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Editorial Column

System Thinking for Service Research Advances

Sergio Barile, Jim Spohrer, Francesco Polese

This issue of the Journal of Service Science is dedicated to the inferences of system thinking upon recent service research advances, and in particular upon service science and SD logic. The special issue is based upon the scientific proposals deriving from the “2009 Naples Forum on Service”, and specifically to its sessions dedicated to system thinking and its relation to service research (www.naplesforumonservice.it).

The forum, held in the island of Capri, Italy, has addressed intriguing issues such as complexity, system thinking, human behavior, viability, service systems, and in particular was based upon Service Science, Service Dominant logic and network theories. These topics represented the forum pillars since they constitute an attempt in proposing new marketing and management theories in line with the evolution of economic contexts, cultural and behavioral change of customers, globalization of systems and competition, information and communication technology with the Internet and web service, and other changes.

The three themes are interdependent, integrative one to each other. In fact S-D logic dissolves the divides between goods/services and supplier/customer into co-created service and value. It forms a philosophy for the service science project and its applications in education, theory, and practice in its effort to create hassle-free, innovative service systems. Network theory is a systemic way of thinking and a methodology to go beyond fragmented research in marketing addressing complexity and context with direct application on service systems.

Service-Dominant (S-D) logic presents its message through ten foundational premises. In brief, these premises put the following concepts to the fore: service is the fundamental basis of exchange. Note that it is “service” and not “services” as opposed to goods; goods are merely distribution mechanisms of service. Operant resources are those which do something to something. Both businesses and customers are operant resources meaning that they both act as opposed to the mainstream marketing idea that suppliers do things to customers who just react. The customer is always a co-creator of value. A supplier can only offer a value proposition on the market; the value actualization is performed by users in an idiosyncratic and contextual way. The network aspect is implicit through the statement that all social and economic actors are resource integrators, implying that value creation takes place through interaction in complex networks. S-D logic is based on international findings and openness to continuous improvements and creative developments.

Service Science, Management, Engineering and Design (SSMED), usually just referred to as Service Science, is a global development program run by IBM together with universities. It is a call for academia, industry, and governments to become more systematic about service performance and innovation. Further, it is a proposed academic discipline and research area that would complement – rather than replace – the many disciplines that contribute to knowledge about service. We can note how S-D logic and SSMED are extremely interconnected with S-D logic that may be intended as the philosophical foundation of SSMED. The ultimate goal of service science, in fact, is to apply scientific knowledge on the design and improvements of service systems for business and societal purposes (such as efficiency, effectiveness and sustainability). The concern is that we do not master seamless and reliable service systems at a time when systems are becoming increasingly complex and global, making us increasingly vulnerable to systems sluggishness and failure. Every service system is both a provider and client of service that is connected by value propositions in value chains, value networks, or value-creating systems. Read more on service science on Google but stick to entries from the past six months; the program is developing fast and older entries may be misleading.

Network Theory is both a way of thinking in relationships and interaction and a methodology to address complexity and context. It can be used with different degrees of sophistication: as a basis for verbal treatise (discussion or text), graphics (from sketches of nodes and links to computer generated diagrams), or mathematical applications. Network theory is a systems approach which in marketing has mainly been applied to

B2B marketing but has equal potential for B2C (business-to-consumer) marketing and consequently to marketing in general. Marketing is a part of or a perspective on management and to become efficient marketing should be seen in a management context; marketing-oriented management rather than marketing management. Two network approaches will be presented. One is the Viable System Approach (VSA), grounded in systems thinking, a relational based view and network theory, postulating every business as a system, immersed in a relational context looking for competitive profiles (viability) through interaction with other actors/stakeholders). The other is Many-to-Many Marketing which is a general marketing approach that describes, analyzes and utilizes the network properties of marketing. It applies to marketing in general and recognizes that both suppliers and customers operate in complex network contexts.

Among the forum themes, and of course within the cited forum sessions originating this special issue of the Journal of Service Science, a particular attention has been destined to system thinking. In fact service is, indeed, a complex phenomenon that involves many actors with different contribute and role for the benefit of a shared service exchange/experience; service is, hence, intrinsically related to systems, characterized, in their multidisciplinary research, by complexity analysis and management.

No matter if we are approaching system's thinking with a biological perspective, a mathematical approach, or an economic eye, any attempt in observing systems leads towards complexity, hierarchies, relationships, boundaries, and many other features and principles deepened within system thinking. These concepts are particularly useful if applied to the interpretation of service, and in particular to service systems.

In this light the paper written by Spohrer, Golinelli, Piciocchi and Bassano -"An Integrated SS-VSA Analysis of Changing Job Roles"- highlights how in recent economic contexts new skills are needed to cope and manage the increased level of complexity in general, and the increasing number of service systems in particular. With this focus the authors underline how both service science and the viable system approach are capable of addressing this instances by proposing broadminded, multidisciplinary and flexible professionals (also defined T-shaped), suitable and competitive in today scenario.

Another interesting parallel between service research and the viable system approach is proposed in the paper written by Barile and Polese -"Smart Service Systems and Viable Service Systems: Applying Systems Theory to Service Science"- who deepen smart service systems declining their characterizing features and critical interpretation according to both service science and the viable system approach.

Accordingly another interesting parallel between service science and the viable system approach is introduced by Saviano, Bassano and Calabrese -"A VSA-SS Approach to Healthcare Service Systems. The Triple Target of Efficiency, Effectiveness and Sustainability"- when the authors decline efficiency, effectiveness and sustainability of healthcare service systems.

The paper written by Christopher -"From System Science - A New Way to Structure and Manage the Company for Sustainable Success"- proposes a system science restructuring of today's management practices according to Stafford Beer's viable system model. The paper discusses a new and different understanding of what the company is, and how it works; and a new way of understanding the world outside the company where company success is created.

The paper proposed by Badinelli -"A stochastic model of resource allocation for service systems"- is mainly focused to the transposition of consolidated techniques of operative research into service science theories and proposals. The implicit and strong hypothesis (upon which maybe future research could be addressed) is that the process of creation, distribution and fruition of serve may be stretched into an objective model, a model of general applicability such as the ones destined to production function. The system view of S-D logic and Service Science, indeed, is not really in line with such an objective approach, but could for sure benefit of this paper proposals for the intriguing usefulness of resource-management models for manufacturing enterprises applied to service economy.

The paper written by Godsiff -“Service Systems and Requisite variety”- assumes that a system perspective may be useful for more structured S-D logic proposal, and in some passages it even declares how this view is strongly needed. Through the concept of requisite variety the paper analyzes system’s viability and, assuming that suppliers and customers of a specific service may be referred to as systems, it look for the optimization conditions of these relationships.

In his paper Metcalf -“Service as Mutualism: A question of viability in systems”- explores service as a science, and proposes that the biological concept of mutualism be used as one aspect for developing a foundation of service science; he then considers the implications for individual organizations, in terms of viable systems.

The paper written by Wrinkler and Stanicek -“Service Systems through the prism of conceptual modeling”- is, indeed, interesting and assumes that a system perspective may be useful for more structured S-D logic proposal, and in some passages it even declares how this view is strongly needed. Through the concept of requisite variety the paper analyzes system’s viability and, assuming that suppliers and customers of a specific service may be referred to as systems it look for the optimization conditions of these relationships.

The issue ends with a brief overview upon systems theories and their implication upon management and marketing practices, written by Mele, Pels, Polese -“A brief review on Systems Theories and on their managerial implications”.

We would like to thank all the authors that have contributed to this special issue with valuable proposal. We wish to thank Gaetano Golinelli, Evert Gummesson, Irene Ng, Anne Persson for their scientific contribution to the issue. It is also for their support coupled with the positive and enthusiastic interaction among authors that the central role of system thinking for service research advances was so clearly proposed.

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