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THE EVOLUTION AND DISCOVERY OF SERVICES SCIENCE IN BUSINESS SCHOOLS

The pioneering efforts of Arizona State University illustrate what can be accomplished when universities worldwide address the need to create comprehensive interdisciplinary curricula for services science.

The growth of services in economies around the world has vast implications for business practice, academic knowledge creation, and education. Service industries have dominated the U.S. and other established economies for decades. Increasingly, manufacturers and IT companies are also shifting to a focus on services as growth and profit engines for their companies. Many contend that future success (for companies, whole economies, and personal quality of life) depends on service innovation across industries.

We are among a small group of academics worldwide who have devoted their careers to the study of services. We are co-directors of the Center for Services Leadership (www.wpcarey.asu.edu/csl) at Arizona State University, the first academic center devoted to research and education in services management. Within business schools in general, however, the resources devoted to services management have not been commensurate with the economic importance of services. Similarly, while there are isolated degree programs and executive education offerings for services management, the number of such programs is surprisingly small.
Today we see a surge in interest in what is being called “services science.” This awakening is occurring not only in the established economies, but also in countries that are managing explosive growth such as India and China. There is growing demand for new knowledge and education; yet, we feel that much can be learned from existing research and knowledge produced within business schools. There is a need to apply robust research findings related to service excellence, service quality, customer satisfaction and loyalty, and service delivery and design. There is also a need to develop new knowledge and curricula to address the emerging challenges of the global service economy.

In this article we highlight the development of services science knowledge and education in business schools, advocate for its application, and identify current trends facing business today. These trends will shape future services research and drive the development of trans-disciplinary curricula.

**Evolution of Services Science in Business Schools**

Emergence of services as a field of study. The study of services has a history in business schools that cuts across disciplines including management, marketing, operations, and human resources. However, the preponderance of the published research has come from services marketing, a field that emerged between 1970 and 1990. The field evolved quickly in the 1980s, primed by the demands of a business community looking for ideas, theories, and new models to address critical challenges. The rapid growth of the service sector, increased competition emanating from deregulation, the complexities of managing services, and the lack of relevant curricula and research all contributed to the field’s rapid development [11]. A number of important conferences and events sponsored by the Marketing Science Institute and the American Marketing Association provided catalysts for knowledge sharing and networking among scholars and practitioners who were intrigued by the challenges of services management. Centers devoted to the study of services began to develop at business schools around the globe. Over 20 years later, many of these same forces are coming together again—right now—to provide another impetus for services research and education; this time under the nomenclature of “service science.” This time the impetus stretches beyond the business disciplines into engineering and computer science, industrial and systems engineering, organization theory, and economics.

Characteristics of the field: Substantive, cross-disciplinary, multi-method, global. Because the field grew out of the demands of the business community, its dominant topics are focused on real business problems. In addition, due to the inherent nature of services (for example, they are often delivered by people, they are heterogeneous, they frequently involve the customer in the production process, and they are relatively perishable compared to manufactured goods), the study of services management is inherently cross-disciplinary. Thus, most services academics, while anchored in their home disciplines, have had to learn at least a nominal amount about the adjacent fields.

Another characteristic of the field is its multiple methodologies. Pure experimental research, survey research, econometric and statistical modeling, and sophisticated qualitative studies exist side by side in services journals. This openness to methodology reflects the belief that the most appropriate method is the one that best fits the research questions. Further, the breadth and the interdisciplinary nature of the research questions naturally demand a variety of methods. Finally, the field is characterized by a large body of contributions from scholars across the world. The roots of many services theories and concepts can be traced to the Scandinavian countries, France, the U.K., and the U.S. [34]. Currently, there are important contributions coming from Germany, the Netherlands, Australia, New Zealand, and China as well.

Dominant topics within the services discipline in business schools. While dominated by the marketing discipline, services research and courses also exist within the human resource and operations management areas. Here, we provide a sampling of services topics researched over the last 20 years in marketing, operations, and human resource management to give a sense of the broad range of issues that have been explored [33].

The dominant topics in services marketing have included: customer-defined service quality; customer satisfaction and loyalty; service encounters; service recovery; employee/customer interface; servicescapes; technology and services; and customer participation in service delivery. Much of the focus of this research has been on understanding service quality and service delivery from the customer’s point of view in order to help firms compete more effectively. Within service operations, we see different, but complementary topics including: service productivity; managing capacity; waiting and time management; and service experience design. Historically, the research in service operations has taken an internal efficiency and cost-oriented focus. In the services management field, the dominant services topics can be found within the subfield of human resource management and include:
service culture and climate; employee empowerment; and hiring and training service workers. It is interesting to note the overlap in service research foci among the business fields as a result of the multidisciplinary nature of the topics covered. A review of the primary textbooks in services marketing [52, 115] and service operations [36] underscores the overlap in content across these two fields.

Evolving Services Curricula
Along with the evolution of the services discipline itself, there has been a parallel evolution of services education. However, given strong disciplinary silos in most business schools, it is most common to find isolated services courses within marketing and operations departments rather than truly cross-disciplinary, integrated services curricula.

As the world becomes more focused on services, what we need is not only the insights from more disciplines, but more importantly the collaboration of scholars from several disciplines examining the same challenge.

Since ours is one of a handful of schools, and the first in the U.S., to implement an integrated services management curriculum, we use our own case as an example. We began in the 1980s with the introduction of standalone services marketing courses at both the undergraduate and MBA levels. In the mid-1990s, building upon the success of our Center for Services Leadership and working with our Center member firms, we developed a full-fledged MBA specialization in services. Students pursuing this specialization took courses in services marketing and management; service operations; managing people; customer satisfaction and service quality measurement; new service development; strategic consumer behavior; and project management. The curriculum was intended to cut across the key academic disciplines essential to successful management of service businesses. As a capstone, the students were required to take a “strategic projects” course in which they engaged in high-level company-sponsored projects to solve real problems.

While ASU had a comprehensive and demanding services MBA curriculum, a growing number of schools began to offer individual MBA courses in services and a few tried their hand at actual MBA or MS specializations in services—among them Vanderbilt University, University of Victoria in Canada, Hanken School of Business in Finland, University of Maastricht in the Netherlands, and University of Karlstad in Sweden.

At the undergraduate level, many schools around the world offer isolated courses in services marketing, services management, and service operations, similar to what exist at the MBA level. Only one school we are aware of, the University of Wisconsin-Stout, has a well-established and integrated undergraduate curriculum in services management. In addition to MBA and undergraduate education, executive education in services management is also in demand and programs are offered by a number of business schools and consulting organizations. Through our CSL, we have offered annually since 1987 a “mini-MBA” in services called the “Services Leadership Institute.” This pro-

Emerging Services Science Challenges
As the world becomes more focused on services, what we need is not only the insights from more disciplines, but more importantly the collaboration of scholars from several disciplines examining the same challenge. Several of the major challenges needing our attention are discussed here.

Offshore outsourcing. Some observers feel that one of the greatest developments in the world today is its flattening [37]. Closely associated with this devel-
opment is the growth of offshore outsourcing of services. Many experts feel this trend is in its infancy and envision large numbers of packaged software, IT services, banking, insurance, and other services ultimately being offshored [109].

What is stimulating this dramatic phenomenon? First, the world’s economy is increasingly anchored in services and information without any borders. Thus, data can be efficiently gathered and analyzed and associated services processed and delivered to the far corners of the globe. Second, the expense of working with these services and information is plummeting while the quality of service provision is rising. Lower-cost countries are developing increasing numbers of well-educated people qualified to work effectively in a services economy. Third, standardized processes will stimulate even more growth in offshoring. Expert observers see industry groups and associations moving to make this happen, meaning that purchasing, billing, and accounting, for example, would be done the same in the U.S., Russia, and the Philippines [27]. This move is projected to further lower the costs and risks of offshoring and accelerate the flow of service provision from the developing parts of the world.

Unfortunately, there is a paucity of scholarly research on this important challenge. On a macro-level, work is needed on the cost-benefits of “inshoring,” “nearshoring,” and offshoring and on comparative analyses of the offshoring cost-benefits provided by developing countries and their cadre of service providers. On a micro-level, work is needed in areas such as modeling offshoring decision processes, assessing the risks, and examining the service quality associated with different outsourcing options.

Service and technology. Traditionally, the study of services science in business schools was anchored in human interactions, particularly the personal contact between customers and employees. Over the past 10 years, however, technology has dramatically changed how services are conceived, developed, and delivered. Technology has not only consumed back-office processes, but has become prominent within the firm-customer interface through self-service technologies (SSTs), such as online reservations, online banking, and pay-at-the pump gasoline transactions. The infusion of technology in service encounters has been one of the foci of our work at the CSL [54].

The incentives for firms to incorporate technology into the service interaction with customers are often tremendous. For larger corporations billions of dollars in cost saving can be obtained by enticing customers to serve themselves. In some cases, the lure of cost savings overwhelms customer considerations and firms become disappointed with the customers’ modest adoption of the technology. More companies, however, are recognizing that SSTs can provide substantial benefits for both parties. Yet, to have mutual success, firms must appreciate and facilitate the major adjust-

Scholarly attention to service(s) and technology is increasing, yet it is being outpaced by developments in business practice.
gible goods. These firms have always provided “customer service,” but the new services refer to actual revenue-generating offerings.

Goods-dominant firms are scrambling to develop services for one major reason. Product commoditization is a reality in many industries. With manufacturers finding it difficult to differentiate their goods, their profit margins are narrowing. Services, however, often offer sustainable forms of differentiation, enabling enterprises to achieve more significant margins. The profitability feature is especially true when a firm’s intellectual capital can lead to tailored services for clients. Here, knowledge workers become a firm’s services products. This factor, and the track record of global leaders like IBM and GE, is leading many manufacturing executives to pressure their management teams to get on the services bandwagon.

The success in becoming a B2B solutions provider is typically dependent on the firm’s ability to manage the complexity often associated with adding services to its portfolio. In reorienting their thinking to services, one of the biggest challenges for manufacturers is how to engage the customer in unique ways. Successful engagement processes often include having customers co-produce their own services or solutions. It has been shown that involving these high-performing customers can benefit both the customers and the services provider in terms of creating mutually satisfying relationships and bringing about efficiencies (for example, cost and time savings) [12].

Despite the significance of this trend, with a few exceptions [61], little scholarly work exists on this topic. Looking ahead, we see opportunities to address several important questions including: What are the best methods and best practices for migrating goods-dominant firms to successfully develop and offer services? What kind of solutions are customers looking for from these firms? And, recognizing the complexity of being a solutions provider, how can a firm best engage customers in co-producing these services for mutual benefit?

Service innovation. With most developed nations of the world predominantly services economies, it makes sense that services innovation be a high priority. Yet, most of what is known about innovation comes from manufacturing (product) rather than services innovation. Some observers even make the erroneous assumption that service innovation can be modeled after established manufacturing frameworks.

Recognizing the shortcomings of this way of thinking, the Organisation for Economic Co-operation and Development (OECD) recently released the report “Promoting Innovation in Services,” [73] which notes that government policy in developed countries has not been attuned to the service sector. In trying to help rectify this situation, the OECD features several important points that distinguish services-sector innovation. First, services are increasingly knowledge-based and drivers of growth. Second, service innovation comes less from traditional research and development and more from acquiring knowledge from outside sources and from collaboration. Third, service innovation depends on highly skilled and educated employees. Fourth, given the importance of human factors, entrepreneurship is a key driver of service innovation.

In most organizations the whole service innovation process must become more explicit and less ad hoc. Far too many companies rely more on their instincts and feelings and take a narrow view of customer input. The innovation process for services must be inherently proactive because it should not only aid in retaining existing customers but also bring new customers to the firm [42].

As with the other three challenges discussed here, relatively little is known about service innovation. Some questions for services science include: How should an organization focus its attention to innovate through services? Given the importance of customer co-production, how can a firm best involve its customers in service innovations? How can companies develop collaborative relationships with other organizations to stimulate new thinking, creativity, and services innovation?

**Emerging Demand for Services Science Education**

The emerging challenges of the global economy, the dominance of services into the future, and the strong push for continued innovation are providing impetus for a fresh look at current higher education offerings and an emerging demand for “services science” education. Because the challenges defy simple one-discipline solutions, emerging curricula need to be trans-disciplinary, immersing students in team-based analyses, and giving them the ability to solve problems with multiple knowledge bases and tools.

Supported by IBM’s Academic Initiatives program, an example of this type of curriculum is North Carolina State University’s new initiative in Services Sciences, Management and Engineering (SSME) designed to prepare graduate students for careers in services management. This program combines education in business strategies, business processes, information technology and the management of individuals and teams. While not specifically labeled SSME, there are a handful of other programs developing this type of trans-disciplinary curricula. For example, at ASU we have a trans-disciplinary Institute
for Computing and Information Sciences and Engineering (InCISE) that has as its core purpose to “enable interdisciplinary innovation centered around computing and information sciences.”

InCISE and a new School of Computing and Informatics are leading an effort to develop interdisciplinary research projects and approaches and cross-disciplinary master’s and Ph.D. programs that meld intellectual and problem-solving methodologies across disciplines including industrial engineering, services leadership, anthropology, supply chain management, information systems, and computer science engineering.

In addition to formal degree programs, there is an emerging need among experienced executives and managers for this type of services knowledge. For the most part, corporate leaders do not have a background in services and while they appreciate the complexity of the problems they are facing, they are often ill-equipped to solve them.

CONCLUSION

We are energized by the opportunity to be part of bringing the field’s knowledge and current curricula to new levels and broader-based application. We believe there already is a strong services science foundation to build upon, and many robust ideas, strategies, tools, and theories that could be widely applied to immediately benefit organizations [18]. At the same time, we believe it is critical to think broadly about services to identify important research problems that can inform and guide business decisions and service science.

Many academics, business practitioners, and government officials can understand the need for broad-based, trans-disciplinary services science education and research at an abstract level. Yet, we can personally attest to the challenges of working across disciplines, even within a business school, let alone across an entire university campus. Though the ingrained languages and discipline-specific approaches that are the foundations of current disciplinary silos make these collaborations challenging, they can be extremely rewarding and when successful can be effective in generating new knowledge.

Arizona State University’s President has made trans-disciplinary research and education a central platform of his vision for the “New American University.” Over the last four years more than 10 trans-disciplinary institutes and schools have been established at ASU including the International Institute for Sustainability, the School of Global Studies, The Biodesign Institute, InCISE, and the new School of Computing and Informatics. The vision of what these institutes and schools will do to encourage innovation and solve complex world issues is truly exciting. We believe it is imperative that we persevere in this journey within services science to advance knowledge and develop valuable trans-disciplinary services management solutions for the complex global economy.

A complete bibliography of the literature used in the course of preparing the articles for this special section on services science is available on page 33.

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