

Survey on economics of information security

ABSTRACT

Economics of information security has recently become a rapidly growing field of research that is vitally important for managing the decisions and behaviors in cyberspace security. This field provides valuable insights not only for security experts, but also for policy makers, business managers, economists and psychologists. In this paper, we are going to discuss the emergence and evolution of economics of information security; where it came from, where it is today and its future directions. Research conducted for this survey explores the literature on economic issues in information security and review the advantages, drawbacks, and future research directions to set the scene that the assessment and analysis of the economics of information security publications followed it. Furthermore, we provide a structured discussion and overview of selected sets of works and highlight the models and theories in this field by organizing the presented works into six main categories namely information security investment, trust and privacy, network security, malicious program and malware economics, penetration testing and digital forensics and software security. Additionally, this survey aims to familiarize readers with major areas of this field already in hand to indicate the gaps and overlooked issues in the economics of security.

Keyword: Economics of security; Information security; Privacy; Digital forensic; Game theory