

# Preface

This volume gathers papers presented at the 8th International Conference on Exploring Service Science, IESS 1.7, organized during May 24–26, 2017, by the Department of Management, University Sapienza of Rome, Italy, in collaboration with the Italian chapter of the Association for Information Systems (<http://www.ita.is.org>).

The conference hosts academic scientists and practitioners from the service industry and their worldwide partners in a collegial and stimulating environment. According to his tradition, IESS 1.7 covered major research and development areas related to service science foundations, service engineering and management, service innovation, service orientation of processes, applications in service sectors, and ICT support for services. Services comprise about 75% of mature economies today, being a fast-growing sector in emerging economies, too. This motivates an intense preoccupation to establish the philosophy of a new management and marketing, which highlights a paradigm shift away from the goods-dominant (G–D) logic. This paradigm is the theoretical concept of service-dominant (S–D) logic, fundamental for the service system developments reported in IESS1.7 papers.

The IESS1.7 event collects papers that extend the view on different concepts related to the development of the service science domain of study, applying them to frameworks, advanced technologies, and tools for the design of ICT-based service systems. As IESS 1.7 papers describe, specific items of service business models are analyzed and debated, such as target markets and customers, product offerings or value propositions, distribution channels (activities for services), and constraints and profits, together with the description of case studies and business solutions in various service sectors. All these aspects are covered in the present book, which we hope you will find useful reading.

All the selected papers have been evaluated through a standard blind review process in order to ensure theoretical and methodological rigor. The fourfold structure of the volume reflects four main pillars that have been explored by the included papers.

This publication is the result of a teamwork where many people actively contributed. We are grateful to the authors, the conference chairs and committee members, to the members of the editorial board, and to the reviewers for their competence and commitment.

## Theoretical Contributions: Literature Analysis and Conceptual Models

The study of the organizational impact of information technology services on the value generation process in organizations has a story that spans over several decades. In this stream of research, which goes under the name of IT value, scholars debated over years on the potential existence of a positive link between the presence of IT services and the organizational performance.

The contribution of Za and Braccini complements existing studies on the value of IT services, through a literature analysis, focusing on the summarization and systematization of existing literature. Centering on a specific topic, the contribution of Seebacher and Schritz provides a structured literature review investigating the real-world impact and benefit of the Blockchain technology. This specific technology is centered around a peer-to-peer network, enabling collaboration between different parties, where the service system is chosen as unit analysis to examine its potential contribution.

On a different topic is the contribution of Savastano et al. They provide an assessment of the past and current literature on FabLabs (networked platforms for the dissemination of digital culture through the sharing of technological tools and knowledge) from a service perspective, exploring the main research themes and methods associated with this new business model. The workplace health promotion applications are the topic analyzed by Dehkordi et al.; the authors summarize the state of the art and identify the major research streams through a literature review and cluster analysis. A multi-method approach (a systematic literature review and a case study) is used by Reis et al. in order to investigate organizational synergies in the omni-channel service context. In doing so, they disclose new omni-channel trends and discuss the implications for managers and academics.

Focusing on MicroServices architecture, where the legacy architecture is decomposed in micro-components, each one with an independent life cycle but interconnected and correlated, Cavallari et al. analyze in detail the structure and the development of eServices based on this specific architecture. Their paper discusses the new technological tendencies under the lens of an organizational approach.

In the last literature analysis paper, Sorrentino et al. advance the current debate on the co-creation of value in the delivery of health care by treating the informal caregivers as a key organizational resource for the providers, and not as one of the many spokes in the customer wheel.

Results of a different analysis are provided by Morais et al. They examine the relationship between the corruption perception index (CPI) provided by Transparency International and the human development index (HDI) of the United Nations Development Program and its components. The results obtained reinforce the importance of efforts by international politicians and organizations in fighting corruption, especially in highly developed countries.

On the basis of data analysis, Militaru et al. extend research on social networking sites and the role of these tools in the business performance of service firms. Using cross-section data from a sample in Romania, the authors empirically investigated the mediating effects of service innovation on the relationship between social networking sites and business performance. The results indicate that innovation capability played a key role in business performance but its mediating role between social networking sites and business performance of service firms was not confirmed.

## Service Systems Analysis and Design

The chapters in this part provide conceptual models and theoretical frameworks for supporting the analysis or the design of a service system.

Verlaine defines and depicts the generic components of service systems as well as the relations between them, proposing a new conceptual model of a generic (simple or complex) service system. Costanza proposes a framework of analysis combining system dynamics and performance management to represent the stock-and-flow structure of the phenomenon of value co-creation through social media marketing and brand communities.

In the current economic scenario, big data are offering considerable economic benefits. Spagnoli and Morelli evaluate the diversity of the creative industries (CI) when related to the use of big data, providing a multi-criteria methodology for assessing their effects on CIs, and a model for implementing collaborative and virtual value chains through its usage. Schmitz et al. develop a method for defining data acquisition strategies to improve uncertainty analyses for industrial service contracting, as well as an approach for ranking acquisition strategies by measuring their acquisition effort and business benefit. The method is applied in an industrial use case to demonstrate its benefit for assessing cost uncertainties in full-service repair contracts.

Meierhofer and Meier show a systematic approach to use data science for the process of service design. The authors develop a structure of data science methodologies in the dimensions of their potential to create service benefit. This allows one to map the value contribution of the data science tools on the different perspectives and phases of the service design process, establishing a direct link between the outcomes of the data science methodologies and the value drivers for the customer.

Based on a combination of established statistical methods, Hunke et al. propose a systematic approach that allows one to identify different domains of business model patterns. The authors apply it on a dataset of 58 e-mobility projects and, as a result, they identify five distinct and semantically meaningful business model types. One of the main contributions of this paper is to suggest a new approach for identifying different patterns of business models, the second one is to provide valuable insight into the current state of e-mobility service business models that can further drive the adoption.

Kummler presents an approach with which to evaluate and model quality by using requirements from automotive development projects as a practical example. As first results, he provides the development of an assessment tool and an initial analysis of the available dataset. Reuter-Oppermann et al. present the outline of a decision support system for (optimally) locating general practitioners' practices, in the context of primary care services. Silva and Migueis propose a prescriptive analytics solution to enhance the service provided by libraries, by optimizing the layout of libraries. The results of their study corroborate the effectiveness of the method proposed and its potential in supporting library management decisions.

## Service Organization Case Studies and Practices

This part gather the contributions describing service organization experiences and case studies. A longitudinal analysis opens this section, followed by two sets of contributions regarding customers' experiences and higher education and training. Two others contributions on different topics close this part.

Tapandjieva et al. present a longitudinal action design research project, describing the transformation of a service-oriented organization. It has slowly matured into the design and development of a visualization tool called Service Cartography. The authors provide the evolution of their conceptualization of how Service Cartography facilitates service-oriented thinking.

Through a content analysis, Molnar and Moraru examine what customers evaluate when they choose a hotel or have an experience with it. At the same time, they study the ability of the hotel to incorporate customers' feedback affecting them and customers' decisions. Considering a similar topic, the contribution of Alcoba et al. compares a wide sample of tourists' numerical scores and verbal assessments, analyzed with a sentiment analysis engine. The objective is to acquire a deeper knowledge of the concept of experience quality to find out what the tourist really values.

Dima analyzes the evolution of convergence in higher education during 2002–2013, based on previously used macroeconomic and transition indicators. Using forecasting techniques for the 2014–2020 period, the author foresees the dynamics of the outlined clusters, and the perspectives of convergence in the near future. Paunescu analyzes the way in which different attributes of community engagement and service are taken into consideration among the indicators used in university rankings.

Faria and Nóvoa describe the design and implementation process of a new BPM platform adopted at the University of Porto.

Menshikova et al. provide an exploratory research of the on-line training courses and initiatives developed by the bank sector institutions and addressed to both their employees and their real and potential clients. The paper provides a preliminary analysis of the programs based on the experience of an Italian bank.

Focusing on fraud risks in telecom services and products, Yesuf et al. describe the outcome of two workshops in which they involved experts from a telecom provider and experts from multidisciplinary areas. They present two exemplary telecom fraud scenarios, analyzing and estimating the impacts of fraud risks qualitatively.

Perna et al. conduct a review of the literature and a comparative analysis of Summer Olympic Game editions during the period 1992–2016, to investigate the crucial role played by the social networks in the mega sporting events improving their social value in the co-creation value perspective.

## **Sustainability: Service Ecosystems, Environment Control, and Transportation**

This part collects contributions discussing topics connected with sustainability through service issues in general.

The public transport service system provides safe and secure urban mobility for all citizens. The contribution of Drăgoicea et al. offers a new perspective on designing sustainable public transport services in times of emergency in order to support the transport service company's operational activities based on sustainable institutions principles. On the basis of Ostrom principles, it is suggested that a common-pool resource (CPR) institutional approach would be able to adapt more responsively to an emergency situation than a centralized or privatized one.

A focus often linked to transportation issues is pollution. Chiru et al. present a perspective related to information service integration for pollution awareness evaluation. Using digital tools, based on indirect information analysis as retrieved from the available literature over time, the paper investigates how pollution events influenced public awareness.

Borangiu et al. introduce a framework for designing flexible environment control services (e-services) based on generic sensing, modelling, and control process specifications that allows the customization of a holonic facility environment control system (HFES). The authors also present and discuss experimental results.

The role of non-profit organization and citizen satisfaction in the service ecosystem is analyzed by the following contributions. Bonomi et al. conduct an in-depth longitudinal study (2013–2016) on an ICT-enabled community of IT professionals, aiming to provide unemployed professionals with employment opportunities while also providing small and micro enterprises and non-profit organizations with affordable, high-level IT services. The authors found that the presence of non-profit organizations in the service ecosystem strongly influences the service ecosystem's institutional logic and worldview and facilitates sustainability-oriented self-organizing throughout the ecosystem.

Zagorie et al. examine the quality of municipal services within inner-city services. They identify the most important service quality dimensions that determine citizen satisfaction. A system dynamics approach is used to model and analyze ways to improve citizen satisfaction. The managing of the queue is often associated with the quality of service delivery.

Fragnière et al. provide an empirical exploratory enquiry to develop a queue's ontology on an ethological basis, taking a concrete example of cable car queues in the Alps, in the Canton of the Valais. This human-machine case is particularly interesting because the results show that a queue's regulation is mostly based on ethological behavior (therefore innate rather than learned) to adjust to the rigid system of the cable cars.

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