The increasing importance of information technology (IT) services in the global economy prompts researchers in the field of information systems (IS) to give special attention to the foundations of managerial and technical knowledge in this emerging arena of knowledge. Already we have seen the computer science (CS) discipline embrace the challenges of finding new directions in design science toward making services-oriented computing approaches more effective, setting the stage for the development of a new science of service science, management, and engineering (SSME). This article addresses the issues from the point of view of service science as a fundamental area for IS research. We propose a robust framework for evaluating the research on service science, and the likely outcomes and new directions that we expect to see in the coming decade. We emphasize the multiple roles of producers and consumers of services-oriented technology innovations, as well as value-adding seller intermediaries and systems integrators, and standards organizations, user groups and regulators as monitors. The analysis is cast in multidisciplinary terms, including CS and IS, economics and finance, marketing, and operations and supply chain management. Evaluating the accomplishments and opportunities for research related to the SSME perspective through a robust framework enables in-depth assessment in the present, as well as an ongoing evaluation of new knowledge in this area, and the advancement of the related management practice capabilities to improve IT services in organizations.

Research Category: Service Thought Pieces

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Given the significant, sustained growth in services experienced worldwide, Arizona State University’s Center for Services Leadership embarked on an 18-month effort to identify and articulate a set of global, interdisciplinary research priorities focused on the science of service. Diverse participation from academics in a variety of disciplines working in institutions around the world—in collaboration with business executives who lead organizations ranging from small startups to Global 1000 companies—formed the basis for development of the priorities. The process led to the identification of 10 overarching research priorities. In addition, for each priority, several important and more specific topic areas for service research emerged from the process. The intent is that the priorities will spur service research by shedding light on the areas of greatest value and potential return to academia, business, and government. Through academic, business, and government collaboration, we can enhance our understanding of service and create new knowledge to help tackle the most important opportunities and challenges we face today.
Service research has successfully evolved over several decades and is becoming a research discipline of its own. Throughout its development, this research has mainly focused on practical issues related to managerial relevance. There has been little, if any, ontological and epistemological discussions, nor much commentary about the paradigmatic assumptions of the research field. Major dialog about a service dominate logic (SDL) and the movement to create a multidisciplinary service science also suggest some of the limitations of service research to date. Recognizing these shortcomings, this paper assesses to core characteristics of major services articles, examines different epistemological foundations and then proposes a framework to describe and better understand the development and future of service research. The framework offers a guide to paradigmatic and methodological analysis of service research and contributes to discussion about the future of this emerging discipline.

Research category: Service Thought Pieces


(BÅRD TRONVOLL, STEPHEN W. BROWN, DWAYNE GREMLER, BO EDVARDSSON)
Service-oriented technologies and management have gained attention in the past few years, promising a way to create the basis for agility so that companies can deliver new, more flexible business processes that harness the value of the services approach from a customer’s perspective. Service-oriented approaches are used for developing software applications and software-as-a-service that can be sourced as virtual hardware resources, including on-demand and utility computing. The driving forces come from the software engineering community and the e-business community. Service-oriented architecture promotes the loose coupling of software components so that interoperability across programming languages and platforms, and dynamic choreography of business processes can be achieved. Nevertheless, one of today’s most pervasive and perplexing challenges for senior managers deals with how and when to make a commitment to the new practices. The purpose of this article is to shed light on multiple issues associated with service-oriented technologies and management by examining several interrelated questions: Why is it appropriate now to study the related business problems from the point of view of services research? What new conceptual frameworks and theoretical perspectives are appropriate for studying service-oriented technologies and management? What value will a service science and business process modeling offer to the firms that adopt them? And, how can these approaches be implemented so as to address the major challenges that organizations face with technology, information and strategy? We contribute new knowledge in this area by tying the economics and information technology strategy perspectives to the semantic and design science perspectives for a broader audience. Usually the more technical perspective is offered on a standalone basis, and confined to the systems space – even when the discussion is about business processes. This article also offers insights on these issues from the multiple perspectives of industry and academic thought leaders.

Research Category: Service Thought Pieces

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Systems thinking is an approach to understanding and modelling complex systems. Service science is the emerging study of service systems, which are an important type of complex systems with capabilities, constraints, rights, and responsibilities. Holistic service systems, such as households, universities, and cities are evolving rapidly within a nested-networked ecology. The challenge of defining progress in relation to improved quality of life is an especially thorny challenge in the context of holistic service systems. While service science is still relatively new, advances in service science can shed light on the future evolution of service thinking.

Research Category: **Service Thought Pieces**


(HALUK DEMIRKAN, JIM SPOHRER)
This paper captures our thinking regarding what we call the “service imperative” or the compelling global need to focus energy around service research and service innovation.

The service imperative has resulted from the relentless growth of services in economies around the world, combined with a relative lack of investment in service innovation and research by companies, governments and academic institutions. We discuss the resulting need to build a stronger and deeper science of service on a foundation of research and innovation. We also present existing best practices of innovative organizations that focus on their customers and compete effectively through service. We conclude with practical guidance for companies, universities, and governments in support of the service imperative. It is our belief that widespread embracing of the service imperative can lead to improved prosperity for nations, new ways to compete for companies, and improved well being for individuals worldwide.

Research category: **Service Thought Pieces**

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(MARY JO BITNER, STEPHEN W. BROWN)
While there is a rapid growth in the number of researchers and practitioners joining the service science community to better understand services, service operations and service innovation, this community has not yet reached consensus on precise answers to two fundamental questions: “What is service?” and “Where is the science (in service science)?” After performing an extensive review, this paper examines possible answers to these two fundamental questions from the traditional economist perspective (intangible product, service sector, prices and productivity), a splinter marketing perspective (service-dominant-logic and value-cocreation) and a splinter systems perspective, closer to ecology (diversity, sustainability and quality of life). Then, it proposes the Abstract-Entity-Interaction-Outcome-Universals (AEIOU) theory to discuss the science of service systems as a new way to describe the understanding and innovation of service-producing entities instead of following traditional “bricks-and-mortar product development processes and platforms,” and seeks a formal and universal framework in which to understand entity, interaction, and outcome patterns of service systems. The AEIOU theory defines service separation as customers’ absence from service production, which denotes the spatial separation between service production and consumption. Service separation increases customers’ perceptions of not only access and benefit conveniences but also performance and psychological risks. Specifically, relative to experience services, for credence services, the effects of separation on service convenience are mitigated, and the effects on perceived risk are magnified.

Research Category: **Service Thought Pieces**

While there is a rapid growth in the number of researchers and practitioners joining the service science community to better understand services this community has not yet reached consensus on precise answers to two fundamental questions: “What is service?” and “Where is the science (in service science)?” After performing an extensive multidisciplinary review, this paper explores possible answers to these two fundamental questions from the traditional economist perspective (intangible product, service sector, prices and productivity), a splinter marketing perspective (service-dominant-logic and value co-creation) and a splinter systems perspective, closer to ecology (diversity, sustainability and quality of life). Then, it proposes a systematic framework for conceptualizing the evolution of value co-creation interactions between complex adaptive entities – service systems - within an ecology of nested, networked entities as a new way to describe the innovation processes of service-producing entities instead of following traditional “bricks-and-mortar product development processes and platforms,” and seeks a formal and universal theory – The Abstract-Entity-Interaction-Outcome-Universals (AEIOU) - in which to understand entity, interaction, and outcome patterns of service systems. AEIOU theory defines service separation as customers’ absence from service production, which denotes the spatial separations between service production, distribution, consumption and recycling in time and space complexity. Service separation increases customers’ perceptions of not only access and benefit conveniences but also performance and psychological risks. Specifically, relative to experience services, for credence services, the effects of separation on service convenience are mitigated, and the effects on perceived risk are magnified.