nosko, Wood, & Molema, 2009; Qian & Scott, 2007). Disclosure in the online environment has been defined as having two elements: the information unknown to others that the user decides to make common knowledge (Joinson & Paine, 2007) and the degree of user identifiability, that is, the ability of others to identify the virtual user as the real-world person (Gandy, 2000). A user's identifiability level is determined by a combination of his/her own decision to disclose details connecting his/her virtual identity with his/her real one.

Disclosing identifiable information is linked to the concept of trust. Trust refers to a "general expectancy held by an individual that the word, promise oral or written statement of another individual or group can be relied upon" (Rotter, 1980). In other words, it is a belief that in general, individuals and groups can be trusted (Smith, 2010). Trust ameliorates the perceived risks of disclosing

identifiable information (Krasnova, Spiekerman, Koroleva, & Hildebrand, 2010).

Online trust (e.g., trust in web sites, online news, social networking site providers) has been extensively studied (Corritore, Kracher, & Weidenbeck, 2003; Joinson et al., 2010; Krasnova et al., 2010; Paine et al., 2008). From these studies we learned that the formation of online trust is a difficult process, but when it is created, it serves to mitigate the perceptions of risk, uncertainty and vulnerability that are associated with the disclosure of personal and identifiable information. However, one important limitation of these studies is that to date none of them has compared online trust and the trust established through face-to-face (FtF) communication. In other words, we do not know if there is a differential effect of trust in individuals, trust in social institutions and online trust on the disclosure of identifiable information. The purpose of this study is to fill this gap in the literature and to investigate the factors associated with the disclosure of identifiable information. To do so, we examined the association between various forms of trust, perceptions of risk and the disclosure of identifiable information.

2. Literature review

In this section findings of public concerns over lack of privacy in online environments are presented. Next, the concept and

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dimensions of identifiable information and trust are defined. Finally, two theoretical models explaining the association of online and offline trust on disclosure of identifiable information are discussed.

Studies investigating Internet users' privacy concerns report that a sizeable percentage is concerned with the consequences of disclosing personal identifiable information online. In a study of a representative sample of the US population using a 5-point scale to measure the fear of disclosing personal information online, the average score was 3.75 (Turow & Hennessy, 2007). Another study based on a large online survey found that the major concerns of Internet users were identity theft and access to and distribution of their personal information (Paine, Reips, Stieger, Joinson, & Buchanan, 2007). A more recent study that investigated the extent of privacy concerns in a representative US sample found that 55% of the respondents were more concerned with Internet privacy issues than 5 years ago and 38% were concerned at the same level (Hoofnagle, King, Li, & Turow, 2010). The results of these studies indicate a raising public concern over the disclosure of personal information online.

The concept of disclosure of identifiable information is closely associated with anonymity, e.g., a state where a person is not identifiable (Marx, 1999). Anonymity can be either discursive or visual (Scott, 2004). Discursive anonymity refers to the condition where textual communication cannot be attributed to a particular source. In an online environment people usually feel identifiable when their personal information (name, email, gender, location, etc.) is disclosed. Visual anonymity refers to the lack of any visual representation of a person, such as pictures or video clips. Conceptually, identifiable information is not dichotomous—it varies in degrees. Certain identity knowledge, for example, can be used to identify a person uniquely (e.g., a legal name and an address), while some other identity knowledge may not be as effectively used to trace a message source (e.g., information about social categorization or a pseudonym). By the same token, a picture, typically coupled with some other identity knowledge, may be enough for complete identification, whereas a photo with a blurred face may provide limited information about the subject. A personal name is less ambiguous information. In this study we focus on the discursive dimension and study the disclosure of identifiable information using a personal name.

A central motivation for posting identifiable information is trust. Trust can be defined as the willingness to accept a vulnerable situation based on a positive expectation regarding the actions of others (Bos, Olson, Gergle, Olson, & Wright, 2002). From trust derives an expectation that the actions of others, the use of our identifiable information, will be conducted according to our expectations (Holmes & Rempel, 1989). Three different dimensions relevant to this study can be identified from the discussion about the concept of trust: trust in individuals, trust in institutions and online trust. Trust in individuals is conceived as a characteristic of the person, encompassing his or her past and present experiences. The main sources of trust in individuals are early and later life experiences, mainly in interpersonal relationships (Erikson, 1964; Uslander, 2002). In that sense, trust in individuals is seen as a trait or disposition that is based on real past experiences.

Trust in institutions refers to the faith that people have in collective entities. Having trust in an institution means that individuals believe that the entity, on the whole, is competent, able to fulfill its obligations toward customers and acts in responsible ways (Devosk, Spini, & Schwartz, 2002). Trust in institutions is very different from trust in individuals (Giddens, 1990). Trust in institutions is impersonal in nature, a characteristic that makes the creation of this type of trust so difficult. Trust in institutions is of-ten based on some public knowledge about the entity's reputation and performance.

Online trust is a difficult task to accomplish because it requires the establishment of trusting relationships in the online world. The Internet itself is an object of trust with uncertain conditions just because it is not based on dyadic or group relations alone (Wang & Emurian, 2005). Internet users perceive the online world as one in which they are uncertain about risks and the results of their online transactions. For this reason, the online environment is viewed as insecure (Friedman, Kahn, & Howe, 2000). Studies of online self-disclosure have shown a direct relationship between trust in online providers and self-disclosure. Users tend to adjust how much information they disclose based on a consideration of perceived risks and trust (Joinson et al., 2010; Krasnova et al., 2010).

As to the association between online and offline trust and its effect on the disclosure of personal information, the Internet attribute approach implicitly implies that the attributes of the Internet (relative anonymity, lack of sufficient cues and controllability) generate online behavior that is independent of offline behavior (Mesch & Becker, 2010; Schouten, Valkenburg, & Peter, 2007; Tidwell & Walther, 2002). According to this approach, structural attributes of the Internet encourage interactants to engage in more intimate exchanges in online settings than in face-to-face settings. The first attribute is reduced nonverbal cues. Computer mediated communication (CMC) is typically characterized by reduced visual, auditory, and context cues, such as social status cues. The second structural attribute assumed to enhance online self-disclosure is the controllability of CMC. The controllability of CMC allows users the time to review and edit their messages and to consider responses (Schouten et al., 2007; Walther, 1996). Fewer non-verbal cues and greater controllability reduce people's inhibitions when interacting online, perhaps leading to the rapid development of online trust that in turn may lead to increased online self-disclosure. According to the Internet attribution approach, the Internet, through its disinhibiting effect, will be positively associated both with the development of online trust and the disclosure of identifiable information. It is important to note, that according to this approach, online trust is not associated with trust in individuals or trust in institutions, but develops as a result of the attributes of the online environment.

Supporting this view, a recent study that investigated the differential effect of offline and online norms of personal information disclosure found that the correlation between online and offline norms of disclosure of personal information was very low, and online norms alone predicted the disclosure of personal information (Mesch & Becker, 2010).

In the following section the specific hypotheses (H1–H6) to be tested are described. These hypotheses are influenced by aspects of the reflective approach and the Internet attributes approach and prior research on disclosure of identifiable information in online environments. Below, we explain each hypothesis in more detail and provide references to influencing prior research.

The reflective view assumes that offline trust (e.g., trust in individuals and trust in institutions) affects online interactions. For example, people who are more trusting in general, are more trusting on the Internet as well (Katz & Rice, 2002). Furthermore, it appears that individuals who are less trusting are more likely to perceive the Internet as threatening (Uslander, 2000). Supporting this argument, a study in the UK reported that Internet users in Britain trust the Internet more, simply because they are more trusting of social institutions (Dutton & Shepherd, 2006).