Preface

This volume gathers the peer-reviewed papers that were presented at the 7th International Workshop on Exploring Service Science, IESS 1.6, organized during May 25–27, 2016, by the CIMR Research Centre of the Faculty of Automatic Control and Computer Science, University Politehnica of Bucharest, Romania.

The workshop gathered academic scientists and practitioners from the service industry and their worldwide partners in a collegial and stimulating environment. According to its tradition, IESS 1.6 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 also a fast-growing sector in emerging economies. 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 IESS1.6 papers; services are seen as the real protagonists of interactions and transactions.

A broader perspective shows that service systems evolve within dynamic environments and interact, in a network, with other service systems. Also, they may have other interconnected service sub-systems, and thus service systems may have to face external disturbances from the environment, but also internal disturbances generated by one of their sub-systems. Thus, a main challenge in the development of a service system is to design it in a way that ensures the flexibility and adaptability crucial for its survival, or, in other terms, for its viability. From this perspective, the Viable System Model (VSM) is an initial point of such a development strategy, as pointed out by some authors.

The IESS1.6 event includes 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.

The perspective introduced by this approach connects Service Science fundamental concepts to business-related concepts. In the Service Science approach, service organizations are studied as service systems evolving in their environment (service system ecology), in the pursuit of their business goal, according to a service business model. Service business models reflect the features of the service sector to which the organization belongs and describe activities for services as business processes. Successful service business models are crucial for the service system viability and they are related to service innovation.

As IESS 1.6 papers describe, specific items of service business models 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, are analysed and debated.

The book is structured in 13 parts, each one grouping a number of chapters describing research in current domains of service science, from fundamentals, theories, and concepts to models, frameworks, and implementing solutions for societal services (health care, education, administration) and the service industry.

From service theory to solutions, these book sections are: Part 1 – Service Exploration Theories and Processes; Part 2 – Modelling Service Requirements and Management of Business Processes; Part 3 – Value Co-creation Through Knowledge Management and User-Centric Services; Part 4 – Service Design Methodologies and Patterns; Part 5 – Service Innovation and Strategy; Part 6 – IT-Based Service Engineering; Part 7 – Servitization in Sustainable Manufacturing: Models and Information Technologies; Part 8 – Product-Service Systems; Part 9 – Business Software Services and Data-Driven Service Design; Part 10 – Web Service Design and Service-Oriented Agents; Part 11 – IoT and Mobile Apps for Public Transport Service Management; Part 12 – e-Health Services and Medical Data Interoperability; Part 13 – Service and IT-Oriented Learning and Education Systems.

The book offers a new vision on complexity, big data, and context-awareness in data-driven services for the contextual businesses, Service-oriented enterprise architectures, and service-oriented agents in Web and cloud services, by combining emergent ICT, control with distributed intelligence, and multi-agent frameworks for complex, networked service design and management.

The scientific work reported in the workshop technical sessions foster service innovation by allowing different stakeholders to arrive at a consensus in terms of service science fundamentals and build together the future knowledge base in the field of service science.

All these aspects are covered in the present book, which we hope you will find useful reading.

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