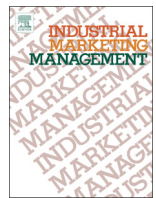




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Theory and practice of value co-creation in B2B systems

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ABSTRACT

The co-creation of value and the coproduction of value proposition have attracted enormous interest in the B2B service and solutions research. To analyze this body of knowledge, we searched for published studies on co-creation and coproduction in top-tier journals in the areas of management, marketing, strategy, and operations. We selected 54 papers for further analysis. Our review demonstrates that research of value co-creation and the coproduction of value proposition covers a myriad of viewpoints to the economic and social exchange among actors in multi-actor service ecosystems. We identify a variety of definitions and meanings associated with value co-creation. Our analysis provides insight into the theories and methods used in the area. We also discuss the need to study the co-creation of value in the B2B context from the institutional and practice theory perspectives, and suggest some avenues for future research.

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1. Introduction

As the networked economy becomes more pervasive than ever, the co-creation of value is becoming a prominent theme in the literature. Similarly, the collaborative development of new service offerings, and the coproduction of value propositions, is becoming an increasingly common practice in the B2B context. The concepts of *value co-creation* and the *coproduction of value propositions* offer a vantage point from which to comprehend the inter-organizational, dynamic, and systems-oriented view of value creation. Moreover, they help to explain what value is and how it is generated through interactions among actors in diverse B2B and B-to-C contexts. There has been special interest in the processes and mechanisms of value creation across firm boundaries (Kohtamäki & Partanen, 2016; Lambert & Enz, 2012). We know from previous research (see, for example, Vargo & Lusch, 2008, 2016) that value co-creation takes place through mutually beneficial interactions among actors within business ecosystems. To master such networked value creation, managers in firms need to understand the opportunities for cooperative value creation that their business ecosystems enable. The multi-actor collaboration for value creation can influence the ecosystem-level practices that affect competition, strategy formation and innovation.

Contemporary research on service provision comprehends value as always cocreated in interaction among actors. According to this view, a service provider “can only make value propositions” (Vargo & Lusch,

2004, 2008). A beneficiary is therefore always involved in value creation. Stated in terms of the latest updates of the service-dominant (S-D) logic, “Actors cannot deliver value but can participate in the creation and offering of value propositions” (Vargo & Lusch, 2016, p. 8). The literature on S-D logic has challenged the goods-centric manufacturer-consumer logic, in which – a “consumer” expends the value created by a manufacturer. S-D logic emphasizes the active role of customers in all value co-creation processes. In the coproduction of value propositions, the customer is an important contributor to the development of service offerings (Vargo & Lusch, 2011). Conversely, in value co-creation, the customer takes an active role in the creation of the value experience and the ultimate perception of value based on the interaction. Putting emphasis on the active role of customers in shaping service offerings and experiences, the literature (e.g., Vargo & Lusch, 2011) illustrates that value co-creation among the partners of collaboration is best understood in terms of networked systems of economic actors.

The literature on value co-creation has expanded significantly, utilizing a rich variety of concepts such as codesign and codevelopment of the value propositions, as well as colearning, which includes joint organizational learning and relationship learning, and coinnovation. In all of these concepts, the prefix “co” indicates shared work among actors within dyadic relationships, multilateral networks and ecosystems. These perspectives are particularly salient in traditional B2B collaborations, in which suppliers and customers may operate in close collaboration, bundling products and services. For instance, in “knowledge-intensive business services” (KIBS), in which tacit knowledge needs to be explicated and combined (Kohtamäki & Partanen, 2016), collaborative practices supporting the coproduction of service offerings, as well

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as the practices of cocreating value in use, are of special importance. One of the bedrock principles of S-D logic postulates that “value is cocreated by multiple actors, always including the beneficiary” (Vargo & Lusch, 2016). This principle suggests that value co-creation takes place in direct and indirect interactions among suppliers, customers and third parties within ecosystems, such as service systems (Spohrer, Maglio, Bailey, & Gruhl, 2007).

The concepts of value co-creation and the coproduction of value propositions are receiving unprecedented amounts of attention from researchers. This attention is most evident in the number of publications appearing in prestigious journals. To scan the state of the field, we ran an analysis of the terms “co-creation” and “coproduction” using Scopus (titles, abstracts and keywords). The search revealed 115 published articles – 5 published in 2002, 8 in 2006, 38 in 2010 and 64 in 2014 – demonstrating how quickly the research on co-creation and coproduction has grown.

Limiting the search to the co-creation and coproduction papers that concentrate explicitly on B2B context revealed 49 articles and slower but steady growth in the number of papers published annually – 1 in 2002, 4 in 2006, 35 in 2010 and 9, in 2014. Of course, the evidence of the impact of these concepts is by no means limited to these articles, which were identified from searches only of titles, keywords, and abstracts. A search based on full texts would no doubt reveal even more articles.

Although the literature has proliferated, the body of empirical research has become fragmented, as the literature covers a myriad of viewpoints reflecting the diversity of scholars' research traditions and theoretical backgrounds. Therefore, there is a need to review and reconcile the conceptual and empirical works on coproduction and co-creation in B2B fields of research, to clarify the conceptual landscape, and make suggestions for future research.

There has been very little discussion of the ontological basis of the processes of co-creation and coproduction in the B2B context (Vargo & Lusch, 2011). Questions pertaining to the constituents of value creation, including practices and their conceptualizations, are important when researchers design their studies and make essential methodological choices. When reviewing the literature, we found that co-creation studies in B2B settings give very limited space to the practice perspective on value creation, whereas studies of consumer co-creation have begun applying the practice theory (e.g. Echeverri & Skalen, 2011; Schau, Muniz, & Arnould, 2009). Our intention is to extend the B2B co-creation literature by looking for ways to apply the practice theory. In this respect, our review generates suggestions for future research by analyzing the B2B co-creation literature from the practice perspective. Therefore, this article suggests that researchers pay attention to the practice perspective in the co-creation of value in B2B systems.

2. Review process

We reviewed the literature on the co-creation of value and the co-production of value propositions through a systematic search of research papers (Tranfield, Denyer, & Smart, 2003), in which we combined two search strings to find articles from journals ranked in the Chartered Association of Business Schools (CABS) Academic Journal Guide (AJG). We focused on journals in the fields of marketing, management, strategy and operations management, that appear in the AJG categories 3 to 4* in the 2015 edition of the guide, with 4* as the highest level of quality (CABS, formerly known as ABS, is used in the UK in categories from 1 to 4*). We searched the Scopus database for articles on co-creation and coproduction, covering the titles, abstracts, and keywords in the search. Several rounds of iterations of the search criteria identified 86 articles. We read their abstracts to evaluate the fit of each paper for the purpose of the research. Fifty-four articles were identified for further study. We included articles on “coproduction” or “co-creation” in different B2B settings in the B2B marketing literature. Ten articles that were published in lower-tier journals than AJG 3 (2015)

were removed from the data. Another 22 articles that did not link to marketing, management, strategy, or organizational literature, but used, for example, the term “codesign” in a purely technical manner, were likewise removed. In addition to the selected 54 articles, several seminal articles from other fields were used to add complementary perspectives and fresh empirical insights to the analysis.

3. Research on the co-creation of value in the B2B context

As noted, researchers of B2B exchange have paid much attention to coproduction of service offerings and the co-creation of value. The literature has produced a myriad of concepts, applied a variety of theories and assigned a range of meanings to these activities. The concepts touch upon many aspects of business, such as strategy, sales, marketing and organization. Therefore, we discuss the definitions of coproduction and value co-creation in the literature to lay the groundwork for research on coproduction and value co-creation in B2B systems.

In the B2B context, an actor's subjective experience of value has been considered as an outcome of a value co-creation process, in which value propositions (e.g., a product, “service” or solution) act as conveyors of potential value in the exchange processes among the supplier, the service provider and the customer. While the literature holds many views on the creation of value, the economic value has been conceived merely as the benefits subtracted from the sacrifices associated with the B2B exchange, subjected to the supplier when conducting the transactions (Vargo, Maglio, & Akaka, 2008).

Then again, some researchers define *value* as “what customers are willing to pay” (Porter, 1985: 3). Yet, building on the early writings, the marketing literature highlights the role of *use-value* (Dixon, 1990; Vargo et al., 2008), whereby value is created when the customer integrates the offering with other resources and competences needed for the usage. The marketing perspective is grounded in the view that value emerges through use, whereby value-in-use is associated with the user experience (Grönroos, 2012). The literature largely agrees that such an experience is cocreated by the customer and the supplier (Vargo & Lusch, 2004, 2008). According to the S-D logic, value is not consumed or destroyed, as in the traditional industrial logic (Vargo & Lusch, 2004, 2008, 2016). Instead, value proposition may be coproduced, and value experience can be cocreated in the interaction among the actors that participate in the process.

Prior research on the coproduction of value propositions uses a variety of terms such as coproduction, co-creation, codesign and codevelopment to describe the process of creating or developing something together (Payne, Storbacka, & Frow, 2008). In codesign, the customer contributes to product or service design; codevelopment, in contrast, is a collaborative process, where a customer is involved in a supplier's process development. In co-branding, customers and suppliers develop a brand together.

To clarify the definition of *value co-creation* in the way that encompasses the coproduction of value propositions, we distinguish the interactions for the creation of value experience from the collaborative production of value propositions. First, it is important to understand that the exchange for value entails both economic and social exchange; both of which may be value-focused. Conversely, the collaboration for valuable experience in the context of use may involve several aspects of social, physical and cognitive experiences that are valuable to the beneficiary. Economic behavior in general is the exchange of applied resources. This service model, is guided by the aim to benefit some actors, potentially including other stakeholders, and even external audiences. *Social exchange* is defined as a set of organizational actions that is contingent on rewarding reactions from others. It implies a reciprocal and mutually binding relationship between at least two parties in transactions (Blau, 1964). As economic exchanges are always embedded in the social (Granovetter, 1985; Uzzi, 1997), the interplay between value experience and social ties is particularly interesting.

Whereas value co-creation covers all collaborative processes of value creation in service, in particular, in the context of use, coproduction can be defined more narrowly in terms of the processes that cultivate the resources to be exchanged. In other words, whereas value propositions may be coproduced by actors, the outcome is that the realized value is cocreated by the actors. In this vein, the S-D logic perspective reserves the *co-creation* of value for the outcome realized through interaction, and *coproduction* for codesigning and codeveloping the value proposition as an outcome that can be exchanged among the partners of collaboration.

There is some ambiguity in the definitions of *value co-creation* and *coproduction* in the articles reviewed here. Based on our reading of articles on the topic, some of this ambiguity stems from obvious misinterpretations of or overreliance on the Vargo & Lusch's, 2004 paper on the foundational premises of S-D logic, which described the customer as always a "coproducer" of value. As Vargo and Lusch (2008) later explain, the term "coproduction" did not fully describe the phenomenon in which the customer is the actor that derives and determines value. However, coproduction has been conceptualized in the S-D logic framework as the process by which the actors contribute to the collaborative development of a value proposition. Hence, in the S-D logic framework, coproduction is considered a sub-process of value co-creation. As the outcome, value is created when the solution is being used in a specific context, so the use of the solution is part of value co-creation. In other words, whereas value propositions are "coproduced" through purposeful collaboration among entities (for example, organizational actors who are developing a new technology), value itself is cocreated through the use. Similarly, Gummesson (2007: 114) states that "value is actualized in the customer usage process rather than in the supplier value chain," and Grönroos (2011: 283) adds that "basically, production is generation of potential value, whereas usage is generation of real value" (see also Vargo & Lusch, 2011). Although this distinction between coproduction and co-creation may seem minor, it is fundamental to understanding the S-D logic perspective of value creation in B2B settings.

According to the tenth Fundamental Premise (FP10) in the S-D logic, "value is always uniquely and phenomenologically determined by the beneficiary" (Vargo & Lusch, 2011, p. 4). The value co-creation literature seems to put significant emphasis on the subjective experience of the customer, implying nominalist ontology. As the experience is created through interactions, an opportunity is opened to interpret the ontological stance of S-D logic as a social constructionist one. Co-creation studies (Edvardsson, Tronvoll, & Gruber, 2011; Vargo & Lusch, 2016) do highlight that value is cocreated in social context. For instance, SD logic states that "value is always cocreated" (FP6, p. 4) and "always uniquely and phenomenologically determined by the beneficiary" (FP10, p. 4) echoing something of social constructionism, and nominalist ontology. Yet, many studies, especially in the engineering discourses, aim to construct explicit understanding of value creation and identify generalized explanations of the outcomes through controlled studies, focused on analyzing factual knowledge.

Value co-creation takes place in interactions within inter-organizational systems, which may include dyadic relationships, value networks, and entire business ecosystems. Of note, value co-creation is not limited to dyadic relationships, but extends to business ecosystems (Vargo & Lusch, 2016). Aligned with social constructionism, the mainstream research in value co-creation emphasizes not only social interactions, but also the roles of the actors, such as the supplier, the service provider, the customer and the consumer. Therefore, a common view of co-creation can be considered to approach interactions from the Latourian (Latour, 2005) Actor-Network Theory (ANT), which considers actors as a central driver of activity, such as value co-creation. The premises of the S-D logic may be somewhat consistent with the ideas of ANT, as both emphasize the role of actor. Yet, there are some differences in emphasis as well. Whereas ANT emphasizes a non-hierarchical ontological stance, S-D logic has acknowledged the multi-

actor and multi-level systems in which actors are engaged in complex relationships. As S-D logic sees the multiple levels although emphasizing the role of actor, S-D logic encourages analytical precision in regard to the role of levels. For instance, in their study, Storbacka and Nenonen (2011) illustrate how markets and strategic logics are cocreated by economic actors (emphasis on actor with separation between actor and markets). Fig. 1 depicts the actor-affiliated perspectives in the co-creation of value and coproduction of value propositions in relation to collaboration among suppliers, customers and user communities, and other stakeholders.

3.1. Theories applied in B2B value co-creation literature

The literature on the co-creation of value and the coproduction of value propositions in the B2B context seems theoretically rich. Although many studies build on S-D logic, the theoretical landscape is quite dispersed. S-D logic describes a shift from a goods- to a service-dominant paradigm in thinking about value creation. In so doing, the S-D logic provides a lexicon, lens, and paradigmatic viewpoint for the academic discourse on value creation (Lusch & Vargo, 2014). While considering the S-D logic as an umbrella for the understanding service-based value creation, we pay attention to the distinct theories, approaches and literatures of market-level or inter-organizational activities that explain value co-creation.

Vargo and Lusch (2011) use S-D logic to conceptualize markets as networked systems, in which all actors (e.g. firms and customers) participate in value creation, which is aligned with the idea of all actors being resource integrators (see also Vargo & Lusch, 2008). This type of systemic, networked and ecosystem-level perspective seems valuable, yet is seldom applied in the co-creation research. The conceptualization of value co-creation in business ecosystems is an important area of current and future research.

In B2B settings, S-D logic has obvious linkages to the interaction approach of the Industrial Marketing and Purchasing (IMP) Group (Vargo & Lusch, 2008). The IMP Group has studied B2B relationships since the late 1970s, when the IMP Group was established. Whereas the IMP Group has concentrated on the interaction between suppliers and customers, the difference from S-D logic comes from the S-D logic's emphasis on the co-creation of customers' experience. Yet, a dialogue between these two theoretical approaches could and already has yielded some valuable insights. For instance, Jaakkola and Hakanen (2013) used the actors, resources, and activities (ARA) model to understand value co-creation in solution networks. Rusanen, Halinen, and Jaakkola (2014) study the role of network ties in providing access to resources when cocreating innovations.

The resource-based view (RBV) has also been used in value co-creation and coproduction studies (Zhang, Jiang, Shabbir, & Du, 2015). The RBV seems promising way to at least partially inform researchers to study the resources and capabilities needed for value co-creation. For instance, Zhang et al. (2015) demonstrated how innovation, marketing and networking capabilities contribute to value co-creation. Den Hertog, Van Der Aa, and de Jong (2010) utilized the dynamic capability view to conceptualize six service innovation capabilities: signaling user needs and technological options, conceptualising, bundling, coproducing and orchestrating, scaling and stretching, learning and adapting. Kohtamäki and Partanen (2016) used relationship learning to study coproduction in supplier-customer relationships.

Other studies have adopted the transaction cost analysis (TCA), and relational governance perspective to analyze coproduction in relationships (Athaide & Zhang, 2011; Kohtamäki, Partanen & Möller, 2013). For instance, in their analysis of product codevelopment processes, Athaide and Zhang (2011) relied upon the transaction cost approach to suggest that close collaboration in terms of seller-buyer interaction increases customer satisfaction. Kohtamäki, Partanen and Möller (2013); Kohtamäki, Partanen, Parida, et al. (2013) demonstrated the importance of trust in the coproduction of value propositions.

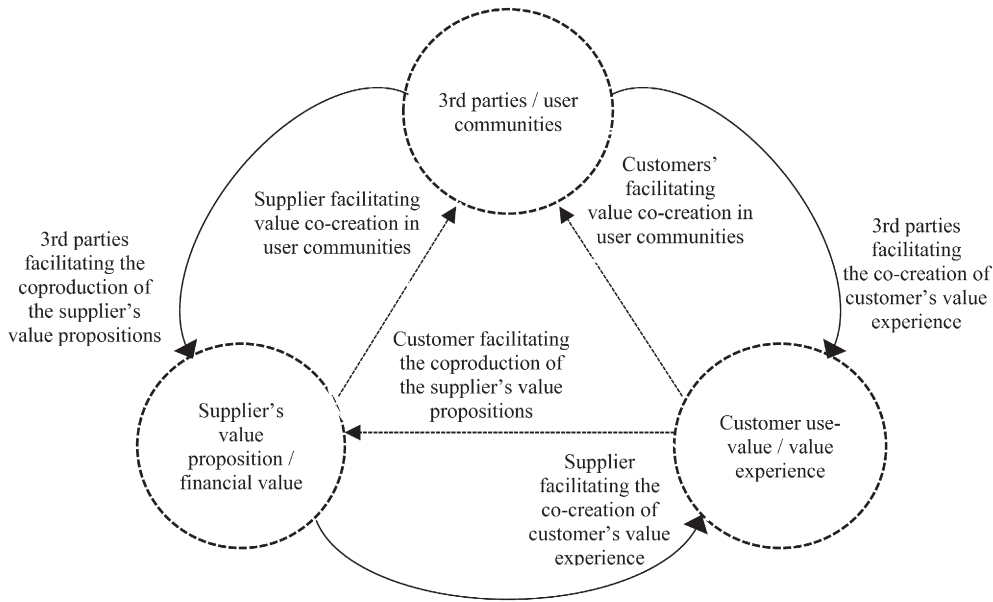


Fig. 1. Actors' roles in value co-creation and coproduction.

Moreover, Noordhoff, Kyriakopoulos, Moorman, Pauwels, and Dellaert (2011) have presented evidence of the bright and dark sides of social embeddedness. Their results suggest that without structures and relational investments, social embeddedness may weaken a supplier's ability to use customer knowledge for innovation.

In terms of the hierarchical structures of value creation, we notice that the power-dependence perspective is missing from the co-creation literature, perhaps because of contradictory assumptions about the nature of exchange, in terms of, for example, co-creation versus bargaining. Whereas the power-dependency perspective to inter-organizational exchange is associated with the market logic, including, for example, bargaining in the exchange, value co-creation focuses on the deep-rooted experience of the interaction at the expense of the negotiation setup. Perhaps these constructs of bargaining and co-creation could be interpreted as paradoxical dimensions that coexist in the interaction, and therefore can lead to some new insights for further empirical research of exchange in B2B systems. Based on this, a call exists for further utilization of the paradox theory in the service research.

3.2. Practices in B2B co-creation literature

Building on the sociological literature (Bourdieu, 1977; Foucault, 1980; Schatzki, Knorr-Cetina, & von Savigny, 2001), the emerging “practice turn” in the marketing, strategy and organizations research emphasizes the central role of social practices in inter-organizational collaboration. Utilizing the concepts of practitioners, practices and praxis, practice theory offers a structure to analyze the words and deeds of all actors, including providers, beneficiaries, and other actors. The practice theoretical perspective emphasizes the micro-level practices conducted by the economic agents, thus highlighting both the individual and the social nature of practices. Thus, without atomizing practices to single individuals, the practice theory underlines the social nature of practices. In other words, individuals act as carriers of inherently social practices.

Practices can be defined as “a means of doing in which organizing is constituted, rather than static concepts or objects to be employed” (Jarzabkowski & Spee, 2009: 82; Whittington, 2006). Many authors

Table 1
Concepts related to value co-creation and coproduction in the literature.

Authors	Concept	Definition
Athaide and Zhang (2011)	Product co-development	“Reflects a collaborative product development process. In contrast to traditional unilateral approaches to product development, sellers and buyers engage in product co-design, product co-development, and joint problem solving” (p. 149)
da Silveira (2011)	Co-design	“Facilitating buyer's involvement in developing a personalised product” (p. 3835)
Lusch and Vargo (2006)	Value co-production	“The second component of co-creation is what might more correctly be called co-production. It involves the participation in the creation of the core offering itself. It can occur through shared inventiveness, co-design, or shared production of related goods, and can occur with customers and any other partners in the value network.” (p. 284)
Lusch & Vargo, (2006)	Value co-creation	“Value can only be created with and determined by the user in the ‘consumption’ process and through use or what is referred to as value-in-use. Thus, it occurs at the intersection of the offerer and the customer over time: either in direct interaction or mediated by a good...” (p. 284)
Vargo (2008)	Value co-production and co-creation	“Coproduction of value” represents the joint activities of the firm and the customer in the creation of firm output and the “co-creation of value” represents collaborative, customer-specific value creation and is closely aligned with “value-in-use” (p. 211).
Grönroos (2011)	Value co-creation	“...firm's value co-creation can be characterized as joint value creation with the customers.... Co-creation of value can take place only if interactions between the firm and the customer occur. If there are no direct interactions, no value co-creation is possible.” (p. 290)
Lambert and Enz (2012)	Value co-creation	“Value co-creation is an economic and social process in which individuals have established roles that condition their behaviors and perceptions.” (p. 1590)
Ramírez (1999)	Value co-production	In the co-productive view, “Value creation is synchronic, interactive, best described in ‘value constellations’” (p. 61)
Terblanche (2014)	Value co-creation	Co-creation of value “means that value is not created by the firm and transferred to the customer during the transaction, but rather is jointly created by the customer and the supplier during consumption.” (p. 2)
Terblanche (2014)	Value co-production	Co-production refers to “the customer's (or any other stakeholder's) participation in the core offering itself. It takes place when there is joint inventiveness, joint production of related products and co-design.” (p. 2)

define *practices* as a sort of “background coping skills,” which actors use in their words and actions (Chia, 2004; Echeverri & Skalen, 2011). “These background coping skills are a repository, a habitus, from which we unconsciously draw to deal with novel situations” (Chia, 2004: 32). Limited by the modus operandi of the actors, practices manifest in actors’ doings and sayings. Schau et al. (2009: 31) define *practices* as “implicit ways of understanding, saying, and doing things. They comprise a temporally unfolding and spatially dispersed nexus of

behaviors that include practical activities, performances, and representations or talk.”

Practices shape suppliers’ and customers’ dispositions and behaviors, the way in which collaborators cocreate value (Echeverri & Skalen, 2011). Therefore, practices of coproduction and co-creation can be defined as socially accomplished ways of collaborating so that value is coproduced and cocreated by agents (Chia & MacKay, 2007). Thus, practices of co-creation embed tacit knowledge and skills, difficult

Table 2

Identifying the practices of coproduction of value proposition and value co-creation.

Designation of the practice	Practices of the coproduction of value propositions
Coproduction of value propositions and service offerings	<p>Entrepreneurial activity from users to facilitate radical innovations (Lettl, Herstatt, & Gemuenden, 2006)</p> <p>Proactiveness (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Expert knowledge (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Finding common goals (Durugbo, 2014)</p> <p>Partner match (Chen, Tsou, & Ching, 2011)</p> <p>Complementarity of resources (Hakanen & Jaakkola, 2012)</p> <p>Partner selection (Araz & Ozkarahan, 2007)</p> <p>Each actor seeks and contributes resources through relationships, whereby the traditional division to supplier–customer roles becomes redundant (Vargo & Lusch, 2011)</p> <p>Clarity of roles and tasks (Hakanen & Jaakkola, 2012)</p> <p>Constructive customer participation (Chen et al., 2011; Coviello & Joseph, 2012)</p> <p>Long-terms collaboration (Chen et al., 2011)</p> <p>Affective commitment (Chen et al., 2011)</p> <p>Commitment to common goals (Hakanen & Jaakkola, 2012)</p> <p>Commit supplier to seamless customer experience (Hakanen & Jaakkola, 2012)</p> <p>Affinity proximity (da Silveira, 2011)</p> <p>Virtual proximity (da Silveira, 2011)</p> <p>Requisite openness to generate innovative collaboration (Lettl et al., 2006)</p> <p>Relational capital to reduce the transaction costs of coproduction (Kohtamäki, Partanen and Möller, 2013; Kohtamäki, Partanen, Parida, et al., 2013)</p> <p>Problem-solving communities and brand communities (Bone, Fombelle, Ray, & Lemon, 2015)</p> <p>Share customer insight and experiences (Hakanen & Jaakkola, 2012)</p> <p>Diagnosis skills (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Define the appropriate level of interaction and adjust co-creation activities accordingly (Hakanen & Jaakkola, 2012)</p> <p>Joint crafting of value propositions (Lambert & Enz, 2012)</p> <p>Knowledge sharing in problem-solving communities (Bone et al., 2015)</p> <p>Encourage the customer for knowledge sharing (Hakanen & Jaakkola, 2012)</p> <p>Relationship learning for knowledge coproduction (Cheung, Myers, & Mentzer, 2010; Kohtamäki & Partanen, 2016)</p> <p>Knowledge sharing (Kohtamäki & Partanen, 2016)</p> <p>Joint sensemaking (Kohtamäki & Partanen, 2016)</p> <p>Knowledge integration (Kohtamäki & Partanen, 2016)</p> <p>Cross-functional involvement (Enz & Lambert, 2012)</p> <p>Joint development of products, processes and resources (Durugbo, 2014)</p> <p>Value actualization (Lambert & Enz, 2012)</p> <p>Designing and producing the solution (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Define the value potential of the solution for individual customer (Hakanen & Jaakkola, 2012)</p> <p>Define optimal combination of resources to fit the customer need (Hakanen & Jaakkola, 2012)</p> <p>Implementing the solution (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Use of knowledge management systems learning with customers (Bone et al., 2015)</p> <p>Co-production of brands (Payne, Storbacka, Frow, & Knox, 2009)</p>
Designation of the practice Co-creation of experience	<p>Practices of value co-creation</p> <p>Provide value proposition for the customer's network (Cova & Salle, 2008)</p> <p>Involving suppliers in value creating processes (Hakanen & Jaakkola, 2012)</p> <p>Openness (Hakanen & Jaakkola, 2012)</p> <p>Individual actors execute activities to contribute and receive resources whereby they perceive benefits and sacrifices (Jaakkola & Hakanen, 2013)</p> <p>Diagnosing needs (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Organizing process and resources (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Provider's value facilitation (Grönroos, 2011)</p> <p>Cross-functional involvement (Enz & Lambert, 2012)</p> <p>Value determination (Lambert & Enz, 2012)</p> <p>Social roles (Akaka & Chandler, 2011)</p> <p>Value experience supporting (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Knowledge as socially generated, maintained, and shared in peer-to-peer communities (Bone et al., 2015)</p> <p>Interaction between supplier and customer for co-creation of experience (Grönroos, 2011)</p> <p>Implementing the solution (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Managing value conflicts (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Ability to see larger patterns (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Ability to structure the process and experience (Aarikka-Stenroos & Jaakkola, 2012)</p> <p>Perceived value in co-operation (Hakanen & Jaakkola, 2012)</p> <p>Co-creation in a web of actors (Jaakkola & Hakanen, 2013)</p> <p>Actors' connection through value propositions, reciprocal promise of value (Jaakkola & Hakanen, 2013)</p>

to explicate and transfer, embedded in dispositions that steer collaborative activity. Practices are inherently social, and when taking an institutionalized form, practices can materialize as routines, concepts, tools, or discourses (Jarzabkowski & Whittington, 2008; Vaara & Whittington, 2012) that in co-creation are related to collaborative processes among economic agents. The practice theoretical approach may generate new insight into the study of the nitty-gritty micro-level details of co-creation.

Practice theory separates practices from praxis (Reckwitz, 2002). Whereas practices of coproduction and value co-creation involve ways of working, streams of activity, routines, concepts, tools, discourses and technologies, praxis refers to actual doing or interaction in value co-creation (Vaara & Whittington, 2012). Thus, praxis is the labor that is steered by the practice, suggesting that practice provides a structure for praxis.

3.3. Practices enabling the coproduction of value propositions

In this work, building on the definition of Vargo and Lusch (2006), coproduction is attached to the collaborative development of value propositions, while value co-creation is linked with customer experience. Thus, coproduction makes a reference to practices, which enable a customer's influence on a supplier's resources, processes, products, services or solutions, which are coproduced in interaction between the supplier and the customer. Based on the S-D logic lexicon (Vargo & Lusch, 2004), practices function as operand resources facilitating the utilization of operand resources. Operand resources (e.g. processes) are used to make operand resources (such as tangible assets) valuable resources (Long & Vickers-Koch, 1995). Further, co-creation consists of the collaborative creation of experiences, even if it also encompasses the supplier's value proposition. Based on our review of prior studies, Table 2 provides an illustrative, but not exhaustive explication of practices associated with the processes of the coproduction of value propositions and the co-creation of value. Practices are listed from the beginning (pre-sales) to the end of the process (reflecting the experience in use). (See Table 1.)

3.4. Research methods applied in the value co-creation research

Based on our analysis of the literature searched for this review, value creation has been studied at least on four levels: at firm-level, within dyadic relationships, as well as in networks and ecosystems (Frow et al., 2014). As value is cocreated in interaction between the actors, including buyers, sellers and other stakeholders, such as user communities, constructing understanding of the phenomenon in the real-life context calls for dyadic or multilateral analysis. Many studies define the dyad or the firm as the level of analysis. Rarely, but perhaps increasingly, studies consider value creation in networks of relationships, strategic networks or ecosystems (Vargo & Lusch, 2008). Based on the small body of empirical research on this topic, there is a need for more studies that analyze value co-creation in ecosystems.

With regard to the research methods used in co-creation research, of the 54 articles examined, 12 were conceptual and 42 were empirical. Among the latter, 26 were qualitative and 16 quantitative. For the unit of analysis, most of the studies centered on companies and a few concentrated on supplier–customer relationships.

In terms of methodologies, research on value co-creation could probably benefit from additional use of discourse and conversation approaches in studying service interactions. Of note, only one study in our sample (Rod, Lindsay, & Ellis, 2014) used discourse analysis. None of the empirical studies used a narrative method. One of the explanations for this finding might be that our analysis covers B2B research, with an emphasis on industrial services. In this context, the vast majority of the co-creation research seems to stress realist ontology and positivist epistemology, and tend to focus on proven, true pieces of knowledge. Conversely, in B-to-C co-creation research, studies incorporate

nominalist ontologies and subjectivist epistemologies, focusing on observations that imply the standards of rational beliefs either in an individualistic form or a social form. Perhaps the linguistic approaches present new opportunities also for B2B co-creation research and for industrial service studies (Nordin & Raval, 2016).

4. Conclusions

4.1. Theoretical implications

At the outset of writing this editorial article to this special issue was the need to add some clarity to the concepts of value co-creation and coproduction in B2B systems. In addition, based on our reading and the review of the body of scientific research on collaborative value creation, there seems to be room to apply the practice theoretical perspective to examine the practices of value co-creation and the coproduction of value proposition. Based on these insights, we suggest some avenues for future research on value creation in B2B systems.

First, despite clarification in prior S-D logic research, there is still some ambiguity in terms of how researchers use the concepts. Aligned with prior research, we concluded that whereas coproduction is related to situations in which the customer participates in the construction of a supplier's value proposition, value co-creation is related to situations where the customer and the supplier together generate the customer experience (Vargo & Lusch, 2006, 2011). These concepts are illustrated in Fig. 2. In addition, collaborative creation of value in general covers both coproduction of supplier's value proposition and the co-creation of customer experience. What matters here is that authors define at the beginning of their manuscript the main concepts and how they will be used, without assuming that readers are familiar with the vocabulary. Concepts do not transfer easily from one social context to other (Luhmann, 1995; Lyotard, 1988; Seidl, 2007; Wittgenstein, 1951).

The second main implication of our review is the insight about the potential contributions of practice theory to the discussion on value co-creation and coproduction. Acknowledging the micro-level focus of the practice theoretical thinking, social constructionist, flat ontology and subjectivist epistemology, many research opportunities were found when analyzing the co-creation research from the practice theory vantage point. As such, we acknowledged the realist ontological focus of co-creation research in industrial services and B2B, which underlines the opportunities drawing from nominalist ontology and subjectivist epistemology when studying co-creation in B2B and industrial service contexts. Discourse analysis and the narrative approach seem to have some untapped potential in providing interesting insights to studies in these contexts.

4.2. Suggestions for future research

As interorganizational collaboration for value co-creation may blur organizational boundaries, the key considerations pertaining to competitive strategy become gradually more ecosystem-level issues (ceasing to be organization-level concerns). In addition to shifting the focus of strategic management from organization to business ecosystems, the conception of business model becomes ever more an ecosystem-level subject, binding organizational value-creation strategies together.

The emergence and institutionalization of value co-creation practices have the potential to change entire industries. The ways in which beliefs, norms, social roles, the meaning of value in its context, and the mode of behavior change within an organization, social system, or society, have been of perennial interest to the researchers of institutions. As institutions comprise regulative, normative, and cultural-cognitive elements that, together with associated activities and resources, bring stability and meaning to social life (Scott, 2014: 56), they emphasize the centrality of practices that produce, reproduce and change social structures. Therefore, we call for further research to consider the application of the new institutional theory and to analyze how institutional

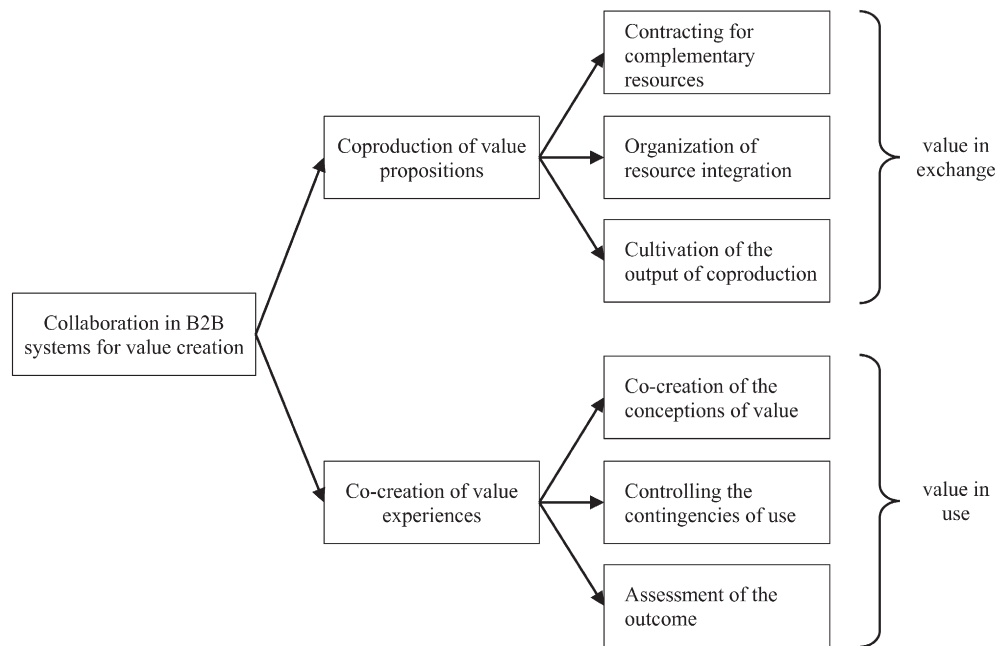


Fig. 2. Practices of collaboration in B-to-B systems for value creation.

structures affect the participating organizations. For example, the institutional perspective may enrich the understanding of the ways in which digitalization is transforming the prevailing logics and practices of coproduction and co-creation. It can also lead to a more comprehensive view of the ways in which new practices become “habitualized” and objectified.

With regard to institutionalist approaches, Vargo and Lusch (2016) began an important stream of research. Further research is needed to bridge the gap between the neo-institutional approach and S-D logic. Institutional approach has an important role when researchers are discussing market creation. Further studies are needed on the coproductive mechanisms in market creation, and on the role of institutions in these processes.

Many studies of coproduction and co-creation use either the supplier–customer dyadic relationship or the firm as a unit of analysis. Although the systemic, networked or ecosystem-like perspective seems fitting and valuable for co-creation research, it is rarely applied in empirical research. There is a need for studies of value co-creation in service networks, service ecosystems and service value systems. Some of the seminal conceptual papers in the field suggest that most if not all consumption is about co-creation of value, that in most occasions actors participate in value creation. Additional research is needed into these changing models of co-creation. For instance, in smart grids and electrical networks, the business models may change from pricing electricity to pricing capacity. As suggested by Vargo and Lusch (2011), we should continue to search for the commonalities in the different instances of co-creation rather than on explicating the differences in what we know.

In addition, we would like to see top journals and researchers in the field to open up to single-case research designs to arrive at a more thorough understanding of the contingencies in which value co-creation takes place. Single case studies offer unique opportunities to understand the micro-practices of co-creation. In addition to leading to an in-depth understanding of the phenomenon, the single-case setting would allow the findings to be reported as compelling narratives. Illustrative cases can advance our understanding of new and innovative practices, such as the power-by-the-hour concept of Rolls-Royce. The use of single case settings seems to be much less common in marketing than, for example, in organization research. Single cases could add methodological depth to coproduction and co-creation studies.

Single case studies, or the small number of comparative case studies, are an opportunity for a processual view of value co-creation, which has been used in some prior studies (Payne et al., 2008; Payne et al., 2009). The processual view, unlike variance theorizing, is an interesting opportunity to create managerially relevant theorizing in co-creation. In practice, coproduction and co-creation are developed through the processes, routines, activities, resources and competences, which enable improved co-creation of use-value and customer experience. Moreover, there are very few studies of co-design, or coproduction of integrated solutions despite the relevance of this topic for technology industries. Further studies could look into co-design of integrated solutions involving organizational functions from both the customer and solution integrator sides.

It seems that the vast majority of co-creation and coproduction research is still based on realist ontologies and positivist epistemologies. Here, we would like to encourage methodological extensions. In terms of qualitative methodologies, it would be important to pave the way for discourse analytic and narrative methodologies. It is surprising that discourse analytic and narrative methodologies are not more widespread in this field of co-creation in B2B, which is studying phenomena predominantly based on subjective experience. We would like to encourage further research with nominalist ontologies, and subjectivist epistemologies to underline the subjective nature of experience also in B2B contexts.

In addition, practice-based research could strengthen the research on coproduction and co-creation. Perhaps the practice approach could also be used to study community-level practices. In addition, the praxis perspective to co-creation and coproduction provides interesting avenues for future research. Overall, practice theory provides fruitful grounds to study value co-creation and coproduction. Moreover, research of the behavioral microfoundations of service interactions could add to the study of coproduction and we suggest that researchers could tap into the opportunities provided by the microfoundations movement (e.g. Felin, Foss, Heimeriks, & Madsen, 2012).

In terms of linking S-D logic and the ANT approach, we did not find any studies that applied the ANT approach to study co-creation in B2B contexts. We also noticed an absence of observation and of shadowing as data collection methodologies. There is a need for micro-level studies that use the ANT approach to study value co-creation or coproduction. Furthermore, to achieve detailed micro-level data, studies could collect

data through observation and shadowing. Micro-level approaches to co-creation and coproduction in B2B settings could lead to valuable discoveries.

By the same token, co-creation research could be extended to more realist positions, and objectivist research. It is obvious that the relation between coproduction, co-creation and market performance or company sales performance may not be linear (Fang, Palmatier, & Steenkamp, 2008; Kohtamäki, Partanen, Parida, & Wincent, 2013). Instead the link can be J-, or inverted U-shaped, linkages between co-creation and variety of performance indicators. The inverted U-shape is interesting, giving room for the “too-much-of-a-good-thing” argument. This argument is known from other bodies of literature, such as absorptive capacity (Hambrick, 2007; Wales, Parida, & Patel, 2013). Universal benefits of value co-creation can be challenged by asking whether value co-creation is always beneficial across contingencies and outcomes, or if it could have non-linear or even negative effects on innovation, profit or sales performance when some contingencies are influencing. Does the outcome increase linearly along with co-creation? The effects of co-creation should be studied more closely in the future. So far, studies have found industrial services to have positive, non-linear and negative effects on a variety of performance variables.

Specifically, in regard to quantitative methodologies, most survey research continues to rely on technologies that test only for linear relationships and linear moderations. Here, we would encourage survey researchers to test for and report non-linear relationships and moderations. Some advanced statistics packages such as STATA allow researchers to test non-linear relationships and moderations. Furthermore, measurement development is encouraged for these fields of S-D logic, co-creation and coproduction, to support developments in terms of quantitative research designs.

Finally, only a few studies have utilized firm boundary theories to analyze the interplay between coproduction and organizational identity, capabilities, power and dependencies, and transaction costs in coproduction. Future research could tap into questions such as how coproduction interplay with organizational identity, how coproduction processes transform the capability requirements of a supplier firm, how does coproduction change power positions, or how does coproduction influence transaction costs? Research that extends the marketing discipline beyond firm and functional boundaries is needed to move the S-D logic “from propositions to practice” (Ballantyne, Williams, & Aitken, 2011, p. 180; Lambert & Enz, 2012, p. 1606).

5. Introduction to the special issue

This special issue explores perspectives on value co-creation in B2B markets, with special emphasis on value co-creation in multi-stakeholder systems. Understanding the creation and capture of value as systems or networked phenomena – rather than simply considering the value created within the boundaries of a single firm – is an emerging theme in the marketing literature and beyond, in both theory and practice. Attention has centered on topics of value co-creation, including coproduction through codevelopment, colearning (relationship learning/joint learning) and coinovation.

While the body of business and management research highlights the potential of value co-creation, studies rarely provide evidence of the mechanisms and processes that determine the outcomes of value co-creation within multi-actor systems. Moreover, there is a need to bring clarity to the conditions that enable coproduction in B2B systems.

For this special issue, we adopt the distinction of S-D logic between “value co-creation,” representing the multiple-actor, systemic nature of all value creation, and “coproduction,” the more restricted and more strategic, coproduction of the value proposition (offering) through codesign, coinovation, and coassembly (see Vargo, 2008; Vargo & Lusch, 2008, 2011). Both value “co-creation” and “coproduction” as well as their relationship are discussed in this special issue.

The call for papers originally sought three kinds of contributions. The first was organizational and behavioral perspectives to value co-creation, to deepen the understanding of the influence of collaborative value creation on organizational boundaries and management practices, and the drivers and effects of boundary spanning interactions in inter-firm value systems. The second was business models for inter-firm value creation and capture, to add the body of scientific knowledge on the management of business models in multi-stakeholder systems. The third was the performance effects of value co-creation and coproduction. The papers accepted for this special issue provide comprehensive coverage on the relevant topics in the field.

Christopher Breidbach and **Paul Maglio** present an empirical analysis of technology-enabled value co-creation. Their study focuses on the role of information technology on value co-creation in complex B2B service systems. The authors submit five propositions that define the roles of actors, resources, and practices underlying technology-enabled value co-creation. The findings are drawn from a multiple case study of the consulting industry to provide empirical insights into the nature, practices, and structure underlying such technology-enabled value co-creation processes.

Ana Isabel Canhoto, **Sarah Quinton**, **Paul Jackson** and **Sally Dibb** discuss the mechanisms of value co-creation in university-industry R&D collaboration. The authors investigate the co-production of value in collaborative projects. Specifically, the study explicates how individual, organizational and external factors shape the type of interactions that create value, and the platforms used in the interaction. The findings deepen the present understanding of the use of operand and operant resources, and the organizational and individual outcomes in R&D collaborative projects.

Javier Marcos-Cuevas, **Satu Nätti**, **Teea Palo**, and **Jasmin Baumann** investigate value co-creation practices through sustained and purposeful engagement across B2B systems. Their paper contributes to the discussion of practices for collaborative value co-creation, which are less understood in the literature. The authors contemplate the practices that augment the relationships within boundaryless inter-organizational networks and ecosystems.

David Rönnberg Sjödin, **Vinit Parida** and **Joakim Wincent** explore the role of ambiguities and coping strategies in the co-creation of integrated product-services and offer empirical insights into provider-customer relationships. The paper contributes to the discussion of value co-creation by complementing the understanding of provider and customer relationships in the co-creation of integrated product-service solutions.

Thomas L. Powers, **Shibin Sheng** and **Julie Juan Lin** concentrate on the provider and relational determinants of customer solution performance. Their study finds that a provider's adaptiveness, customer emphasis, and cross-functional coordination can be beneficial to customer solution performance. Moreover, aside from the relational factors, joint problem solving and conflict management have a positive effect on solution performance.

Pennie Frow, **Janet R. McColl-Kennedy** and **Adrian Payne** focus on co-creation practices in health care ecosystems. Building on practice theory, this paper develops a typology of eight co-creation practices generating indicative measures how co-creation practices can shape the well-being of the ecosystem. This study also produces an agenda for future research.

Charlotte Reypens, **Annouk Lievens**, and **Vera Blazevic** study the leveraging of innovation networks. Their study offers a framework for value co-creation and capture. The authors present a multi-level, cyclical process framework to leverage value in collaborations.

Peter Ekman, **Randle D. Raggio**, and **Steven Thompson** have written a study that contributes to service value co-creation by developing a concept and roles of generic actor, suggesting that a generic actor can also switch between roles or assume several roles at the same time. The authors provide a set of co-created value propositions. Their study highlights the experimental and multidimensional nature of value.

Frank Jacob and **Jan Petri** concentrate on the customer as an enabler of value co-creation. The study recognizes five internal factors that define the customer's need for provider engagement. Authors highlight the problem and need for definition in the solution process, and identify eight factors that enable value co-creation in the customer-provider relationship.

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Appendix A

A Boolean string for the article search:

(TITLE-ABS-KEY (“co-produc*” OR “coproduc*” OR “co-creatio*” OR “cocreatio*” OR “co-design*” OR “codesign*” OR “co-develop*” OR “co-develop*”) AND (TITLE-ABS-KEY (“industrial” OR “manufacturing” OR “B2B” OR “b to b” OR “business-to-business” OR “business to business” OR “business2business” OR “b2b”)) AND (SRCITITLE (“Journal of Marketing” OR “Journal of Marketing Research” OR “Journal of Consumer psychology” OR “Journal of Consumer Research” OR “Marketing Science” OR “Journal of Retailing” OR “International Journal of Research in Marketing” OR “Journal of the Academy of Marketing Science” OR “European Journal of Marketing” OR “Journal of International Marketing” OR “Industrial Marketing Management” OR “Psychology and Marketing” OR “International Marketing Review” OR “Psychology and Marketing” OR “International Marketing Review” OR “Journal of Advertising” OR “Journal of Business Research” OR “Marketing Letters” OR “Journal of Advertising Research” OR “Journal of Marketing Management” OR “Journal of Interactive Marketing” OR “Journal of Public Policy and Marketing” OR “Marketing Theory” OR “Quantitative Marketing and Economics” OR “Journal of Product Innovation Management” OR “Administrative Science Quarterly” OR “Journal of Management Studies” OR “British Journal of Management” OR “Journal of Management” OR “Academy of Management Journal” OR “Academy of Management Review” OR “Organization Science” OR “Strategic Management Journal” OR “Organization Studies” OR “Leadership Quarterly” OR “Human Relations” OR “Organizational Research Methods” OR “research policy” OR “R and D Management” OR “Technovation” OR “Harvard Business Review” OR “California Management Review” OR “International Journal of Management Reviews” OR “Academy of Management Perspectives” OR “Journal of Management Inquiry” OR “MIT Sloan Management Review” OR “Long Range Planning” OR “Research in Organizational Behavior” OR “Group and Organization Management” OR “Organization” OR “Research in the Sociology of Organizations” OR “Global Strategy Journal” OR “Strategic Organization” OR “European Management review” OR “Journal of Business research” OR “Production and Operations Management” OR “Journal of Operations Management” OR “International Journal of Operations and Production Management” OR “Management Science” OR “Operations Research” OR “Mathematical Programming” OR “European Journal of Operational Research” OR “IEEE Transactions on Evolutionary Computation” OR “International Journal of Production Economics” OR “Supply Chain Management: An International Journal” OR “Reliability Engineering and System Safety” OR “Manufacturing and Service Operations Management” OR “IEEE Transactions on Engineering Management” OR “Journal of Scheduling” OR “International Journal of Production Research” OR “Production Planning and Control” OR “Journal of the Royal Statistical Society Series B” OR “Journal of the American Statistical Association” OR “Mathematics of Operations Research” OR “Decision Sciences” OR “Omega: The International Journal

of Management Science” OR “International Journal of Forecasting” OR “Spectrum” OR “Journal of the Operational Research Society” OR “Journal of Applied Probability” OR “Naval Research Logistics” OR “Group Decision and Negotiation” OR “Journal of Forecasting” OR “Computers in Industry” OR “Journal of Supply Chain Management” OR “ACM Transactions on Modeling and Computer Simulation” OR “Computational Optimization and Applications” OR “Computers and Operations Research” OR “Evolutionary Computation” OR “Fuzzy Optimization and Decision Making” OR “IEEE Transactions on Cybernetics” OR “IEEE Transactions on Systems, Man, and Cybernetics: Systems” OR “IIE Transactions Journal of Heuristics” OR “Journal of Optimization Theory and Applications” OR “SIAM Journal on Optimization” OR “Journal of Service Research” OR “Journal of Service Management”)).

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