The Science of Service Systems

Service Science: Research and Innovations in the Service Economy

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The Science of Service Systems

Foreword by Richard B. Chase

Springer

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ISBN 978-1-4419-8269-8 e-ISBN 978-1-4419-8270-4
DOI 10.1007/978-1-4419-8270-4
Springer New York Dordrecht Heidelberg London

Library of Congress Control Number: 2011922500

Foreword

It is with great pleasure that I write the foreword to this exceptional volume of papers on service science. I have found the study of services to be a fascinating endeavor and gladly admit to being a "service junkie" (Chase 1996). Thus, it is particularly exciting to be able to write the foreword to a book that contains contributions from other writers whose efforts also reflect a junkie level passion for the subject.

Service, which is defined as the application of competence and knowledge to create benefit (or value) for another, derives from the interactions of entities known as service systems. Service systems, the focus of this book, exist at multiple scales of organizations, from individual people to businesses and nations, chain together into globally integrated service networks of multiple types: business-to-consumer (B2C), business-to-business (B2B), consumer-to-consumer (C2C), business-to-government (B2G), government-to-consumer/citizen (G2C), as well as other permutations.

While "service systems" is now part of our general business vocabulary it is useful to look briefly at the origins of the term and some of the key writings that have provided a foundation for its use in service science. One of the earliest uses of service systems in a book title is Stochastic Service Systems by John Riordan (1962). This work views service systems as processes where arrivals to the process are served by workers or technology, or both. Other writers on service, though not using the term service systems, were concerned with what a service is and what constituted a service transaction. Economists in particular found this to be a major issue in considering productivity growth (See Fuchs 1968).

Levitt (1970) argued for the industrialization of service processes, which translated directly into a service system design philosophy. Taking inspiration from companies such as McDonald's, he described how high-volume service organizations could apply a production-line approach to service in the same way that manufacturing firms approach goods production (Levitt 1972). The central benefit of this approach was that it reframed our thinking about service as being servitude to one of economic processes that were amenable to engineering approaches to quality and efficiency. Of course even before McDonald's fully rationalized burger production Disneyland was the exemplar of high a volume pure service operation.

Probably the first textbook discussion of service systems in a strategic management context was provided by Sasser, Olsen, and Wycoff (1978). They defined a service delivery system as "a process in which the customer participates." They further argued that this participation by the customer in the service process "requires that the service delivery system be defined in terms of, and as an element of, the total service concept." They showed graphically how the service concept consisting of facilitating goods, explicit intangibles, and implicit intangibles dictate and are defined by the service delivery system. The service delivery system is shown to consist of performance characteristics of materials, service atmosphere and image of facilities, and service attitudes of employees. The effectiveness of the service delivery system is defined in terms of performance or service levels of the materials, facilities and personnel. This structural approach underlies virtually every discussion of service operations strategy.

The service system characteristics of intangibility and customer participation led to researchers to develop classification schemes that reflect the operational implications of these characteristics, particularly as they contrast with manufacturing. Chase (1978, 1981) suggested that most businesses have a front office component and a back office component. For manufacturing firms, the back office is the factory where the core product is created where there is little or no direct customer contact during production. In services, the front office is often the core of the business since by definition this is where service encounters take place. The implications of this are that front office features of a service system such as location, layout, and scheduling must reflect the physical presence of the customer, and as a result, is inherently less efficient than the manufacturing back office or the back office of the service firm itself.

Pine and Gilmore (1998) argued that service organizations are undergoing a transformation from the traditional concept of service transaction to one of an experience. Even for mundane services such as shoes stores and coffee shops need to reflect this in the physical and sensory features of their facilities (Fitzsimmons and Fitzsimmons (2005). More recent work by Voss et al. (2008), develops the strategic requirements needed to make this come about. Chase and Dasu (2001), and Dasu and Chase (2010) emphasized how psychological factors such as creating a positive flow of events in a service encounter and ending on a high note can be engineered into the design of a service interaction.

As we look at contemporary industry, the explosion of telecommunications and virtual service interactions require radically different models and approaches to the design and operation of service systems. Indeed, service science needs to recognize the need to strike out in new directions in its basic research and develop more effective ways linking service systems to the organizations and larger communities of which they are a part. This volume is an important step in addressing these requirements.

Los Angeles, CA Richard B. Chase

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Richard B. Chase is co-author with R. Jacobs of *Operations Management and Supply Chain Management* (13th edition), which has been one of the top three sellers since its first edition in 1973. Two of his *Harvard Business Review* articles, "Where Does the Customer Fit in a Service Operation?" and "The Service Factory" (with D. Garvin) have been cited as classics. In 2009, he was honored as a major contributor to the field of service operations management in the January issue of the *POMS Journal*, and received a Lifetime Achievement Award from the American Marketing Association's Service Interest Group. In 2006 he received a lifetime achievement award from the POM Society and in 2004 the Scholar of the in Year by the OM Division of the Academy of Management. His recent publications include "Designing the Soft Side of Customer Service" (with S. Dasu), *Sloan Management Review*, in press; "Revisiting 'Where does the Customer Fit in a Service Operation?' Background and Future Development of Contact Theory", in P. Maglio et al., *Handbook of Service Science,* 2010, "Experience, Destination Services and Service Operations Strategy" (with A. Roth and C. Voss*), POMS Journal*, 2008.

Preface

We live in and interact with many service systems in our daily life. As it matures, the service science community is gradually becoming increasingly focused on the study of holistic service systems, such as cities, universities, hospitals, luxury resort hotels, cruise ships, and the like, that can be described as somewhat self-contained entities that are an integrated system of systems. In each of these somewhat self-contained entities, one finds a range of systems including transportation, water, food, energy, communications, buildings, retail, finance, health, education, and governance. The study of holistic service systems is especially challenging, because local optimization does not necessarily lead to global optimization and small changes in one subsystem can lead to large consequences in other systems (Blomberg 2008; Maglio et al. 2006, 2009; Spohrer et al. 2007).

The concept of a service system is resonating well with academics from diverse disciplines and practitioners from diverse economic sectors. And yet, because this is such a new area, few compilations of the works of academics and practitioners exist. Therefore to fill the gap, these two inter-related peer reviewed volumes of the Service Science: Research and Innovations in the Service Economy Series on Advancement of Services Systems ("The Science of Service Systems" and "Service Systems Implementation") are very specific in nature. They present multidisciplinary and multisectoral perspectives on the nature of service systems, on research and practice in service, and on the future directions to advance service science. *The Science of Service Systems* intends to stimulate discussion and understanding by presenting theory based research with actionable results. *Service Systems Implementation* intends to stimulate discussion and understanding by presenting application-oriented, design science-oriented (artifacts building: constructs, models, methods and instantiations) and case study-oriented research with actionable results.

We know the importance of having to start "somewhere" to get the new ideas moving, and finding the appropriate collaborators to make some initial steps and advances in new knowledge possible. The editors would like to thank the Series Editors of the Service Science: Research and Innovations in the Service Economy Series, Bill Hefley and Wendy Murphy, and the Springer co-editors, Melissa Fearon

and Jennifer Maurer, for their encouragement and guidance for development of these volumes; and leading thinkers in this field, Richard B. Chase and Richard C. Larson, who wrote forewords, and Mary Jo Bitner, Stephen W. Brown, Andrew Dingjan, Jay Kandampully, Suk Joon KIM, Jeong Hyop Lee, Michael Lyons, Kunihiko Niwa, Miguel Angel Sicilia and J.B. Wood who wrote testimonials.

We had 80 articles and extended abstracts submitted for these two inter-related volumes. With so many submissions reflecting the interest of these topics among scholars and practitioners in our community, it was necessary for us to make some tough decisions as to papers to accept for further development, and those to pass back to submitting authors with indications of the work that they needed to do to put themselves in a better position to contribute to the service science literature. The articles in these volumes issue went through a three-cycle "review and revise" process. From original inception to completion this book project with two inter-related volumes took almost 3 years. We include total 34 chapters (17 chapters in each book) that represent research and practices from almost 20 countries including Amsterdam, Australia, Canada, China, Cypress, Germany, India, Ireland, Italy, Mexico, Netherlands, Singapore, Spain, Taiwan, Turkey, United Arab Emirates, United Kingdom, United States of America, and many others. These researches represent studies and practices from many universities, companies, government offices and public and private institutions.

We would especially like to acknowledge the anonymous reviewers, who so generously offered their time, effort and helpful insights for us to make the hard choice and for helping us with development and constructive reviewing that led to the final products that you see in the present edited volume. Finally, we thank the authors, including those whose works we accepted, and those whose efforts did not permit their research and practices to go the final distance to publication. They all were diligent and careful, and gave us private lessons along the way about what vibrant and creative research on service systems is. We look forward to the "next generation" of service science and systems research and practices.

San Jose, CA
December 24, 2010

Haluk Demirkan
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Contributors

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