



Solving the privacy paradox: A counter-argument experimental approach



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ABSTRACT

This study investigates why ordinary online users highly concerned about the misuse of personal information do not adopt privacy-protective behaviors, or even engage in risky behaviors, on the Internet. Given that people have few chances to directly experience privacy infringement and tend to be unfamiliar with technical terms, their opinions as reflected in conventional polls tend to be instantaneous reactions to survey questionnaires, lacking thoughtfulness. By adopting a counterargument experimental technique, this study produced three important findings: (1) people's opinions about online privacy are swayed after being presented with a message containing a counterargument; (2) this persuasion effect is pronounced among people with a low level of online knowledge or who assess the presented message's argument as strong; and (3) the privacy paradox is found in conventional polls but disappears in counterargument conditions. These findings imply that opinions concerning online privacy should not be estimated through conventional polling. Rather, alternative polls (e.g., deliberative polls) should be adopted for online privacy policy-making.

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1. Introduction

While modern privacy concerns, according to scholars, began with the advent of photography (Solove, 2007) or the modern nation-state (Lyon, 2007), online privacy concerns amongst the general public originated with the rise of database systems in the 1980s and the Internet in the 1990s (Smith, Dinev, & Xu, 2011, pp. 990–991). In the era of Web 2.0, both public opinion and public policy vacillate between focusing on the dangers or the benefits of personal information disclosure on the Internet; the so-called dot.com economy has convenient online services that cannot survive without users willing to disclose personal information (Berger, 2010; Smith et al., 2011), but this state of affairs simultaneously raises online privacy concerns in the public's mind.

To estimate the magnitude and scope of online privacy concerns and their effects on users' online behaviors, a considerable number of online privacy-related surveys and data-mining studies have been conducted. Researchers, however, have been perplexed by the so-called "privacy paradox," which Smith et al. (2011, p. 993) explained as follows: "Despite reported high privacy concerns, consumers still readily submit their personal information in a number of circumstances." In other words, people's opinions about online privacy do not successfully predict their behaviors on the

Internet (Norberg, Horne, & Horne, 2007). In spite of the privacy paradox, the results of unreliable opinion polls influence the formation of policies related to online privacy protection (Gandy, 2003, p. 284); this might result in flawed policies that do not adequately reflect what people really want on the Internet.

Setting aside the unreliability of survey responses, polls have recognized limitations in providing evidence on controversial issues (Shadish, Cook, & Campbell, 2010). Thus, the present study relied on experiments to explain why people's concerns about online privacy fail to translate into privacy-protective behaviors on the Internet. Specifically, this study presents three experiments testing four research hypotheses derived from theories of persuasion, message processing, and public opinion research. By relying on experiments testing theoretically derived hypotheses, this study attempts to solve the known attitude–behavior inconsistency in literature on information privacy (e.g., Awad & Krishnan, 2006; Barnes, 2006) and makes an argument for why people's opinions on privacy as determined by conventional polls are limited and should be disregarded for the purposes of public policy-making on the Internet.

2. Why privacy paradox matters

On the Internet, people's online activities can be traced, stored, saved, and even traded to unknown third parties (Holtzman, 2006; Lessig, 2002). In addition, despite their usefulness and benefits for making online services work better, devices such as smartphones heighten people's privacy concerns. For example, recent mobile

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health and fitness apps could pose serious risks to smartphone users because such applications collect critical health information, along with geo-location, lifestyle factors, and other details (Privacy Right Clearinghouse, 2013). Because of these technical features and recent privacy infringement cases in the news, public surveys have shown a trend of people becoming more and more concerned about loss of privacy on the Internet (Barnes, 2006; Gandy, 2003; Gross & Acquisti, 2005; Utz & Kramer, 2009).

Nevertheless, studies have consistently reported a striking finding termed the “privacy paradox.” Specifically, scholars have found that people are highly concerned about private online companies’ misuse of personal information but less likely to engage in privacy-protective behaviors (e.g., regularly deleting cookies or choosing protective privacy settings on social media). In addition, many people even voluntarily disclose critical personal information on social media (Barnes, 2006; Gross & Acquisti, 2005; Norberg et al., 2007). In other words, Internet users’ privacy-related opinions are highly dubious and unreliable in terms of predicting online behaviors.

Broadly, there are two contrasting interpretations of the privacy paradox, termed the *opinion-oriented* interpretation and the *behavior-oriented* interpretation in this study. The former argues that the root of the paradox is the public’s low level of knowledge or literacy (i.e., people do not know how personal information is processed on the Internet; e.g., see Hargittai, 2009; Park, 2011). In other words, this interpretation assumes that the expressed concerns are legitimate but that ignorance leads to risky behaviors. Given that the technical issues surrounding online privacy are difficult for ordinary users to understand and control, advocacy groups (e.g., the Electronic Privacy Information Center and the Privacy Rights Clearinghouse) argue that government should take a more preventative stance in watching and regulating private companies’ misuse of personal information to protect people’s privacy (Baumer, Earp, & Poindexter, 2004).

The behavior-oriented interpretation, in contrast, argues that people’s behaviors should be taken at face-value and treats online privacy concerns as superficial, being mere expressions of loss aversion. Those favoring this interpretation assert that most people are in fact ready to trade online privacy for the benefits of personal information disclosure (Xu, Luo, Carroll, & Rosson, 2011). Given that many online services are provided free to ordinary users, it would be impossible to provide personalized services with behavioral advertising without such disclosure by users (Awad & Krishnan, 2006). This means that severely protective privacy policies may discourage the dot.com economy (Berger, 2010). This interpretation therefore leads to the suggestion of a self-regulation approach, in which government should not interfere in the free contract between companies and users (Baumer et al., 2004).

To settle the contradictory policy orientations arising from the privacy paradox, a more scientific approach should be pursued. Currently, however, the online policy discourse relies on unstable or unreliable public opinion data extracted from large-scale opinion surveys (Gandy, 2003). Most of these are conducted by commercial companies whose intentions are doubted by public advocacy groups (e.g., the Electronic Privacy Information Center) and some scholars (e.g., Andrejevic, 2007; Gandy, 2003). Theoretical explanations are needed regarding why public opinions about online privacy are superficial (for exception, see Park, 2011), as this state of affairs distorts public policy as well as public will.

3. Opinion and its relationship with behavior

The above paradox is not a phenomenon unique to the online privacy domain; opinions or attitudes concerning behaviors have frequently been found to lack predictive power in other domains (Ajzen & Fishbein, 1977; Bishop, Tuchfarber, & Oldendick, 1986;

Fazio & Zanna, 1981). The “privacy paradox” thus may not be a particularly astonishing or unique phenomenon. According to studies on the relationship between attitudes or opinions and behavior, the association becomes diluted when people are less experienced (Fazio & Zanna, 1981) or less thoughtful about the topic (Bishop et al., 1986; Price & Neijens, 1998; Sniderman, Brody, & Tetlock, 1991). Fazio and Zanna (1981), based on priming theory, found that the opinions of respondents who had already experienced the topic at hand better predicted their behaviors because their attitudes were based on more solid beliefs compared to those with less experience. Using similar logic, public opinion researchers found that more thoughtful opinions on a given topic better predicted behaviors compared to less thoughtful opinions (Price & Neijens, 1998).

Such findings in other opinion domains provide theoretical clues as to why the “privacy paradox” is detected in privacy-related opinion polls. First, most people may have few chances to experience serious privacy infringement on the Internet (Mayer-Schönberger, 2009). Private companies’ use of personal information is not very visible unless users pay close attention to privacy notices (Andrejevic, 2007). While some serious cases of privacy infringement have emerged in social discourse (e.g., the “drunken pirate” and Andrew Feldmar cases; see Mayer-Schönberger, 2009, pp. 2–3), most users likely have no such experience. A second, related, point is that online privacy issues are relatively esoteric. For example, understanding online privacy issues demands a certain level of digital literacy with regard to technical terms such as cookies, behavioral targeting, and data-mining (see Hargittai, 2009; Park, 2011). Thus, people with low knowledge of technical terms may form weakly founded opinions that fail to predict online behaviors.

In sum, the privacy paradox emerges because people have relatively few chances to think about online privacy. Given that online privacy opinions are formed without much experience or careful consideration, the privacy paradox can be regarded as a natural phenomenon rather than a perplexing one.

4. The search for accurate opinion: methodological solutions to theoretical questions

Although large-scale opinion polling is often considered the most scientific estimate of what people are thinking and what they want on a particular issue, public opinion researchers suggest that such polls provide a picture of public opinion that is superficial (e.g., Bishop et al., 1986) and less considered (e.g., Price & Neijens, 1998). To remedy the limitations of conventional polls, alternative polling methods, such as deliberation polls (e.g., Fishkin, 1991) or counterargument experiments (Sniderman et al., 1991), have been suggested to collect more considered and less superficial opinions. In conventional polls that put ordinary respondents on the spot, they form opinions without weighing both the pros and cons of a controversial issue; this is an important cause of superficial opinions (Bishop et al., 1986). Alternative methods allow people to hear contrasting views on an issue and then ask them for their opinion. While deliberation polls and counterargument experiments have been applied widely to examine political and social issues (e.g., see Fishkin, 1991; Sniderman & Piazza, 1993; Sniderman et al., 1991), they have not been applied to studies of public opinion on online privacy, as far as we are aware. Therefore, the present study approaches the privacy paradox by designing three experiments to examine how people’s opinions on online privacy change (or are maintained) when encountering messages arguing for either protection or disclosure of personal information on the Internet.

This study modifies the typical counterargument experiment in order to address the privacy paradox problem. As explained above, ordinary users do not give serious consideration to the online privacy issue, implying that people’s opinions on this issue are pliable and fickle. In general, people will thus be persuaded by a

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