Association for Information Systems

AIS Electronic Library (AISeL)

SIGHCI 2020 Proceedings

Special Interest Group on Human-Computer Interaction

12-12-2020

The Impacts of Individual Emotional state and Emotional Framing of Phishing Attack on Susceptibility to Phishing: An Emotional Congruence Perspective

Xuecong Lu

Milena Head

Junyi Yang

The Impacts of Individual Emotional state and Emotional Framing of Phishing Attack on Susceptibility to Phishing: An Emotional Congruence Perspective

Xuecong Lu
DeGroote School of Business
McMaster University Hamilton, Ontario,Canada
lux95@mcmaster.ca

Milena Head
DeGroote School of Business
McMaster University Hamilton, Ontario,Canada
headm@mcmaster.ca

Junyi Yang
DeGroote School of Business
McMaster University Hamilton, Ontario,Canada
yangj263@mcmaster.ca

ABSTRACT

People's overdependency on the Internet has given rise to an increasing number of cybercrimes. To help combat these cybercrimes, it is essential to understand factors that can make people vulnerable and susceptible to such crime. Specifically, we focus on phishing attacks, which are increasing in frequency and can have many negative impacts on their victims. Thus, we seek to answer the question: What are the determinants for susceptibility for phishing attacks? Drawing on emotional congruence theory, our work-in-progress study not only examines the direct impacts of individual emotion, and emotional framing of phishing attack, but also focuses on the interactive impacts of the two factors. We will conduct both online and lab experiments to investigate the above research question. We contribute to the human computer interaction (HCI) literature by offering insights on how message design of phishing attack can interplay with individual emotion to influence an individual's phishing susceptibility.

Keywords

Phishing attack, individual emotional state, emotional framing, susceptibility to phishing, emotional congruence.

INTRODUCTION

The Internet has found a place in our everyday lives in terms of communication, online shopping, storing data, gaming, etc. However, this overdependency on the Internet has given rise to an increasing number of cybercrimes. Prior literature mainly examined the impacts of information cues and individual's cognitive ability on phishing attack vulnerability. However, to the best of our knowledge, none of these studies take an integrative view of the phishing message and personal cognition or emotion to examine antecedents for phishing attack susceptibility. As such, our study focusses on the interactive impacts of individual emotional state and emotional framing of phishing messages on individual's susceptibility toward phishing attacks.

THEORETICAL FOUNDATION

In this study, we apply emotional congruence theory to differentiate scenarios regarding the extent of match between individual emotional state and emotional framing of a phishing attack and to explain the pathways by which these emotional factors influence an individual's susceptibility to phishing attacks.
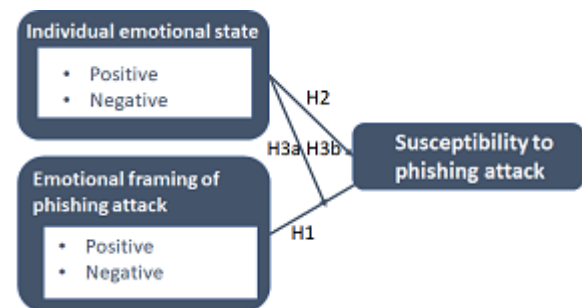

Figure 1. Proposed Research Model

POTENTIAL CONTRIBUTIONS AND LIMITATIONS

Our research will contribute to the HCI literature by highlighting not only the impacts of emotional framing of phishing design on people's susceptibility toward phishing, but also the interactive impacts from one's emotional state and the emotional framing of phishing attack. One limitation is that this study does not differentiate susceptibility of phishing for individuals in different ages with varying cognitive abilities, which can be explored in future study.