To succeed in the digital economy, organizations must manage the integration of business, technology, people, and processes not only within the enterprise but also across extended enterprises. Whereas an Enterprise Resource Planning (ERP) or enterprise system focuses on intra-enterprise business processes, a Supply Chain Management (SCM) system facilitates inter-enterprise cooperation and collaboration with suppliers, customers, and business partners. Although both of these systems can bring benefits and competitive advantage to organizations, the management and implementation of these systems pose significant challenges to organizations. Hence, one of the aims of this special issue is to develop a more in-depth understanding of these issues, and to propose and provide solutions to address these management and organizational challenges.

Process integration and redesign is an important component of ERP and SCM implementations. Integration involves not only implementing ERP systems and ensuring they communicate or interface with legacy systems, but it also involves integrating ERP and SCM systems with Customer Relationship Management (CRM), Product Lifecycle Management (PLM), and e-procurement and e-marketplaces, as well as making them available over the Web to foster cooperation and collaboration across the entire value chain.

There are several trends associated with the maturity of ERP and SCM. First, in addition to examining issues concerning adoption and implementation, there is an increasing need to address issues dealing with post-implementation use. Future research should focus on maximizing the effective use of systems and managing the challenges in ongoing interaction between users and systems. Unlike information technologies for individuals, enterprise systems are complicated to use and they involve a high-level of interdependence among users. To maximize the benefits from enterprise systems, researchers are investigating the multifaceted nature of end-users’ acceptance and usage behavior. This thread of research reflects attempts to measure an important aspect of system success. Other aspects of system success should also be investigated. Further, the impact of enterprise systems on end-users, managers, and organization management, and the temporal dynamics of the interaction are also important research issues.
Second, with SCM implementations stretching beyond an organization’s boundary, the process involved in coordinating and collaborating with multiple business partners must be managed. The implementation of SCM systems, which are essentially inter-organizational systems, involves much more complexity than that of a single organization’s ERP system. The impacts of SCM systems on inter-organizational relationships and on the competitive environment, and the value of supply chain integration and information sharing among supply chain partners, are important research questions that need to be investigated.

Third, issues in management of such systems generally extend beyond the domestic context. Hence, these issues also need to be investigated in the global and multinational contexts. Implementation and collaboration in the global settings are complex and very challenging to manage. Organizations need to take into account a multitude of other factors, including national culture, organizational culture, language, government regulations, technology infrastructure, geography, and diversity in people. Such issues need to be understood to maximize the likelihood of successful implementations.

Extensive research in the above areas will enhance cumulative knowledge on the application of information technology at the organizational level. Such cumulative knowledge will guide the selection of appropriate solutions to meet the information needs of organizations and to facilitate effective implementation and usage of advanced information systems.

Due to the complexity involved in such implementations, and their impact on users and management across the entire organization and/or organizations across the entire value chain, the management of such large-scale implementations (most of which are large software package implementations) is highly challenging. In this special issue, we call for more research in this area to better understand the problems and complexities involved, and to propose solutions for them.

There are four articles in this special issue. The first three articles are research papers addressing supply chain and enterprise systems management and solutions. The fourth article is an interview transcript with Tom Conroy from Nebraska State Government concerning the State of Nebraska’s implementation of an ERP system.

The first article is entitled “Empirical Evaluation of an Integrated Supply Chain Model for Small and Medium Sized Firms” and is co-authored by Toru Sakaguchi, Stefan Nicovich, and Clay Dibrell. They draw on resource dependency theory to investigate the relationships between external task environment, resource dependency, and IT sophistication on the degree of a firm’s supply chain integration. They also investigate the relationship between supply chain integration and firm performance.

The second article entitled “A Simulation Study of Supply Chain Management to Measure the Impact of Information Sharing” is co-authored by Zhensen Huang and Aryya Gangopadhyay. This simulation study examines the effectiveness of information sharing in supply chain collaboration. The results indicate that from the perspectives of end inventory and back order quantities, distributors and wholesalers benefit more from information sharing than retailers.

The third article is entitled “An Empirical
Investigation on End-Users’ Acceptance of Enterprise Systems” and is co-authored by Fiona Fui-Hoon Nah, Xin Tan, and Soon Hing Teh. It examines factors influencing end-users’ acceptance of ERP systems, which is one of the commonly cited reasons for ERP implementation failures. The findings suggest that in addition to perceived ease of use and perceived usefulness– the two key constructs in the Technology Acceptance Model, perceived compatibility and perceived system fit are two highly important and relevant constructs for end-users’ acceptance in the ERP context.

The fourth article describes the implementation of an ERP system at Nebraska’s state government offices. It explains some of the challenges involved in implementing the system and the benefits gained from the system. The issues discussed in this article may be of relevance to other state governments or public sector implementations of ERP.

Each of the four articles in this special issue addresses some specific dimensions of management and organizational issues involved in ERP and/or SCM implementation. We hope these four articles not only provide solutions for these issues, but also help identify and open up new and emerging research questions in the area.