Decision Support Systems xxx (2016) xxx–xxx

Contents lists available at ScienceDirect

Decision Support Systems

journal homepage: www.elsevier.com/locate/dss

Employees' information security policy compliance: A norm activation perspective

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ARTICLE INFO

Article history:
Received 29 August 2015
Received in revised form 29 July 2016
Accepted 13 September 2016
Available online xxxx

Keywords:
Information security compliance
Personal norms
Social norms
Principle ethical climate

ABSTRACT

This study explores the role of norms in employees' compliance with an organizational information security policy (ISP). Drawing upon norm activation theory, social norms theory, and ethical climate literature, we propose a model to examine how ISP-related personal norms are developed and then activated to affect employees' ISP compliance behavior. We collected our data through Amazon Mechanical Turk for hypothesis testing. The results show that ISP-related personal norms lead to ISP compliance behavior, and the effect is strengthened by ISP-related ascription of personal responsibility. Social norms related to ISP (including injunctive and subjective norms), awareness of consequences, and ascription of personal responsibility shape personal norms. Social norms related to ISP are the product of principle ethical climate in an organization.

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1. Introduction

An information security policy (ISP) of an organization defines a set of rules and policies related to employee access and use of organizational information assets. It usually describes employees' responsibilities and consequences of policy violations [1,2]. Regardless of the breadth and clarity, without employees' compliance, an ISP cannot serve as an effective countermeasure to information security problems. Therefore, how to motivate employees to comply with the ISP in an organization has received a lot of attention [3–7].

Because employees often work in a group or team within an organization, their behavior or opinions are likely to be influenced by others [8]. In exploring employees' compliance with the ISP, social norms in the form of normative beliefs [1,9], social pressure [10], social influence [11], and subjective norms [12,13] have been recognized as important factors. However, as Torgler [14] state, "when working with social norms, we have the difficulty of specifying their exact meaning" (p. 663). Similarly, the information security literature does not unanimously define or categorize social norms. Some studies refer to them as subjective norms or social pressure from peers and superiors [15], others refer to them as descriptive and subjective norms [1,13], and in some cases, normative beliefs and social pressure have been used interchangeably. Existing studies commonly emphasize external motivators that directly influence behavior. Yet, how such influences are internalized and consequently alter ISP compliance behavior has been barely investigated.

There are two general types of norms for an employee in an organization: social and personal norms [16]. Social norms, grounded in social interactions among individuals, broadly define behavioral rules based on common beliefs about how people should act in a particular situation. They indirectly promote a group's well-being through informal rewards and sanctions founded on group expectations. On the other hand, personal norms are private and internalized norms grounded in one's beliefs and values. They influence behavior when an individual feels their most important values are endangered [17]. Their rewards and sanctions are self-imposed [18]. Personal norms produce norm-based behavior [19], whereas social norms may affect behavior after an individual accepts and internalizes them as personal norms. In fact, the presence of personal norms diminishes the direct effect of social norms in explaining a behavior [20,21].

To broaden the understanding of the role that norms play in motivating ISP compliance behavior, this study proposes a research model rooted in norm activation theory [19], social norms theory [8], and ethical climate literature [22]. We argue that ISP-related personal norms are a determinant of ISP compliance behavior. Through the lens of norm activation theory [19] from sociological literature, we propose that both awareness of consequences and ascription of personal responsibility in ISP compliance not only contribute to the development of ISP-related personal norms but also strengthen the effect of ISP-related personal norms on ISP compliance behavior. Building off the theory of social norms [8], we argue that ISP-related personal norms are shaped partly via the internalization of social norms, including descriptive, injunctive, and subjective norms. Lastly, we propose that ISP-related social norms are the product of principle ethical climate.

The proposed research model integrates theories regarding norms from social psychology literature [8] to explain ISP compliance behavior. It recognizes the important role of ISP-related personal norms and

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http://dx.doi.org/10.1016/j.dss.2016.09.009
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explores how they are formed and activated. We tested the research model using data collected through Amazon Mechanical Turk, which comprises 201 valid responses from working professionals in a diverse set of organizations. Out results show that ISP-related personal norms lead to ISP compliance. Interestingly, ISP-related personal norms are more likely to influence ISP compliance behavior when employees feel personal responsibility for their ISP-related actions. In addition, ISP-related injunctive and subjective norms, awareness of consequence, and ascription of personal responsibility shape ISP-related personal norms. And principle ethical climate plays an important role in forming ISP-related social norms.

The paper is organized as follows. Section 2 introduces the theoretical background. Section 3 develops the hypotheses, and Section 4 describes the research method. Next, Section 5 presents the research methodology and results. Finally, Section 6 discusses the theoretical contributions and practical implications as well as future research directions.

2. Theoretical background

2.1. Norm activation theory

Norm activation theory [19] posits that personal norms are the immediate antecedent of one's behavior. Personal norms reflect an individual's commitment to their internalized values. They are the outcome of an individual's perception of social expectations during socialization, and will be perceived as the sense of moral obligation to engage in the specific behavior [19]. Personal norms are enforced through the anticipation of self-punishments and self-rewards, while social norms are anchored in a social group [19,23]. Accordingly, an individual may engage in socially acceptable behavior to avoid social sanctions, but they may continue following those norms due to internal motives, such as improving their self-image [24].

Norm activation theory claims that feelings of moral obligation are a proper means to measure personal norms, because obligations, like norms, precede actions [19]. In addition, moral obligation reflects past commitment, thereby carrying the possibility of sanctions, which are an integral part of norms [23]. Furthermore, it conveys that an individual is the source of obligations and sanctions [19]. In other words, feelings of moral obligation encompass all the aspects of personal norms including commitment to internalized values, self-sanctions, and the tendency to act.

The theory further suggests that only when personal norms are interpreted as relevant and specific to a situation in which they are formed [23], they will be activated [19,25]. Here, activation refers to directing an individual's focus to their beliefs in their decision-making process. While following personal norms may enhance self-regard and avoid self-criticism, it could also result in such costs as extra effort and time. If the benefits outweigh the costs, the behavior is more likely to happen [26]. However, if the costs exceed the benefits, or the costs and benefits are not clear, an individual may experience conflicts in their decision-making [23]. To mitigate the conflict, an individual may employ defense mechanisms to weaken their feelings of moral obligation by redefining their perception of the situation [23]. Denial of consequences and denial of personal responsibility for the act are the common defense mechanisms [26]. The former involves underestimating the negative outcomes of an action to justify it [27,28], while the latter involves considering the action in question as beyond one's control or outside one's realm of responsibility [27,28]. If implemented completely, these defense mechanisms allow neutralization of moral obligation without imposing self-sanctions [26]. To overcome such defense mechanisms, two conditions are required. First, an individual must realize that their behavior affects the welfare of others, which is known as awareness of consequences. Second, an individual must accept personal responsibility for the consequences of their behavior. This is termed ascription of personal responsibility. When these conditions are met, defense mechanisms become less effective and personal norms are more likely to be activated, causing a feeling of personal obligation to regulate the behavior [23,29].

At the same time, it is also theoretically plausible that both factors (i.e., awareness of consequences and ascription of personal responsibility) directly contribute to the formation of personal norms [29–33]. It may be difficult to feel morally obligated for an action without feeling responsible for it or knowing the influence of that action on others. The more an individual appreciates the consequence of an action on others, the more likely they develop personal norms related to the action [19,29,33]. The more an individual accepts their responsibility for an action, the more they are expected to attend to the values that generate the action and consequently generate the feeling of moral obligation for the action [19,29,33].

Schwartz [19] originally developed norm activation theory to rationalize altruistic behavior. It was mostly applied in a pro-environmental context to explain pro-environmental behaviors, such as conservation behavior [34], pro-environmental buying [20], recycling [35], travel mode choice [36], and car use [37]. To the best of our knowledge, we are the first to apply this theory in the context of information security.

2.2. Theory of social norms: personal norms formation

The feelings of moral obligation can be traced to social norms and to the situations under which they are learned [19]. Social norms are implicit and explicit rules and standards that members of a group learn through socialization—direct and indirect communication and interactions with others. They guide or restrain behavior through social sanctions, not the force of law, and can be categorized into descriptive, injunctive and subjective norms [8].

Descriptive norms are grounded in an individual's perception of how others act in a specific situation [8]. For example, people typically stand up and clap at the end of a concert. The desire to follow descriptive norms is rooted in amplifying the efficacy of social behavior. Descriptive norms help an individual determine the appropriate behavior in similar situations [38]. In other words, having noticed what others do in a similar situation, an individual perceives sufficient social support for a particular behavior in a new or uncertain situation [39].

Injunctive norms involve perceptions of approval and disapproval of certain behaviors —the moral rules of a group, and what “should” be done [38]. These behaviors often garner social acceptance or the approval of others [40]. The desire to follow injunctive norms is rooted in an individual's social nature and the tendency to build, develop, and maintain social relationships with others to gain resources and social support.

Subjective norms are defined as what an individual believes regarding what important others (e.g., family, friends, and supervisors) expect them to do in a specific situation [8]. The motivations to follow them are similar to those of injunctive norms: to build, develop, and maintain social relationships and particularly to earn others' approval. However, subjective norms guide an individual based on their perception of what those important to them expect, as opposed to what everyone else, in general, expects [8].

Social norms and cost of deviance in the group encourages members to act in ways that they consider other members think they “should.” The degree to which social norms regulate behavior depends on whether the individual has accepted and internalized them as opposed to just learning them [41]. Internalization refers to the process of an individual accepting a norm as intrinsically satisfying and in line with their own value system [24]. An individual who has internalized social norms is likely to conform to expected behaviors even when they are not observed or externally sanctioned [42]. Through internalization, social norms become personal norms [19,43].

Please cite this article as: A. Yazdanmehr, J. Wang, Employees' information security policy compliance: A norm activation perspective, Decision Support Systems (2016), http://dx.doi.org/10.1016/j.dss.2016.09.009

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