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DigitalCommons@Kennesaw State University

IS Security Research Development: Implications For Future Researchers

Kane Smith
Virginia Commonwealth University, smithkj6@vcu.edu

Chris Merritt
Virginia Commonwealth University, merrittcd@vcu.edu

Abstract

Security within the context of Information Systems has long been a concern for both academics and practitioners. For this reason an extensive body of research has been built around the need for protecting vital technical systems and the information contained within them. This stream of research, termed Information Systems Security (ISS), has evolved with technology over the last several decades in numerous different ways. This evolution can create a great deal of difficulty for researchers to identify under-represented areas of ISS research as well as ensure all relevant areas of concern are addressed. The purpose of this paper is threefold: First, our goal is to map the progression of ISS research from past to present. Second, conduct a review of ISS literature from the date of the last holistic literature review to present, identifying key security thematic presented in these works, grouping them categorically. Lastly, from this review we explain the thematic these works resolve to and based on these categories we discuss where ISS research currently stands.

Disciplines
Information Security | Management Information Systems | Technology and Innovation

Comments
Summary Version

SUMMARY

Security within the context of Information Systems has long been a concern for both academics and practitioners. For this reason an extensive body of research has been built around the need for protecting vital technical systems and the information contained within them. This stream of research, termed Information Systems Security (ISS), has evolved with technology over the last several decades in numerous different ways. This evolution can create a great deal of difficulty for researchers to identify under-represented areas of ISS research as well as ensure all relevant areas of concern are addressed. It is for this reason this work exists, to discern where our field has been, where it is currently at and prognosticate where we believe it should be heading in order to maximize its valuable contributions in Information Systems Security. This is not the first effort in this regard as previous researchers have done the same, looking holistically at the entire field of ISS; however the first review of this kind occurred by Baskerville (1993) and the last by Siponen & Oinas-Kukkonen (2007) with two others between them (Dhillon & Backhouse 2001 and Siponen 2005). For this reason it is now important to again evaluate the current state of ISS research and make a call towards under-researched areas of this field.

   The body of knowledge regarding ISS research has continued to evolve since the work of Baskerville (1993), Dhillon & Backhouse (2001), and Siponen (2005). These three works were comprehensive assessments of the "current" state of information systems security research, and each prognosticated the future directions of research in the field. An extensive review of current Information Systems Security Research (ISS research moving forward) uncovered two additional holistic reviews of ISS research, McFadzean et al. (2006) and Siponen & Oinas-Kukkonen (2007), which are extensions of Dhillon & Backhouse (2001) and Siponen (2005) respectively. Since Siponen & Oinas-Kukkonen (2007), all additional literature reviews in ISS research have only been focused on specific streams of research within the field instead of all-encompassing assessments of the direction of ISS research. Therefore the purpose of this paper is threefold: First, our goal is to map the progression of ISS research from Baskerville (1993) to present by describing their assessment of the field at the time and then visions for the future. Second, we conduct a review of ISS literature from 2007 (the date of the last holistic literature review) to present 2016 and identify the key security thematic presented in these works, grouping them categorically. Lastly, from this review of ISS literature from 2007 to present we explain the thematic these works resolve to and then discuss based on these categories where ISS research currently stands. Using this current standing as a launching point, we are then able to address where gaps, potential opportunities for new research, exist and can be

exploited by new researchers in our field. The aim of this work is to ultimately make a call back to holistic research practices so that under-researched areas of Information Systems Security can be developed to the benefit of the field as a whole.