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Introduction to Enterprise System Integration: Issues and Answers

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This mini-track celebrates its 20th year at HICSS, during which time, enterprise integrated systems have greatly evolved. Over the last two decades, this mini-track has been a forum to explore and disseminate insights about the leading influences on integrated enterprise systems. This track continues to explore issues, both academic and organizational, surrounding the integration of Enterprise Systems internal and external to the enterprise at a time when its scope continues to expand. Increasingly, organizations are linking their systems with supply-chain partner's systems in efforts to streamline and automate the entire supply-chain. Such inter-organizational systems typify the challenge of process integration across corporate boundaries.

Over the last two decades, organizations have come to deeply rely on their adopted Enterprise Resource Planning (ERP) applications, and are now stretching to adopt cloud-based solutions and the Internet of Things to address the need for broader integration. Recently, ERP industry has turned to Cloud Computing to reduce capital expenditures, shifting costs to a more moderated expense category. Cloud computing represents a new business model utilizing subscription or metered services to better reflect company's current needs and actual usage. On the near-horizon, service providers are investigating use of Blockchain-based financial technologies to support inter-organizational interactions for both financial records and shared record-keeping, information integrity. This mini-track continues to present research to better understand the dynamics, barriers and catalysts for organizational integration.

This mini-track has four papers presented at the conference which represent diverse topics within this domain on integrated systems. The first paper takes a conceptual, macro view of data integration for the Internet of Things (IoT). It is entitled "Ontology-Based Data Integration for the Internet-of-Things in a Scientific Software Ecosystem" and was written by Jade Ferreira, Jose Maria David, Regina Braga, Fernanda Campos, Victor Ströele and Leonardo de Aguiar Pereira. The focal topic is the wide variety of heterogeneous data collected by sensors and other devices considered part of the Internet of Things. The paper proposes an ontology-based data integration architecture that would organize and facilitate integration of data from different sources, formats, and semantics.

The second paper is entitled "Shifting to the Cloud – How SAP's Partners Cope with the Change" was written by Maximilian Schreieck, Manuel Wiesche, Thomas Kude, and Helmut Krcmar. This exploratory case study is based on interviews within an ERP (SAP) partner ecosystem following the introduction of a cloud-based software platform. The authors identify three distinct coping strategies that were adopted upon the shift to cloud computing. Partners were found to either (1) embrace, (2) slow down, or (3) repurpose the change to cloud computing. This study investigates the interplay between cloud partners revealing the nature of interactions between platform owner and partners in developing a cloud strategy.

Pamela Schmidt and Ronald Freeze take a deeper, micro-view of actual enterprise systems usage within a realistic business operations context. In this third paper, the co-authors present "Enterprise Job Roles and Resistance to ERP Use: Actual Usage as an Antecedent to ERP Resistance". Their experiment investigates four different employee roles performed within best practice business processes using a

commercial ERP (SAP) system. This study views the ERP system as an interdependent team member with users, with different job roles each having a distinct degree of intensity of system usage. Contributions in this paper reveal diverse reactions based on the nature of the job role performed during the ERP adoption process. Findings support that the nature of system usage for a each role assignment impacts the user's resistance to use of the enterprise system.

The forth paper takes researchers to a pre-emerging economy and explores a novel construct based on the 'Tall Poppy Syndrome". Written by Mercy Gardiner and Francis Kofi Andoh-Baidoo, this paper is entitled "Factors Behind The Assimilation Of Enterprise Resourse Planning (ERP) Software In Mid-Sized And Large Firms in Pre-Emerging Economies: A Case Of Ghana". The paper proposes a theoretical model to explain the assimilation of ERP software by integrating the tall poppy syndrome, switching costs, and loss aversion literatures through the lens of the status quo bias theory. This model was tested by surveying mid-size firms in the pre-emerging economy of Ghana. Surprising findings indicate how, in this pre-emergent culture, some employees appear to resist the assimilation of the ERP software in rebellion to leaders of the ERP software implementation (the "tall poppies").

In this Mini-track's 20th anniversary year, we gratefully acknowledge the contributions and leadership of Gail Corbitt who led the formation of this mini-track and provided its leadership for many years. During the two decades of this mini-track, Enterprise systems have continued to expand in scope, features and complexity. Organization's integrated enterprise systems continue to expand in capabilities and are influenced by leading trends. This year's mini-track explored the externally facing challenges of dealing with the Internet of Things and on locating enterprise systems externally, hosted by cloud computing services. Internally, there is still much to learn about adoption and assimilation of enterprise systems by users in a variety of job roles and in differing cultures.