

## **Toward a Framework of Value Co-Creation in a Service Ecosystems Perspective: A Systematic Literature Review and an Agenda for Future Research**

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### **Resumo**

With the consolidation of the service-dominant (S-D) logic perspective, the concept of value co-creation has become crucial to understand how the process of resource integration occurs within service exchange relationships. Since the 2000s, a large quantity of researchers has moved toward the development of this concept in terms of its nature, the actors involved, and on how value is co-created. However, due to the lack of consensus among the definitions that have been formulated, there is not a consistent theoretical frame that explains the logic behind value co-creation and its drivers. Thus, drawing on the service ecosystems perspective ? which assumes that value is co-created by a multitude of actors ?, our objective is to propose an integrated conceptual framework of value co-creation in order to provide building blocks for future theory development. To do so, we conducted a systematic literature review on papers published in the leading Marketing journals. Our findings suggest that value co-creation consists in resource integration processes that occur in different and interdependent levels of aggregation (micro, meso and macro levels), in such a way that service exchange is facilitated when actors share common norms, rules and principles.



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### Abstract

With the consolidation of the service-dominant (S-D) logic perspective, the concept of value co-creation has become crucial to understand how the process of resource integration occurs within service exchange relationships. Since the 2000s, a large quantity of researchers has moved toward the development of this concept in terms of its nature, the actors involved, and on how value is co-created. However, due to the lack of consensus among the definitions that have been formulated, there is not a consistent theoretical frame that explains the logic behind value co-creation and its drivers. Thus, drawing on the service ecosystems perspective – which assumes that value is co-created by a multitude of actors –, our objective is to propose an integrated conceptual framework of value co-creation in order to provide building blocks for future theory development. To do so, we conducted a systematic literature review on papers published in the leading Marketing journals. Our findings suggest that value co-creation consists in resource integration processes that occurs in different and interdependent levels of aggregation (micro, meso and macro levels), in such a way that service exchange is facilitated when actors share common norms, rules and principles.

**Keywords:** value co-creation; service-dominant logic; service ecosystems; actor-to-actor.

### Introduction

At the beginning of 80s, the emergence of new frames of reference built upon the concept of value creation have afforded a paradigm shift of marketing thought from a goods-dominant (G-D) view, based on the model of exchange of tangible outputs, to a service-dominant (S-D) view, in which intangibility and relationships take place instead of transactions (Sheth & Uslay, 2007; Vargo, Maglio & Aakaka (2008); Vargo & Lusch, 2004, 2008a, 2016). In the S-D logic, service is understood as “the application of specialized competences (*operant resources* – knowledge and skills), through deeds, processes, and performances for the benefit of another entity or the entity itself” (Vargo & Lusch, 2008b, pp. 26), and the term “value co-creation” becomes central to understand how a multitude of actors (including consumers and other stakeholders) engage as integrating resources in service exchange processes (Vargo & Lusch, 2008b, 2016).

Since Vargo and Lusch’s (2004) work, when the authors introduced the idea of value co-creation through the S-D perspective, a vast array of studies on this concept have been developed in order to further define its nature, who are the actors involved, and how value is co-created after all. Yet, there is a lack of consensus among the definitions of value co-creation, which generally assumes different perspectives and contexts, making it difficult to develop a consistent framework involving value co-creation and its drivers. Several authors conceptualize this term as dyadic exchange relationships (firm-customer) (Lusch & Vargo, 2006; Prahalad & Ramaswamy, 2004; Ranjan & Read, 2016; Sheth & Uslay, 2007; Vargo & Lusch, 2004), as dyadic production-related processes (Etgar, 2008; Grönroos, 2011; Grönroos and Voima, 2013), or as networked social practices (Cova & Dallı, 2009; Edvardsson et al, 2011; Schau, Muñoz Jr & Arnould, 2009). However, as Vargo and Lusch (2008a, 2008b, 2016, 2017) have reformulated the definition of value co-creation under a service ecosystems perspective – in which value is co-created by multiple stakeholders –, the number of studies that investigate it as a networked resource integrating process has increased (Wilden et al, 2017).

Because there is a movement toward the consolidation of a Service Science in which understanding service ecosystems is crucial to a further development of a general theory of the market under the S-D logic (Maglio & Spohrer, 2008; Vargo et al, 2008; Vargo & Lusch, 2017), the research questions that emerge with this background are: What is the nature of value co-creation in service ecosystems perspective? Which are the main elements of value co-creation? How such elements are interrelated? Therefore, our objective is to propose an integrated conceptual framework of value co-creation in a service ecosystems perspective, together with an agenda for future research, in order to provide building blocks for a further value co-creation theory development (Vargo & Lusch, 2017).

Based on a systematic review of the literature, our findings suggest that value co-creation consists in a theoretical frame englobing resource integration processes that occur in different and interdependent levels of aggregation (micro, meso and macro levels) and that, through service-for-service exchange – facilitated by actors’ shared social norms, rules and principles (institutions) –, result in value-in-context (or perceived value). To further advance in a value co-creation midrange theory, future research should focus on identifying the underlying mechanisms of A2A interactions in terms of resource integration and service exchange.

## Service Ecosystems

Although it is not wrong to understand value co-creation from a dyadic firm-customer relationship – and, indeed, analyze it in a micro-level makes the phenomena clearer (Chandler & Vargo, 2011) – ‘zooming out’ to a broader and holistic perspective allows us to visualize the structural details involving a configuration of actors engaged in service-for-service exchange activities (Vargo & Lusch, 2016). In other words, a service ecosystem approach directs our attention to the fundamental drivers and to the dynamics of social and economic systems that influence and are influenced by service exchange (Akaka, Vargo & Lusch, 2013).

Within this perspective, the boundaries that define the roles of “firm” and “customer” become blurred, and that is why S-D logic considers that all market participants are “generic actors” engaged in actor-to-actor (A2A) service exchange relationships (Barrutia, Paredes & Echebarria, 2016; Ekman, Raggio & Thompson, 2016; Vargo & Lusch, 2011). An actor can assume multiple roles and manifest different behaviors when interacting with other actors in complex exchange settings (Ekman et al, 2016) – for example, in sharing economy models that are characterized by C2C interactions, the consumer can also be a service provider (Hamari, Sjöklint & Ukkonen, 2015). However, because there are no well-established firm/customer roles in service ecosystems, all actors are supposed to “similarly” integrate resources in order to improve their own well-being (Barrutia et al, 2016; Frow et al (2014); Vargo & Lusch, 2017).

In S-D logic terms, resource integration consists in the exchange of *operant* resources among actors – such as knowledge and skills – that are required for the process of serving (Vargo & Lusch, 2008b). It is through this process that value co-creation occurs (Vargo & Lusch, 2008b, 2016, 2017). In this sense, value co-creation is not a variable or a synonymous of co-production, but a theoretical framework wherein value is (co)created through a resource-integrating process – that takes place in networks – giving rise to markets or service ecosystems (Vargo & Lusch, 2016).

From a systemic orientation, the term “ecosystems” refers to the interaction between the actor(s), the environment and the energy flow. Translating it to the S-D logic, service ecosystems are “flow-mutual service provisions” (Vargo & Lusch, 2016, pp. 10), which interactions among actors influence and are influenced by a “common” context (Akaka, Vargo & Lusch, 2013). More specifically, service ecosystems are “relatively self-contained, self-adjusting systems of resource-integrating actors connected by shared institutional logics and mutual value creation through service exchange” (Vargo & Lusch, 2016, pp. 10). In this sense,

institutions are contextual elements and facilitators of value co-creation, and consist in rules, norms, and believes that simultaneously enable and constrain actors' actions. In other words, they are the "rules of the game" that make the interactions among actors at least somewhat predictable (Akaka et al, 2013; Vargo & Lusch, 2016).

In sum, service ecosystems refer to systems that are generated through actor-to-actor interactions and resource integration processes facilitated by the role of institutional contextual elements. It is also important though to emphasize the meaning of service within this perspective. Service is the interactive and collaborative application of *operant resources* (specialized competences) that produces benefits through value co-creation processes by virtue of actor-to-actor interactions (Breidbach & Maglio, 2016; Brodie et al, 2011). In service-for-service exchange, value propositions are offered by an actor (service provider) – through the application of specialized knowledge and skills – for the benefit of another, and the value of such propositions is defined by the beneficiary actor through use and interactive experiences (Breidbach & Maglio, 2016). In this regard, the concept of service in service ecosystem perspective refers to a process "doing something" for the benefit of an entity, and not to intangible goods (plural "services") (Vargo & Lusch, 2008b).

With this in mind, we advance in this study in proposing a framework of value co-creation undertaking a service ecosystem perspective. In the following sections, we present the procedures adopted for the systematic review and the analysis of the findings.

## Procedures

We reviewed prior literature related to value co-creation in the following leading ABS 4 and 3 Marketing journals, as they are journals that have the highest citation impact factors (ABS 4\* and 4) or are heavily refereed within their field (ABS 3): *Journal of Consumer Psychology*, *Journal of Consumer Research*, *Journal of Marketing*, *Journal of Marketing Research*, *Journal of the Academy of Marketing Science*, *Marketing Science*, *International Journal of Research in Marketing*, *Journal of Retailing*, *European Journal of Marketing*, *Industrial Marketing Management*, *International Marketing Review*, *Journal of Advertising*, *Journal of Advertising Research*, *Journal of Interactive Marketing*, *Journal of Public Policy and Marketing*, *Marketing Letters*, *Marketing Theory*, *Psychology & Marketing*, and *Quantitative Marketing and Economics*. We also included publications from the *Journal of Business Research*, *Journal of Service Research* and *Journal of Product Innovation Management* to complement our analysis, due to their large quantity of papers that draw on co-creation.

To find the related research studies, we first conducted a keyword search for "co-creation" (and its variations, i.e., cocreation, co-created, cocreated) in the abstracts of the papers from 2004 onwards (to August 30<sup>th</sup>, 2018), since Vargo and Lusch's (2004) work, when this concept was introduced in the first time under a service-dominant logic (that guides this literature review). Articles that do not carry the keyword in their abstracts, but are related to co-creation, were also considered. In this first moment, we read the abstract of each paper assessing whether they meet our investigation, resulting in a total of 235 papers.

The second step was to filter the collected papers through a skimming analysis of their content. Our inclusion criteria were papers that focus on co-creation itself, and papers that adopted a S-D perspective. We excluded papers in which co-creation processes were secondary (i.e., the ones that examine consumers' perception in relation to co-created products or brands, or which focus was on product/service performance, etc.). At the end, we obtained a final sample of 158 articles distributed according to the journals indicated in Table 1.

Table 1

**Distribution of final sample articles per journals**

<i>Journal of Marketing</i> (5)	<i>Journal of Public Policy and Marketing</i> (2)
<i>Journal of Academy of Marketing Science</i> (17)	<i>Marketing Letters</i> (2)
<i>Marketing Science</i> (1)	<i>Marketing Theory</i> (27)
<i>International Journal of Research in Marketing</i> (1)	<i>Psychology &amp; Marketing</i> (1)
<i>European Journal of Marketing</i> (15)	<i>Quantitative Marketing and Economics</i> (1)
<i>Industrial Marketing Management</i> (18)	<i>Journal of Business Research</i> (13)
<i>Journal of Interactive Marketing</i> (1)	<i>Journal of Service Research</i> (13)
<i>Journal of International Marketing</i> (1)	<i>Journal of Product and Innovation</i> (5)

**Note.** For the final sample, no articles of the following journals were selected: *Journal of Consumer Psychology*, *Journal of Consumer Research*, *Journal of Marketing Research*, *Journal of Retailing* and *Journal of Advertising*.

We followed the analysis by classifying the papers regarding how their respective authors defined the concept of value co-creation, considering the lens they adopted to unravel this concept. After that, we selected the ones that investigate value co-creation under a service ecosystem perspective ( $n = 78$ ) for a thorough analysis in order to propose a theoretical framework and an agenda for future research. The analysis was conducted in the following steps: (i) identification and categorization of common elements regarding the selected articles; (ii) identification of possible relationships between these common elements; (iii) identification of different levels in which these relationships can be investigated; and (iv) proposing research questions that might be addressed regarding each level of analysis. The results of this systematic review are present in the following sections.

### A Review of Value Co-Creation Definitions

There is no consensus regarding the definition of value co-creation. When the term emerged in Vargo and Lusch's (2004) work, specifications about the nature of value co-creation, the actors involved and how it occurs were not clear. As new papers on the S-D logic were published, Vargo and Lusch (2008a, 2008b, 2008c, 2011, 2016, 2017) established modifications in the definition of value co-creation and of other related concepts. First, from a dyadic exchange process, centered on customers, the authors redefined value co-creation toward a network orientation (service ecosystem perspective), in which different stakeholders are equally engaged in the creation of value. Second, the authors also modified the terminology of value-in-use, taking account Edvardsson's et al (2011) work, to value-in-context (or value-in-social-context), changing from the perspective in which value is created by the user to reflect value as "interactive, relativistic, and meaning-laden in a given context" concept (Edvardsson, 2011, pp. 333). Finally, Vargo and Lusch (2008a, 2016) clarified the term "co-production" as the creation of value proposition (i.e., design, definition, production, etc.) and as an optional subject regarding a whole of other factors. Thus, value co-creation does not necessarily involve coproduction, which led the authors to change the foundational premise of "*The customer is always a co-producer*" to "*The customer is always a co-creator of value*" (Vargo & Lusch, 2008a). According to Vargo and Lusch (2016), differently from co-production, value co-creation is not optional, and it does not occur in selected instances. Instead, value is created through the integration of resources of multiple stakeholders and through interactive exchanges among them.

However, because S-D logic is still being consolidated and some of its main foundational premises were initially misspecified, the conceptualization of value co-creation has taken different avenues since Vargo and Lusch's (2004) work. During the literature review with the 158 articles first collected, we identified four core definitions of value co-creation that varies in terms of the type of relationship in which value co-creation occurs (dyadic/networked relationships) and the nature of value co-creation (practices or processes/ relationships or

exchanges) (see Figure 1). They are: (i) *value co-creation as a production-related process*, characterized by dyadic relationships between firms and customers with focus on processes; (ii) *value co-creation as dyadic exchange relationships*, with focus on the exchange relationship that occurs through the interaction between firms and customers; (iii) *value co-creation as social practices*, in which networked relationships are taking into account, but the focus is on practices and processes; and, finally, (iv) *value co-creation as service ecosystems*, which is further explored in this study as it understands value co-creation as the result of networked relationships, in which the focus is based on the interactions among multiple actors.

As we observe in Figure 1, most of the articles published in the selected journals have adopted a service ecosystem perspective (49,37%). In comparing the core themes related to S-D logic literature across two periods of time (2004-2008 and 2009-2015), Wilden's et al (2017) findings showed an advance in research using a service ecosystem approach, which can explain the numbers we found. In this sense, the increasing interest of scholars in researching under this view reinforce the importance to propose a framework of value co-creation regarding networked relationships and the role of context, which is the purpose of this study. Backing to the conceptualizations of value co-creation identified in the literature review, followed by *value co-creation as service ecosystems*, 25,95% of the articles adopted the definition of *value co-creation as a production-related process*, 13,29% analyze *value co-creation as social practices*, and 11,40% analyze *value co-creation as a dyadic exchange relationship*. A brief discussion about each conceptualization is presented below.

<b>Networked relationships (actor-actor)</b>	<b>Value co-creation as social practices</b> (n = 21)	<b>Value co-creation as service ecosystems</b> (n = 78)
	<p><i>Firms, customers and stakeholders are all <u>social actors</u> in value co-creation. The nature of value co-creation rests on <u>social structures</u>, in which <u>value is co-created through cultural and symbolic practices</u>.</i></p> <p>Most cited papers: Schau, Muñoz Jr and Arnould (2009); Edvardsson, Tronvoll and Gruber (2011); Cova and Dallı (2009); Echeverri and Skålén (2011); and Pongsakornrusgsilp and Schroeder (2011).</p>	<p><i>Firms, customers and stakeholders are all <u>social actors</u> in value co-creation. The nature of value co-creation rests on <u>service exchange relationships</u>, wherein <u>shared institutions coordinate value co-creation</u>.</i></p> <p>Most cited papers: Vargo and Lusch (2008a); Vargo, Maglio and Akaka (2008); Brodie et al (2011); Maglio and Spohrer (2008); and Vargo and Lusch (2011).</p>
<b>Dyadic relationships (firm-customer)</b>	<b>Value co-creation as production-related processes</b> (n = 41)	<b>Value co-creation as dyadic exchange relationships</b> (n = 18)
	<p><i>Firms and customers have <u>well-defined roles</u> in value co-creation. The nature of value co-creation rests on <u>production processes</u> in which the customer is directly involved and in dialog with firms.</i></p> <p>Most cited papers: Payne, Stobarcka &amp; Frow (2008); Grönroos and Voima (2013); Grönroos (2011); Hoyer et al (2010); and Etgar (2008).</p>	<p><i>Firms and customers have <u>well-defined roles</u> in value co-creation. The nature of value co-creation rests on these <u>relationships</u>, but it is not clear the presence of other elements, such as other actors or contexts.</i></p> <p>Most cited papers: Vargo and Lusch (2004); Prahalad and Ramaswamy (2004); Lusch and Vargo (2006); Payne et al (2009); and Yi and Gong (2013).</p>
	<b>Focus on practices and processes</b>	<b>Focus on exchange relationships</b>

Fig 2. **Framework of value co-creation in a service ecosystem perspective**  
 Note: We selected the five most cited papers of each definition (written in descending order).

*Value co-creation as production-related processes.* Scholars that take a production-related process perspective postulate that it involves series of actions that generate value co-creation opportunities (Grönroos & Voima, 2013; Payne et al, 2008; Xie et al, 2008). In viewing value co-creation as a process, we assume that the relationship between the parties (mostly between customers and firms) is longitudinal, dynamic and interactive, and a set of procedures, tasks and activities support the co-creation of value (Payne et al, 2008). Despite some authors who adopt this view present different explanations about how this process occurs, they are consensual in considering that value co-creation only happens when the customers are engaged in production-related activities, that is, value co-creation only occurs when there is interaction between the customer and the firm (or service provider). These interactions take place when firms and its customers are involved in each other's practices, forming an integrative process in which both parties learn together and can create value through co-produced offerings (Grönroos & Voima, 2013; Payne et al, 2008).

*Value co-creation as dyadic exchange relationships.* When Vargo and Lusch (2004) presented for the first time the term 'co-creation of value' on a service-dominant logic, they did not make clear its nature and who are the actors involved, beyond customers and enterprises. Nonetheless, they highlighted that value is created through the exchange of skills, competences and services between firms and customers, in which the customer is always a co-producer (or *operant resources* – resources that produce intangible effects). In this conceptualization, the roles of firms and consumers are well-established. Firms only create value propositions (value embedded in goods, i.e., knowledge). The usefulness of goods (value-in-use) – or the experiences (Prahalad and Ramaswamy, 2004; Payne et al, 2009) – are created (or co-produced) by consumers when they translate the value of these goods to specific needs, which enterprises must understand to generate new value propositions (Lemke et al, 2011; Vargo & Lusch, 2004).

*Value co-creation as social practices.* Studies that consider value co-creation as social practices are scarce, but they present relevant contributions to understand the dynamic logics of service systems. Practices comprise a set of behaviors, performances and representations that perpetuate in both individual and collective levels (Schau et al, 2009). Social actors engaged in practices generate shared understandings through interpersonal interactions that reinforce social structures, that is, practices support unobservable rules and resources that directly influence the activities of these social actors (Schau et al, 2009; Echeverri and Skålén, 2011; Edvardsson, 2011). Besides, the role of social actors is defined through their cultural, symbolic and affective practices (Cova & Dallı, 2009; Schau et al, 2009). Thus, assuming value co-creation as social practices, social norms and rules, language, and other symbolic actions are central elements to understand how value co-creation occurs (Edvardsson et al, 2011).

*Value co-creation as service ecosystems.* There is an increasing number of studies investigating value co-creation on a service ecosystem perspective, in which the focus rests on the interactions (or relationships) among multiple stakeholders (or actors) – taking into account the phenomenological and contextual nature of value (Akaka et al, 2014; Brodie et al, 2011; Ramaswamy, 2011). That is, scholars that seek to examine value co-creation undertaking this perspective should look more closely at the interactions that occur within (and among) service systems that contributes to the synergy (or well-being) of such systems, as well as the systems' environment context (Vargo et al, 2008; Vargo & Lusch, 2016). All actors are interconnected by shared institutions that coordinate and compose the boundaries of service ecosystems (Akaka, Vargo & Lusch, 2013; Aarikka-Stenroos & Ritala, 2017; Frow et al, 2014; Storbacka et al, 2016; Vargo & Lusch, 2016, 2017). In this sense, service ecosystems can be partially

understood in terms of institutions, which are the unit of analysis for value co-creation (Vargo & Lusch, 2017).

In this study, we further explore the conceptualization of value co-creation as service ecosystems, as it has been moving toward the development of a consistent and consolidated theory of the market (Vargo & Lusch, 2017). It does not mean though that the other definitions we identified in the literature review are wrong or insufficient. We used dotted strokes to delimitate the quadrants in Figure 1 to show that actually the different perspectives of value co-creation can dialog with each other. In the following sections, we indicate the main elements of value co-creation as service ecosystems and propose a framework, followed by an agenda for future research.

### Value Co-Creation as Service Ecosystems Framework

As briefly mentioned previously, value co-creation in a service ecosystem perspective is defined by resource integration processes that occur through interactions among multiple stakeholders – or actor-to-actor relationships (Aarikka-Stenroos & Ritala, 2017; Akaka & Chandler, 2011; Chandler & Vargo, 2011; Vargo & Lusch, 2016, 2017). Around this definition of value co-creation, besides keywords such as actors, networks, resource integration and service exchange, other concepts have been gaining attention in service ecosystem research (i.e., value-in-context, institutions and institutional arrangements, and levels of aggregation). To propose an integrated framework, first we need to clarify the main elements of value co-creation identified in the literature review. A synthesis of these elements, and their definitions and classifications, is presented in Table 2.

Table 2  
 Main elements of value co-creation as service ecosystems

Elements	Definition	Types/ Classifications	Authors
<b>Actors</b>	All stakeholders involved in a value chain, who generally assume multiple and fluid roles.	Help seeker/ beneficiary; helper/service provider.	Aarikka-Stenroos and Ritala (2017); Akaka and Chandler (2011); Breidbach & Maglio, 2016; Ekman et al (2016); Vargo and Lusch (2011, 2017).
<b>Value networks</b>	Dynamic systems wherein value co-creation occurs through interactions among actors.	Customers networks; suppliers networks; (multi-)stakeholder networks; etc.	Akaka and Chandler (2011); Akaka et al (2013); Frow et al (2014); Lusch and Vargo (2012); Vargo and Lusch (2011, 2016).
<b>Service exchange</b>	It is the application of <i>operant</i> resources for the benefit of others to obtain service (or benefits) for own benefit. It is the logic of interactivity.	Knowledge; skills; competences; social roles; etc.	Barrutia, Paredes and Echebarria (2016); Breidbach and Maglio (2016); Brodie et al (2011); Vargo et al (2008); Vargo & Lusch (2008b, 2016)
<b>Resource integration</b>	Combination of <i>operant</i> resources (from resource integrators – or actors) through service exchange.	Information sharing; learning; technology (as potential knowledge); etc.	Chandler and Vargo (2011); Hollobeck et al (2016); Hughes, Vafeas & Hilton (2018); Lusch and Vargo (2012); Vafeas and Hilton (2018); Koskela-Huotari et al (2016); Laud et al (2015); Pera, Occhiocupo and Clarke (2016);

			Peters (2016); Singaraju et al (2016); Vargo and Lusch (2011).
<b>Value-in-context</b>	Value derived through resource integration that is phenomenologically evaluated (or assessed) by a beneficiary considering a particular context.	Social/relational; emotional; utilitarian; for effort, etc.	Akaka et al (2014); Akman, Plewa and Conduit (2018); Barrutia et al (2016); Chandler and Vargo (2011); Ekman et al (2016); Vargo et al (2008).
<b>Institutional context</b>	Shared social values, norms and principles that guide and rule on value co-creation.	Social rules; sensitivity to the opinion of others; obedience to norms; mutual trust; reciprocity; etc.	Akaka et al (2013); Akaka et al (2014); Chandler and Vargo (2011); Frow et al (2014); Laud et al (2015); Meynhardt, Chandler and Strathoff (2016); Stobarcka et al (2016); Vargo and Lusch (2016).
<b>Levels of aggregation</b>	Analytical frameworks in which value co-creation can be examined.	Micro (dyadic relationships – i.e., transactions); meso (i.e., communities); and macro (i.e., broader societal structures).	Chandler and Vargo (2011); Vargo and Lusch (2016)

In value co-creation, *actors* are all customers, firms and other stakeholders (i.e., competitors and government agencies) involved in an entire value chain (Aarikka-Stenroos & Ritala, 2017). Their roles transcend the firm-customer dichotomy (Vargo & Lusch, 2011, 2017), that is, actors (or *generic actors*) assume fluid and multiple roles in complex exchange settings, as they can be simultaneously service providers (or proactive/reactive helpers) or beneficiaries (or help seekers) (Akaka & Chandler, 2011; Breidbach & Maglio, 2016; Ekman et al, 2016). The roles of such actors only converge within *value networks*, in which they become *operant* resources (Frow et al, 2014; Lusch & Vargo, 2012).

Value networks are not only about aggregations of relationships, but dynamic systems interconnected by value co-creation processes (Akaka & Chandler, 2011; Frow et al, 2014; Vargo & Lusch, 2011). They can be understood as a configuration of actors that provide services to one another through *resource integration* to co-create value, which occurs in each *service exchange* encounter (Akaka & Chandler, 2011; Akaka et al, 2013). In this sense, value networks can also be understood as service ecosystems, as they are value-creating systems defined by interdependent interactions among actors. Such interdependence is the *sine qua non* of *service exchange*, as actors depend of others' resources to "survive" within value networks (Frow et al, 2014; Vargo et al, 2008). Thus, service exchange occurs when actors apply their *operant* resources to obtain benefits (services) from others (Vargo & Lusch, 2008b).

Simply put, within value networks, resource integration is the reason why actors connect to each other (Chandler & Vargo, 2011). Resource-integrating processes creates opportunities to develop new potential resources, which are crucial to actors' well-being and to service provision (Laud et al, 2015; Vargo & Lusch, 2011). In other words, to maintain the synergy of the system, actors need to access resources that are relevant for them, which are obtained through social relationships within a broader social structure (Laud et al, 2015). In this sense, resources – such as knowledge, skills, competences, and even social roles – are not static, but changeable, as they can expand and contract in response to actors' interactions (Akaka & Chandler, 2011; Chandler & Vargo, 2011).

The integration and application of resources generate “value-in-use” or “*value-in-context*”, as service exchange between actors is framed by their particular *contexts* (Akaka et al, 2013; Chandler & Vargo, 2011). Some scholars also call it as “perceived value” (Barrutia et al, 2016; Hollebeek et al, 2016), which is “uniquely and phenomenologically determined by the beneficiary” (Vargo et al, 2008, pp. 148). This means that actors engaged in service exchange may perceive new forms of value resultant from value co-creation, and their contexts are what guides the way they evaluate value (Akaka et al, 2014; Ekman et al, 2016). Such contexts are considered the “rules of the game” and, in S-D logic research, they have been regarded as *institutions* that influence and are influenced by the relationships among actors (Akaka et al, 2013; Akaka et al, 2014).

In general terms, institutions are rules, norms and beliefs that enable and constrain the interactions between actors within a value network (Storbacka et al, 2016; Vargo & Lusch, 2016). Institutional contexts rule over resource integration, service exchange and value co-creation (Akaka et al, 2014). In this sense, the way actors draw on each other as resources depends on the context wherein they are embedded, so that institutions are formed by unique and reciprocal links among them (Chandler & Vargo, 2011). In sum, institutions are crucial to understand value co-creation, and the more actors share an institutional context (i.e., social values, norms and principles), the greater is the potential benefit to them all (Vargo & Lusch, 2016).

It is important to emphasize that value co-creation can occur (and be investigated) in three analytical *levels of aggregation*, generally labeled as “micro”, “meso” and “macro” levels. At the micro level, value co-creation is placed in dyadic structures (i.e., B2C and B2B interactions), in which an actor serves directly another. At the meso level, it takes place in midrange structures, such as communities and industries, wherein indirect service-for-service exchange can occur. Finally, at the macro level (given by broader societal structures), which englobes both micro and meso levels, direct and indirect service exchange occur simultaneously (Chandler & Vargo, 2011; Vargo & Lusch, 2016). These analytical levels are interdependent, each of them guided by their respective institutions that, together, form a broader *institutional arrangement* that facilitates the coordination of value co-creation in service ecosystems (Vargo & Lusch, 2016).

In Figure 2, we have all levels of aggregation synthesized. At the micro level, a dyadic relationship between two actors – regardless their respective networks – is represented. Institutions that are shared between both actors influence and are influenced by value co-creation (green arrows), that occurs through resource integration (gray bidirectional arrow) and service exchange (white arrows). Such value co-creation results in value-in-context, which is the value perceived by a service beneficiary (i.e., customer) regarding the institutional context that both actors share. At the meso level, we move to a value network setting, in which value co-creation occurs similarly as in micro level – considering the role of shared institutions on value co-creation and the generation of value-in-context –, but now we have the engagement of more than two actors. Finally, at the macro level, we have a broader representation of service ecosystems, in which all value networks are linked by institutional arrangements, and value co-creation occurs through the interaction among various service systems.

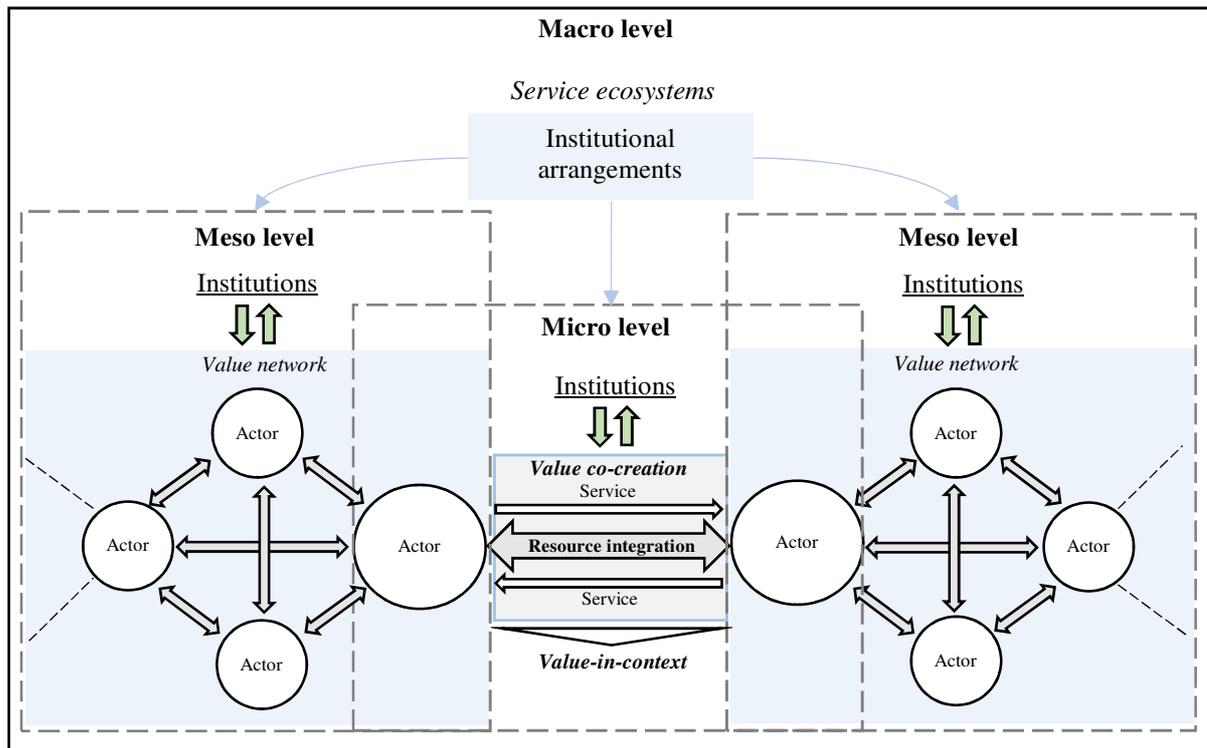


Fig 2. Framework of value co-creation in a service ecosystem perspective

Based on the systematic review on value co-creation undertaken from a service ecosystems perspective, to go forward to the consolidation of S-D logic, we propose the definition of value co-creation as *a resource integration process that occurs in different (but interdependent) levels of aggregation, and that is facilitated by actors' shared institutions that, through service-for-service exchange, result in value-in-context (or perceived value by a beneficiary)*. An agenda for future research based on this conceptualization and on the proposed framework is presented in the final section.

### Conclusion: An Agenda for Future Research

The aim of this paper was to propose an integrated framework of value co-creation in a service ecosystems perspective, which was achieved through a systematic review of the literature whereupon we could identify the different conceptualizations that value co-creation has taken over the years and the main elements that integrate the concept of value co-creation as service ecosystem. We conclude that, in S-D logic research, value co-creation is a theoretical framework that can be applied in three different and interdependent levels of aggregation (micro, meso and macro levels), wherein actors' resource integration and service exchange, influenced by their institutional context, generate a perceived value (or value-in-context).

In clarifying value co-creation through the proposed framework, future research should advance in terms of empirical validation to move toward theory development. Because value co-creation is a transdisciplinary concept (Vargo & Lusch, 2017), it can be investigated under the lens of different epistemologies and methodologies (Boyer & Kastanakis, 2017). In Table 3, we propose research questions that can possibly guide future studies regarding each level of aggregation. We also suggest possible theories that can be applied to help with the identification of patterns and relationships.

Table 3

**Research questions for future studies**

Level of aggregation	Research questions	Possible theories
<b>Micro level</b>	Which are the roles of each actor (service provider/service seeker) in a dyadic value co-creation relationship? Which resources they seek to access?	Social identity theory; Social exchange theory; Resource-based theories.
	Which benefits each actor seeks in integrating resources?	
	How value-in-context is generated in a dyadic value co-creation relationship? How institutions influence the generation of value-in-context?	
<b>Meso level</b>	Which are the drivers of actors' resource integration in value networks? How service exchange in value networks occurs?	Social capital theory; Social exchange theory; Institutional theory.
	How indirect service-for-service exchange can occur?	
	Which institutions rule over actors' engagement in value networks? How institutions affect value-in-context (or perceived value) in value networks?	
<b>Macro level</b>	How resource integration and service exchange occur throughout the relationships between different service systems?	Ecosystem theory; Institutional theory; Structuration theory.
	How institutional arrangements are constituted and influence different service systems?	

In general, understanding the role of actors in value co-creation, the drivers of resource integration and service exchange, and the role of institutions on these processes, are the building blocks for the development of a midrange theory of value co-creation. *Social identity theory* can help to understand how the roles of social actors (and how they define themselves) can be shaped and can simultaneously reinforce value co-creation, while *social exchange theory* can help to identify which actions guide A2A interactions (Füller, 2010; Grisseemann & Stokburger-Sauer, 2012). *Resource-based theories* are important to understand how actors seek for access resources and how they engage in resource integration to obtain such access (Chandler & Vargo, 2011). *Social capital theory* and *institutional theory* (and also social exchange theory) can offer insights in relation to the mechanisms underlying value co-creation in complex value networks at the meso level of aggregation (Laud et al, 2015; Vargo & Lusch, 2016, 2017). Finally, in a broader macro level, *ecosystem theory* and *structuration theory* (together with institutional theory) can help to understand how networks of actors (or subsystems) are connected and how these subsystems interact with the environment, ruled by social norms, values and principles shared by all service systems (institutional arrangements) (Frow et al, 2014; Vargo & Lusch, 2016).

To conclude, scholars that seek to investigate value co-creation in service ecosystem perspective, regardless the level of aggregation, should not take value co-creation as a variable in a model, as value co-creation is not optional, that is, it does not depend on consumer participation or desire to integrate resources, for example. As postulated by Vargo and Lusch (2016), value co-creation is a positive statement in which value is always co-created in all systems characterized by interdependency. What should be taken into account are the

mechanisms that rule A2A interactions. Thus, in service ecosystems perspectives, institutions are the units of analysis of value co-creation (Vargo & Lusch, 2017, 2017; Wilden et al, 2017).

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