Preventing spear-phishing victimization through concrete and abstract fear appeal construals: An online field experiment grounded in construal-level theory and protection-motivation theory

By

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Abstract
Phishing is a pervasive, growing form of online fraud that causes billions in annual losses. Spear-phishing is a highly targeted and successful type of phishing that uses social engineering to craft emails that appear genuine. Unfortunately, anti-phishing training campaigns struggle to effectively educate users on how to detect such spear-phishing emails—partially because security is seen as a secondary task outside their normal work, and partially because users are rarely motivated to undergo lengthy training. To be effective, training needs to be non-disruptive and brief as to avoid being onerous, and yet, inspire dramatic behavioral change necessary to detect spear phishing. We present a novel training approach, based on fear appeals and protection-motivation theory (PMT), that firms can use to educate users and evoke protection motivation. In doing so, we integrate construal-level theory (CLT) to explain how fear appeals can quickly and powerfully evoke mental representations (construals) necessary to stimulate threat perceptions. We report results of an online field experiment used to validate our hypotheses. Our contributions encompass: (1) providing effective and brief anti-phishing training based on fear appeals and PMT; (2) expanding PMT with CLT to guide fear appeal design; (3) demonstrate a full application of CLT.

Prof. Jason Thatcher is a Professor of MIS in Department of Management, College of Business & Behavioral Science, Clemson University. He earned a Ph.D. in Information Systems from the College of Business at Florida State University. He is a member of Phi Beta Kappa, Beta Gamma Sigma, Sigma Alpha Epsilon, and the PhD Project. He is immediate Past-President of the Association for Information Systems. He served two terms as VP of Membership for the Association for Information Systems. He guided the strategic realignment of services to support more opportunities for the career development and recognition of our members. He has also served as an AIS representative on the Board of Partnership for Advancing Computing Education (PACE) from July 2012 through the present. PACE charter members are Association for Computing Machinery (ACM), Association for Information Systems (AIS), Computer Science Teachers Association (CSTA), IEEE Computer Society (IEEE), National Center for Women and Information Technology (NCWIT), and Computing Research Association.

He serves as a Senior Editor at MIS Quarterly, Decision Sciences, and AIS Transactions on Human-Computer Interaction. He has served on the editorial boards of Information Systems Research, Journal of the AIS, European Journal of Information Systems, Information Technology and People and other journals.

Beyond professional groups and journals, His service focuses on developing Ph.D. students. He has led placement workshops at AMCIS, served on the planning committee for the ISDS PhD Project, and published on career management issues in CAIS. He is a member of the Circle of Compadres for contributions to mentoring minority Ph.D. students in Information Systems and related STEM disciplines.

He teaches Management Information Systems in the Undergraduate and Graduate curriculum of the Management and MBA programs. He has won teaching and innovation awards from Innovision, Clemson University, and Florida State University.

He founded the Social Analytics Institute (SAI) and the Social Media Listening Center (SMLC) at Clemson University. To do so, Dr. Thatcher helped to raise funds from federal, state, and private organizations. SAI supports data-intensive research at the intersection of behavioral science, information systems, and computing. SMLC focuses on analyzing social media to improve understanding of business, political, and social issues.