

Value co-creation as a complex adaptive process

The processes of value creation, according to service-dominant (S-D) logic (Vargo and Lusch, 2004, 2010) suggest a change in the roles and dimensions of the relevance of engaged actors starting from, but not limited to, customers. Following this view, a shift from the customer to the actor has recently occurred. Such a change is useful to explain the concept of value co-creation. The value co-creation process is not seen anymore as a dyadic affair, but it occurs in extended settings. It is indeed not a supplier-centric process of production and delivery, nor is it a customer-centric value-in-use phenomenon; it is, rather, a more complex and dynamic co-creation framework. By examining participants in the creative process, the value is created by and for all the actors by a choral win-win perspective (Gummesson, 2008; Gummesson and Mele, 2010).

The actual meaning of service lies in a conceptualization of value co-creation that involves various parties in the service exchange (Prahalad and Ramaswamy, 2000, 2004; Vargo *et al.*, 2008; Mele and Polese, 2011). In this service exchange, the actors are interacting with other subjects and with the environment; no single actor or provider can realise a complete co-creative experience by itself (Gummesson, 2004; Gummesson and Polese, 2009). Accordingly, actors do not obtain value directly from the product itself but rather from its use, processing or consumption and by interacting with other entities interested or involved in the process (Katzan, 2008). The value of a product arises thus from the benefits obtainable from the underlying service and from the processes of co-production, co-design and co-marketing, which involves multiple contributions from different entities (including end users) thanks to the sharing of information, resources, skills, needs and risks. In the S-D logic approach, the value is therefore determined by the consumer at the time of use, favoured by constant interaction with other actors in the service ecosystem (Vargo and Lusch, 2008).

The involvement of several actors (such as customers, suppliers and partners) makes value co-creation a complex process. The development of new frameworks is therefore required to analyse value creation as a process resulting from the many to many relationships between all the actors involved (stakeholder centrality) rather than as the dyadic relationships between a supplier and customer (Gummesson, 2008).

The adoption of system thinking could help in framing the process of value co-creation as a complex adaptive process between actors seen as complex adaptive systems (CAS).

Analysing complex processes calls for more than an analysis of the interaction among a few components. In elevating and broadening the perspective, therefore, there is a shift in attention from the parts to the whole, with the observed reality being perceived as an integrated and interacting unity of phenomena and the properties of the individual parts becoming less distinct. This change in perspective, however, implies that the relationships between the parts and the events they produce assume greater significance (Luhmann, 1990), which is particularly relevant for a better understanding of co-creation in service ecosystems. A holistic approach is therefore needed to understand better complex phenomena.

The viable systems approach (VSA) is a systems theory rooted in systems thinking, and it is a meta-model, an interpretive key that is useful for the observation of complex phenomena. The VSA (Golinelli, 2000; Barile, 2008) proposes a shift in focus “from the parts to the whole” (Capra, 1996). It assumes that actors and organisations could be intended as systems wherein each system is represented by a set of interacting elements (subsystems) with the same aim: to survive in the long run. Working together, every actor, viewed as a system, promotes its interests, integrating resources and optimising competences.



VSA is based on the general system theory and more specifically on social analysis, which interprets business behaviour within a dense pattern of interactions. Any socio-economic actor is a viable system in itself and is part of a context of other viable systems and single components. The systemic understanding of subjects – and of the relevance of social and business relationships in local environments – affects the actors' behaviour, survival capacity and future evolution (Barile, 2008). As a systemic theory, VSA offers a methodology for interpreting and managing the contemporary business arena. It seems useful for a better understanding of complex dynamics, such as those in which actors are engaged and iteratively interact with each other, as in value co-creation exchanges in general and, of course, in healthcare. The VSA proposal, hence, tries to valorise both holism and reductionism (Von Bertalanffy and Rapoport, 1956), rejecting the idea that a particular phenomenon can be understood exclusively through an analytical, reductionist approach.

In the systems approach, an actor needs to distinguish among: “variety” (possible variants of a phenomenon observable at a given time); “variability” (observed changes over time); and “indeterminacy” (possibility to understand a phenomenon) (Barile and Polese, 2010). By applying such a personal interpretive scheme, the actor can begin to understand better the observed complexity and can achieve viability. The concept of viability is the expression of the will to survive in a complex environment and, naturally, exists within each actor who is engaged in integrating his resources within the ecosystem.

In pursuing enhanced viability, actors strive to develop innovation, interpreted as a process that is not merely linear but also continuous, systemic and based on complex interactions between actors, activities and heterogeneous resources (Mele *et al.*, 2014).

The variety and variability of actors, roles, resources and contexts characterise a complex ecosystem wherein innovation has become ubiquitous, being developed through not only planned patterns, but also emergent practices (Mele and Russo-Spena, 2017; Russo-Spena *et al.*, 2017). The perspective of the ecosystem in innovation is worthwhile because it enlightens how networked systems work and how many actors interact to use, develop and integrate resources with the aim to co-create innovation. Moreover, this view allows focussing on social structures and institutions seen as loose and tight ties enabling interactions between actors (Mars *et al.*, 2012; Vargo and Lusch, 2015).

Broadening the view, the networked process of innovation occurs within and through an innovation ecosystem in which continuous interactions among multiple actors allow them to increase accessness and resourceness (Lusch and Vargo, 2014). The innovation ecosystem is thus the context where actors share norms, values and institutions to apply and integrate resources to grasp value-innovation opportunities (Mele, 2009).

The papers in “The 2015 Naples Forum on Service” special issue address the key topic of value co-creation, systems thinking, innovation, service ecosystem, allowing to broaden the debate in service research. Following the Naples Forum spirit, indeed, these contributions address various research goals, with different methodologies and various scientific backgrounds. The manuscripts well represent the multicultural and cross-disciplinarity of our community, powerfully contributing to research advances in service.

In the article “Measuring customer value co-creation behaviour: developing a conceptual model based on service-dominant logic”, Tommasetti, Troisi and Vesce develop a measurement framework of value co-creation practices.

Saviano, Barile, Spohrer and Caputo in “A service research contribution to the global challenge of sustainability” adopt an overarching view of service, going beyond the boundaries of disciplines and sectors. They identify the links between sustainability and service research, highlighting how S-D logic, service science and systems thinking can contribute to the key requirements expressed by thinkers and practitioners in sustainable development and education for sustainable developments.

Russo Spena, Tregua and Bifulco in “Searching through the jungle of innovation conceptualisations: system, network and ecosystem domains” differentiate among the forms of the innovation system, innovation network and innovation ecosystem. These authors address the need for a comprehensive framework by which to investigate, within the jungle of perspectives, the multifaceted nature of innovation.

The article “The viable decision maker for CAS survival: how to change and adapt through the fitting process” by Luca Carrubbo, Francesca Iandolo, Valentina Pitardi and Mario Calabrese aims to investigate the decision-making process in the management of the CAS. It mainly focusses on the dimensions that affect the individual decision maker when passing from decision to behaviour in fitting processes.

Äyväri and Jyrämä’s “Rethinking value proposition tools for living labs” take a closer look at three tools for building value propositions. The aim is to analyse the tools from the living lab approach and the S-D logic while focussing on the concept of value.

Finally, the article “A4A relationships” by Francesco Polese, Jaqueline Pels, Bard Tronvoll, Roberto Bruni and Luca Carrubbo address A4A relationships involving value co-creation based on actors integrating their resources and acting with intentionality to obtain value by providing benefits to other parties and by belonging to the emergent viable system; in the authors’ view – and coherently with the proposed locus A4A – the actor acts for other actors directly involved in the relationship generating positive effects for the whole system in which it is contextualised.

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