Friday Keynote – Society for Information Management (SIM) 2021 IT Trends Study

Overview

Since 1980, the Society for Information Management (SIM) has surveyed its members to determine the issues of most concern to them and their organizations. Year-to-year comparisons are made to identify trends and track changes over time in the evolving management and usage of the information technologies entrusted to their care. This year's SIM IT Trends Study marks the 40th anniversary of this undertaking. Over the years, the surveys have expanded to become one of the most comprehensive investigations of IT executives and the management and use of information technology (IT). This year's study is of particular importance because of the onset of the COVID-19 pandemic in February of this year and its effect organizations and the economy.

Founded in 1968, SIM is the oldest and largest not-for-profit professional organization in the U.S. for CIOs, senior IT executives, prominent academicians, advisors, and other IT leaders. SIM is both a national organization and a network of local chapters. SIM members, who comprise a broad cross-section of IT leaders, meet regularly to share, learn, and network. SIM succeeds because it provides value to its members, their organizations, and their communities. SIM co-founded both the MIS Quarterly and the MIS Quarterly Executive.

The keynote will discuss the findings from the report: Top IT Management Issues; Investments in Technology; IT Practices of Organizations, including spending, workforce, infrastructure, and cybersecurity; IT Performance Measures; CIO Tenure, Reporting, Background, and Activities; and organizational readiness and response to the COVID pandemic. In addition, the keynote will discuss the challenges and lessons from conducting a 30-year study.

Speakers

Vess Johnson

Vess L. Johnson is an Assistant Professor of Information Systems and Decision Sciences at the University of North Texas and a Society of Information Management (SIM) Research Fellow. He received his Ph.D. from

the University of North Texas, MS in Computer Science, BA in Philosophy and BS in Mathematics from Mississippi State University. Prior to returning to academia, in a professional career spanning over 20 years, he served as the President and CEO of multiple companies in the semiconductor, software, and energy sectors. His work has appeared in journals including *Information and Management, The European Journal of Information Systems, MISQ Executive, Communications of the ACM, Computers in Human Behavior,* and *The Journal of Computer Information Systems.*

Russell Torres

Russell Torres is an Assistant Professor of Business Analytics in the Department of Information Technology and Decision Sciences at the University of North Texas and a Society of Information Management (SIM) Research Fellow. He received his Ph.D. in Business Computer Information Systems from the University of North Texas following a career in information technology consulting. His research interests include data-driven decision-making, organizational impacts of business intelligence and analytics, the use and governance of artificial intelligence, and a wide variety of information technology management topics. He is a co-author of *A Survey of Core Research in Information Systems,* and his research appears in journals including the *European Journal of Information Systems*, *Information & Management*, the *International Journal of Information Management*, and *MIS Quarterly Executive*.

Saturday Keynote – IS2020: A Competency Model for Undergraduate Programs in Information Systems

Overview

The IS2020 report is the latest in a series of model curricula recommendations and guidelines for undergraduate degrees in Information Systems (IS). The report builds on the foundations developed in previous model curricula reports to develop a major revision of the model curriculum with the inclusion of significant new characteristics. Specifically, the IS2020 report does not directly prescribe a degree structure that targets a specific context or environment. Rather, the IS2020 report provides guidance regarding the core content of the curriculum that should be present but also provides flexibility to customize curricula according to local institutional needs.

The foundations of curriculum guidelines for the IS discipline emerged in the 1950s. Since then, the discipline evolved to express simultaneous interest in the design of data structures and applications and the deployment of these artifacts within various organizational domains of use. Typical educational contexts for IS undergraduate programs are business schools, computing schools and schools of information management. However, the expansion of digital technologies across the societal spectrum has led also to other disciplinary variations that are tantamount to IS program contexts. With a balanced combination of IS competencies, domain-specific competencies, and individual foundational competencies, IS2020 is intended to facilitate the development of graduates that are well prepared for jobs that require the design and management of technical solutions for users' organizational, societal, and disciplinary needs of computing. Typical job titles for graduates are IT Consultant, Data Analyst, Computer Systems Analyst, IT Auditor, Software Applications Developer, and Information Security Analyst (Mandviwalla et al., 2019).

There are several developments that motivate this revision to the IS model curriculum guidelines. First, the previous significant revision to the model curriculum, IS2010, was published ten years ago and the work to develop that report preceded that date by several years. Over the past decade, other curriculum reports have shared important progress in conceptualizing curriculum design that were worth incorporation into IS2020. Another motivation for this revision arises from ten years of exceptional growth in and proliferation of ubiquitous digital technologies throughout society. The near-simultaneous maturation of many inter-related technologies has progressed to a level that has enabled widespread adoption by companies and other organizations. The entire spectrum of organizational functions, not simply support processes, are increasingly integrated via computing and digital technologies in a manner that has been significantly transformative. In combination with the rapid growth of volumes and variety of data assets, this digital transformation has led to significant changes, not only in organizations, but also in broader society. Such changes will inevitably lead to an increase in the quantity and variety of competency requirements for IS professionals: both in the design of data and applications, and in analyzing the benefits and inherent ethical concerns that arise when digital technologies are deployed in various use domains.

Speaker

Paul Leidig

Dr. Paul Leidig, Director of the School of Computing of Grand Valley State University, has been leading several international efforts to design new curriculum and accreditation standards. Dr. Leidig serves on the boards of

the Computing Sciences Accreditation Board (CSAB), Association of Computing Machinery (ACM) Education Board, and the accrediting board ABET. He chaired several taskforces that developed new competency guidelines for information systems programs (IS2020), the first guidelines for computing competencies of data science programs (CCDS2021), and the first set of accreditation criteria for data science programs.

The Association for Computing Machinery (ACM) and the Association for Information Systems (AIS) recently released the report IS2020: Competency Model for Undergraduate Programs in Information Systems. IS2020 attempts to ensure students have the practical skills and competencies they need upon graduation. IS2020 represents an international focus, with task force members from North America, Europe, Africa, and Asia/Pacific. Additionally, IS2020 is one of the first guidelines that will be published as a living document with changing technological needs regularly propagated to a publicly available website.

One of the more cutting-edge activities led by Dr. Leidig was the development and publication of the first set of curriculum guidelines, and the first accreditation criteria, for Data Science programs. These guidelines define required computing competencies for data science graduates and serve as the first implementation of a complete set that will also include statistics and other domain skills. ABET is recognized as the appropriate accreditation body for data science programs, regardless of the academic unit offering such programs. In leading this effort, Dr. Leidig was instrumental in the American Statistical Association (ASA) joining CSAB in an effort to bring statistics into the computing realm when it comes to curriculum and accreditation standards.

In addition, Dr. Leidig also served on the task force for the Association for Computing Machinery and the IEEE Computer Society that issued Computing Curricula 2020 (CC2020): Paradigms for Global Computing Education. Developed by a 50-member task force drawn from 20 countries, CC2020 outlines international recommendations for baccalaureate degrees in computing. CC2020 is designed to be comprehensive, delineating the latest curricula for computing disciplines including computer engineering, computer science, information systems, information technology, and software engineering. CC2020 builds upon a CC2005 report by including new disciplines such as cybersecurity and data science, as well as other significant "add-ons" to reflect the changing dynamics of computing, computing education research, and the workplace.

Dr. Leidig has been recognized as a Fellow of CSAB, the lead society for accreditation of computer science, information systems, information technology, software engineering, cybersecurity, and data science. He is also an Association of Information Technology Professionals (AITP) EDSIG Fellow, both lifetime achievement honors in recognition of individuals who have given sustained, quality service to the computing profession and to computing education.