World Academy of Science, Engineering and Technology
International Journal of Computer and Information Engineering
Vol:11, No:01, 2017

Evaluating Value of Users' Personal Information Based on Cost-Benefit Analysis

Authors : Jae Hyun Park, Sangmi Chai, Minkyun Kim

Abstract : As users spend more time on the Internet, the probability of their personal information being exposed has been growing. This research has a main purpose of investigating factors and examining relationships when Internet users recognize their value of private information with a perspective of an economic asset. The study is targeted on Internet users, and the value of their private information will be converted into economic figures. Moreover, how economic value changes in relation with individual attributes, dealer's traits, circumstantial properties will be studied. In this research, the changes in factors on private information value responding to different situations will be analyzed in an economic perspective. Additionally, this study examines the associations between users' perceived risk and value of their personal information. By using the cost-benefit analysis framework, the hypothesis that the user's sense in private information value can be influenced by individual attributes and situational properties will be tested. Therefore, this research will attempt to provide answers for three research objectives. First, this research will identify factors that affect value recognition of users' personal information. Second, it provides evidences that there are differences on information system users' economic value of information responding to personal, trade opponent, and situational attributes. Third, it investigates the impact of those attributes on individuals' perceived risk. Based on the assumption that personal, trade opponent and situation attributes make an impact on the users' value recognition on private information, this research will present the understandings on the different impacts of those attributes in recognizing the value of information with the economic perspective and prove the associative relationships between perceived risk and decision on the value of users' personal information. In order to validate our research model, this research used the regression methodology. Our research results support that information breach experience and information security systems is associated with users' perceived risk. Information control and uncertainty are also related to users' perceived risk. Therefore, users' perceived risk is considered as a significant factor on evaluating the value of personal information. It can be differentiated by trade opponent and situational attributes. This research presents new perspective on evaluating the value of users' personal information in the context of perceived risk, personal, trade opponent and situational attributes. It fills the gap in the literature by providing how users' perceived risk are associated with personal, trade opponent and situation attitudes in conducting business transactions with providing personal information. It adds to previous literature that the relationship exists between perceived risk and the value of users' private information in the economic perspective. It also provides meaningful insights to the managers that in order to minimize the cost of information breach, managers need to recognize the value of individuals' personal information and decide the proper amount of investments on protecting users' online information privacy.

Keywords : private information, value, users, perceived risk, online information privacy, attributes
Conference Title : ICISRM 2017 : International Conference on Information Security and Risk Management
Conference Location : Singapore, Singapore
Conference Dates : January 08-09, 2017