Directions of Service-dominant Logic Research: Results of a Bibliometric Analysis

(Peter Harengel, Thomas Clauss, Sven M. Laudien)

ABSTRACT

For more than ten years research in the realm of the Service-dominant Logic (SDL) concept addresses value (co-) creation in a broad variety of forms and applications. However, the definition of and the linkages between the different research areas SDL has spread to are by now a kind of a black box. With this paper, we try to diminish this blind spot by presenting the results of a bibliometric analysis that provides an overview over past SDL research efforts and allows for getting a glimpse at future research directions. By uncovering the evolution of SDL we contribute to a holistic understanding of this concept and foster its develop in the direction of becoming a general management theory.

Keywords: service-dominant logic, bibliographic research, bibliographic coupling.

1 Introduction

Although the concept of service-dominant logic (SDL) has been developed more than a decade ago (Vargo and Lusch, 2004), a common understanding of service-dominant logic, its different facets and especially its consequences for managerial practice is still missing. The perspective that service is rather a way of thinking than a specific type of offering (Edvardsson et al., 2005; Grönroos, 2006; Gummesson, 2007) that is inherent in service-dominant logic has by now not fully transcended into theory as well as business practice. As a consequence, researchers still very often view service in an isolated way and do not or only partly take consequences of this new way of thinking into account when analyzing topics belonging to various fields of management.

The recent aspiration of SDL to escape the marketing-oriented context and widen its influence not only in the field of business research but even aspire to impact areas addressed in Vargo and Lusch (2016), such as institutional theory in sociology, economics and political science, is an ambitious goal. Analyzing the impact of SDL on fields beyond the initial marketing focus has so far been lacking any systematic efforts. While Vargo and Lusch have pointed at examples of SDL bridging into areas such as logistics, information technology or industry specific perspectives such as hotel management, the question remains what the "endless other

elaborations, applications, and amplifications" (Vargo and Lusch, 2016, p. 5) are actually standing for.

Consequently the first research question proposed is:

> Research Question 1: *How can the diffusion of the service-dominant logic concept into business administration research and beyond be categorized?*

Interestingly, the SDL research and innovation management research share an interest in transforming or even innovating value creation processes in a way that a better fit between ecosystem conditions and value creation is achieved. From the product-centric view SDL has been introduced to mirror the changing perspective on the value proposition coming from the decline of the goods-oriented perspective (Ng et al., 2012) as well as the need of product-centric industries devolving towards a service orientation (Grönroos and Helle, 2010). The service innovation perspective has highlighted the different service roles of consumers involved in co-creating activities (Ordanini and Parasuraman, 2011) – here in particular standing out the research focusing again on value in form of the value proposition (Skålén et al., 2014). Previous research has also already shown the benefit of bringing a SDL-based perspective to the business model research by impacting the topic of the transactions in the content thereof (Clauß et al., 2014). While the proximity of value creation and innovation leads to the expectation of innovation studies as a high impact area of SDL, a structured effort to map SDL influences is by now missing. As a result, it is necessary to identify not only what role SDL plays within innovation research but to go one step further by asking:

> Research Question 2: *How can research in the field of innovation management benefit from insights other research disciplines have brought forward in the context of service-dominant logic?*

2   Basics of Service-dominant Logic

In their seminal paper, Vargo and Lusch (2004) develop a new theoretical lens that puts service instead of goods in the center of economic actions. Since then, a transition from a thinking based on a goods-dominant logic (GDL) to a service-dominant logic has taken place. In comparison to GDL that focuses on the discrete transaction of customers and suppliers (Vargo and Morgan, 2005), SDL is characterized by a close and long-term relationship of these partners and the idea that both, customer and supplier, interact as co-creators of value. Ten foundational premises (FPs) (Vargo and Lusch, 2004, 2008, 2016) build the general basis of SDL and thus provide an understanding of transaction processes in the context of a service-oriented business logic. Against the background of Vargo and Lusch's (2004) service definition, the most central premise (FP1) claims that service is the core purpose of all exchange processes. This also includes transactions in which goods are exchanged as according to Vargo and Lusch (2004, 2008) a distinction between goods and services is no longer suitable. In contrast, all economies can be regarded as service economies (FP5). In this context, the traditional dichotomy of goods and services is obsolete as service can be provided through goods (FP3) or other indirect mechanisms (e.g. exchange of money) that may mask the fact that service is the basis of exchange in all types of transactions (FP2). Hence, instead of a mere transfer of ownership in transaction processes SDL rather focuses on interactions and relationships that allow for a reciprocal service provision that benefits all parties involved in the service provision process (focal firm, customer, suppliers, etc.) (Vargo and Lusch, 2011).

In line with the theoretical assumptions, value cannot be captured by the physical value of a (new) product but only be generated in use (FP 7). Hence, the value is defined by the actor who utilizes these resources in order efficiently solve a problem (FP 9, FP 10). Products are only seen as platforms that are necessary to enable value creation. Companies in this regard

can only make a value proposition by offering relevant resources (i.e. products, knowledge, skills) to the customer. Additionally, SDL considers intangible resources as primary as they provide the main source of competitive advantage (FP4). As value for both the firm (i.e. financial returns as well as learning from customers) and the customer (i.e. maximizing individual utility) can only be maximized if both actors interact intensely and on a long-term base, the SDL relies on a collaborative perspective (FP 6, FP 8). In this realm, the emergence of actor-generated institutions safeguards value co-creation (FP 11).

In the most recent revision of SDL, Vargo and Lusch (2016) reflect the spread of the concept beyond a managerial, firm-focused perspective. The concept is therefore closer aligned and contextualized within contemporary sociological theories such as Giddens' (1987) Structuralism, which provides an avenue for SDL to become more relevant to research on the institutionalization topic. By these adjustments Vargo and Lusch (2016) intend to keep SDL free of any boundary restrictions that would restrain the universality of the concept. These adjustments reflect on the aspirations of SDL to become truly a general theory, but they also represent the struggle to provide relevancy in relatively narrow defined scenarios while still upholding its universal appeal.

3   Data and Methodology: Bibliometric Analysis

Understanding the diffusion of SDL into diverse areas of management studies requires a rigorous assessment of the current state of the art of SDL research. The bibliometric analysis provides the appropriate approach to analyze a crowded field of publications and identify underlying structures (Zupic and Čater, 2015). By being based on statistical methods, the subjectivity inherent in more qualitative clustering approaches can be significantly reduced (Vogel and Güttel, 2013). Several successful application of bibliometric analysis in the field of business research highlight the value for an unbiased identification of intellectual structures

in various research domains such as strategic management (Ramos-Rodríguez and Ruíz-Navarro, 2004), dynamic capabilities (Stefano et al., 2010; Vogel and Güttel, 2013), ambidexterity (Cantarello et al., 2012), public management (Vogel and Masal, 2015), and project management (Hanisch and Wald, 2012).

Methodological Approach

In bibliometric methods two research approaches are the dominant choices for a document centric understanding of a research field: one is co-citation analysis, and the other bibliographic coupling. Both analyze the linkages between publications by starting with the relationship between two publications via the references used by those documents. Co-citation analysis establishes the strength of the link between two publications by how frequently other publications reference those together. Bibliographic coupling defines the strength of the link by the amount of overlapping references between two publications (Kessler, 1963). The more references two publications share,the higher is the strength of the coupling. As a consequence, data for the co-citation analysis can only be created by publications that were published after the initial document under analysis. Given the inherent inertia of the academic publishing process, the strength of the co-citation approach lays in creating an understanding of the evolution of a research field in the past. As bibliographic coupling requires only access to data included in the publication under research itself, it allows a much better understanding of the contemporary status of a research field (Boyack and Klavans, 2010). Considering the age of the field of SDL and the increasing attention gained over the recent years, taking the biographic coupling approach is an appropriate choice to understand the status quo of the field and identify emerging research directions.

The analysis is conducted via the open source tools VOSviewer (van Eck and Waltman, 2009) and supplemented by the Science of Science (SCI2) Tool (Börner and Scharnhorst, 2009) for

its capabilities in document keyword analysis. VOSviewer has demonstrated to be a capable analysis instrument for bibliometric research in studies such as on the understanding the level of interdisciplinary perspectives in Innovation Studies (Rafols et al., 2012), the identification of publication clusters within the Open Innovation field (Kovács et al., 2015) or the visualization of the research topics emerging in the context of the management of high tech firms (Zupic and Čater, 2015).

The analysis process conducted by the VOS viewer starts with creating the relationships between the publications via a factional counting methodology, creating based on this the weight of the publication, the normalization of the relationship strength as well as identifying clusters of related publications.

In order to define the relationship between publications, it is recommended to use a fractional counting methodology (van Eck and Waltman, 2014). The relationship weight per publications is therefore not n-1, but n-1 * (1/n-1), where n is the number of all publications. As a consequence, the weight of a single citation between publications has always a weight of 1. This allows reducing the influence of highly cited papers within the dataset and creating a more balanced basis of analysis. The total weight of each individual paper is calculated by the sum of all single citation links with other documents.

The normalization of links between documents is based on the association strength measure, a probability measure that has been extensively reviewed as an appropriate choice of similarity measures when it comes to normalizing bibliometric data (van Eck and Waltman, 2009). The VOSViewer uses a weighted and parameterized variant of modularity-based clustering to associate every single node (document) to one specific cluster. The approach is rooted in the weighted network algorithm by Clauset et al. (2004) and the modularity measurements by

Newman and Girvan (2004). More recently, Waltman and van Eck (2013) adjusted the clustering process further towards the so-called smart local moving algorithm that improves community detection functionality.

The visualization of the dataset is based on the so-called Visualization of Similarities approach (van Eck and Waltman, 2014). The algorithm maps the publications by positioning publications with a high associated strength closer together. In terms of mapping, the higher the amount of links a document has, the more central it is positioned in the visualization. Curved lines connect the documents with the thickness of the line representing the relative shared links between the documents. By combining mapping and clustering in a unified approach, the main objective is into an appropriate relatedness representation by adjusting the distances between publications (Waltman et al., 2010).
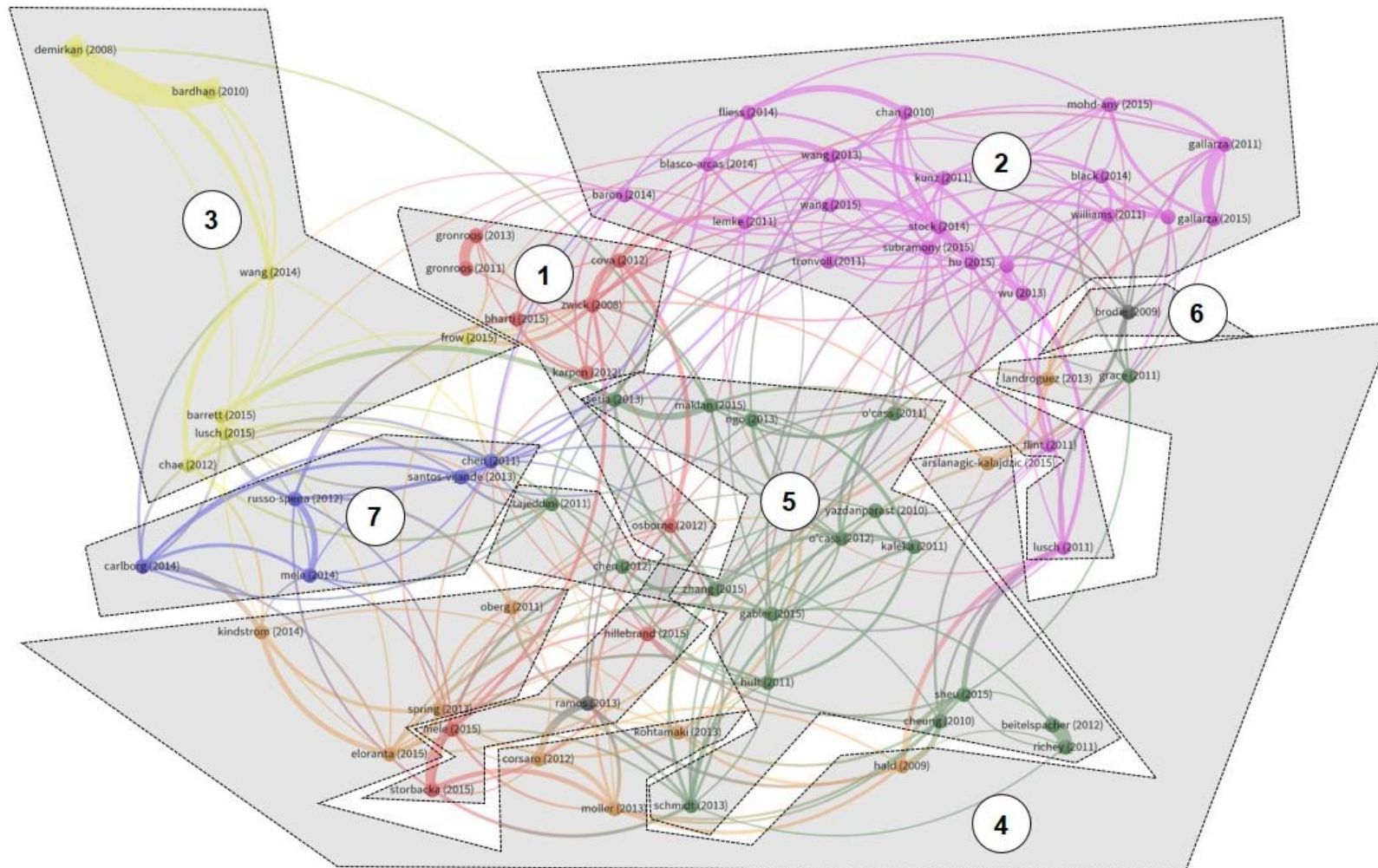
Data Sample

The analysis is based on a dataset created via the Thomson Reuters Web of Science by setting the foundational paper of SDL, "Evolving to a new dominant logic for marketing" (Vargo and Lusch, 2004), as the core point of reference. The study includes publications spanning from 2004 to 2015. This allows a very distinct focus on the SDL research landscape and reduces cluttering the results, an issue frequently mentioned as an unwanted effect of keyword based databases (Sánchez-Riofrío et al., 2014; Vogel and Güttel, 2013). A dataset of 1312 papers citing the Vargo and Lusch (2004) article was created providing the foundation for the analysis. Based on the Web of Science output for the dataset, the Top 5 Science Categories were Business (655), Management (448), Hospitality Leisure, Sport, Tourism (79), Industrial Engineering (59) and Operational Research Management Science (58); Top 5 Authors B. Edvardsson (28), SL Vargo (27), RF Lusch (27), C Gronroos (14), H Gebauer (10), and Top 5 Journals Industrial Marketing Management (108), Journal of Service Management (59),

Marketing Theory (48), Journal of Business Research (47), Journal of the Academy of Marketing Science (45), with the numbers representing the attributed articles. After data cleansing and harmonizing of core terminologies such as the different ways of shortening service-dominant logic (sdl, sd-logic, etc) the data was loaded into VOSviewer for the adequate analysis process in particular the mapping and clustering of the network. Post identifying the core clusters, the original dataset was manually separated for each cluster and run through Sci2 to identify the most frequently used keywords by the documents of each individual cluster. The 50 most frequently used keywords for each cluster were extracted and compared across each other in order to identify those keywords that were unique to each cluster. Previous research has shown the advantage of keyword-based analysis over co-word analysis as it provides greater detail and better relationship identification (Whittaker, 1989). In order to properly label each cluster, the keyword lists were used as one form of input and balanced against a manual review of the paper titles and abstracts. Enriching the quantitative analysis of word frequencies with a qualitative content analysis enables a robust understanding of the content of the cluster.

Figure 1 Mapping of the seven clusters of service-dominant logic (Top 75 papers, accumulated weight cut off at 26)

Source: Own illustration

Table 1 Top 5 Unique Keywords for Clusters 1 to 7

	Cluster 1 *Co-Creation & Conceptualization*	#	*Cluster 2* *Service Experience & Loyalty*	#	*Cluster 3* *Service Science & Systems*	#	*Cluster 4* *Value Creation & Cooperation*	#	*Cluster 5* *Cluster Market Oriented Firm & Competition*	#	*Cluster 6* *Service Quality & Branding*	#	*Cluster 7* *Product & Service Innovation*	#
1	Exchange	20	Behavioral Intentions	23	Science	40	Integrated Solutions	20	Absorptive Capacity	17	Competition	4	Success	12
2	Culture	14	Perceived Value	16	Information Systems	13	Business Markets	20	Organizational Performance	13	Image	4	Research & Development	5
3	Community	13	Customer Perceptions	16	Operations Management	11	Business Relationships	18	Firm Performance	12	Industrial Products	4	Product Innovation	4
4	Value Co-Creation	11	Word Of Mouth	15	Architecture	8	Transition	17	Sustained Competitive Advantage	9	Sector	3	Manufac-turing Firms	4
5	Design	9	Encounters	15	Mass Customiza-tion	6	Offerings	16	Business Performance	9	Business to Business	3	Competence	3

Cluster 1 - Co-Creation & Conceptualization (Papers: 302 Share: 23,2%)

The first cluster comprises publications that focus on issues related to conceptualizations and empirical investigations of service co-creation. Conceptualization addresses the refining of core concepts within new thought perspectives such as finding alternatives to the neoclassical view on the market (Mele et al., 2014) and shows the willingness to increasingly consider the complexity inherent in the exchange processes taking place within markets (Akaka et al., 2013; Chandler and Vargo, 2011). This broadening of perspectives is reflected in a plurality that aligns with a postmodern viewpoint in business research, in particular the narrative view (Chronis, 2015; Kozinets et al., 2010; Zurlo and Cautela, 2014) as well as to a linkage to research efforts best associated with critical management studies. Amongst them a proposition for "critical service logics" of value creation spheres that aims at overcoming the metaphorical view of value co-creation (Grönroos and Voima, 2012) can be found. The shift becomes further visible in the framing of the value creation process as constructed and performed, an interaction where especially the role of the consumer is regarded as undervalued (Tumbat and Belk, 2013). The conceptualization perspectives addresses in particular the value creation from an "experiential" viewpoint, such as in the form of a collective experience (Carù and Cova, 2015), the role of interaction experience (Baron and Harris, 2010) and the role of technology as mediated, indirect forms of experience (Dube and Helkkula, 2015).

Mutual co-creation is discussed in this cluster with explicit skepticism, as authors voice concern about the role of consumer involvement in the creation process. Consumers are "put to work", a situation interpreted from a neo-Marxist perspective (Zwick et al., 2008) and attempts are made to understand the different social layers that leave the corporate view behind and instead focus on consumer-to-consumer value creation (Rihova et al., 2013). This cluster includes also the more moderate views, such as the prosumer concept (Chandler and

Chen, 2015; Cochoy, 2015; Cova and Cova, 2012) and in particular a second wave of the prosumer concept where it is characterized as symbol for ill-guided neoliberalism (Ritzer, 2015).

Cluster 2 - Service Satisfaction & Loyalty (Papers: 301 Share: 22,9%)

In this cluster, the dominating concepts are topics on service satisfaction as well as related loyalty issues. This includes the classic service marketing perspective (Baron et al., 2014; Kunz and Hogreve, 2011) focusing on the interplay between consumers and service providers. Research efforts are addressing topics that aim at capturing this relationship, often in the form of measuring specific concepts directly connected to the service encounter - such as service quality (Jayawardhena, 2010) and in particular experience (Lemke et al., 2010) and emotions (Petzer et al., 2012; Svari et al., 2011) of the service encounter from a consumer perspective. Going beyond the specific service encounter situation, the role of service for other marketing concepts is evaluated, such as the role of service for the loyalty concept (Chao, 2008; Delcourt et al., 2013) and further widened towards the role of employees. The impact of employees is identified in contributions towards service improvements (Lages and Piercy, 2012), their emotional wellbeing (Stock, 2015) but also on the impact of customers on employee satisfaction and retention (Frey et al., 2013).

Value is positioned in a narrow scenario of the service encounter and associated with the customer value. The understanding thereof bases on classic marketing funnel concepts, such as measuring customer satisfaction and loyalty (Leroi-Werelds et al., 2013), service quality (Forsythe, 2015) and service recovery (Weber and Sparks, 2010; Xu et al., 2014).

Cluster 3 - Service Science & Systems (Papers: 235 Share: 17,9%)

The concept of service science and system-oriented perspectives stand at the core of this cluster. Heavily influenced by the work of Spohrer, one of the early authors in the SDL field, a range of papers conceptualizes service science in relationship to other essential topics associated with SDL. Papers co-authored by Spohrer address service science and value creation (Spohrer et al., 2008), business model innovation (Maglio and Spohrer, 2013), and service systems (Maglio et al., 2009). As a result, the perspective on service transforms gradually shifts towards a more technology centric one, trigged for example by the application of engineering methods towards service creation (Freund and Spohrer, 2013).

With the shift to a technology driven orientation, further directions appear that propose a new role of service in areas such as engineering operations (Zhang and Zhang, 2014), the engineering value chain (Zhang and Gregory, 2011) as well as its application in the context of specific engineering methods such as Kansei (Carreira et al., 2013). Multiple articles bridge the engineering perspective towards a more software and IT centric view, such as the role of service engineering on software architecture (Chen et al., 2010) and information systems research (Böhmann et al., 2014). The transition of SDL within the IT context provided a fertile ground for a broad range of research directions starting with relatively narrow topics such as service systems and interfaces (Patrício et al., 2008) or design theory (Brohman et al., 2009) but also repeated efforts of stretching the topic towards complexity theory (Chae, 2012, 2014).

Cluster 4 - Value Creation & Cooperation (Papers: 169 Share: 12,9%)

The fourth cluster puts value creation and the influence of cooperation of actors in B2B settings at the forefront. In particular product oriented firms are experiencing a range of challenges by adjusting towards service oriented concepts such as service infusion (Eloranta

and Turunen, 2015). Value creation and cooperation takes place mostly in between firms making this cluster essentially B2B centric. The service transition of previously product-oriented firms is addressed by using the business model perspective to identify successful strategies for transformation (Kindström and Kowalkowski, 2014). Introducing the servitization concept, manufacturing firms are a repeatedly focused by addressing topics such as innovation in the supply networks (Spring and Araujo, 2013), performance-based contracting (Hypko et al., 2010), or overall the role of service as a growth strategy for manufacturing firms (Kowalkowski et al., 2015).

The emphasis on a B2B perspective brings a shift from the widespread value creation and cooperation with the consumer, towards a stronger importance of partnerships. Papers belonging to this cluster center on the buyer-supplier relationship, in particular on the role of trust (Valtakoski, 2015) and competence (Li, 2011) as well as specific scenarios such as outsourcing (Guercini and Ranfagni, 2015) and selection processes (Lee et al., 2010). Going beyond the partnership idea, the role of a networked view emerges (Möller and Rajala, 2007), bringing the attention towards the configuration of networks for innovation (Chakkol et al., 2014; Corsaro et al., 2012) and how service adjustments are carried out to overcome challenges within inter-firm value networks (Löfberg et al., 2015).

Cluster 5 - Market Oriented Firm & Competition (Papers: 147 Share: 11.2%)

In cluster five, the market-oriented firm perspective is employed to identify and highlight the importance of service in a competitive market environment. How this can be achieved, which enablers are there to improve the successfulness as well as how to measure success as financial performance and beyond are the essential themes. Coming from a classic market orientation perspective based on the work of Peter Drucker, the relevance of a path towards break-through (service) innovation is discussed (Sarin and Mohr, 2008), a topic that needs to

be viewed not in isolation as firm-customer-related, but essentially dependent on the competitive environment (Sørensen, 2009). Market orientation can be achieved by a firm via carefully fostering the right micro foundations (Korhonen-Sande, 2010), aligning the topic with the Dynamic Capabilities perspective. Finding the right configuration of capabilities is a complex issue that authors address by enhancing the Dynamic Capabilities perspective towards marketing capabilities (Kaleka, 2011), organizational capabilities (Grewal and Slotegraaf, 2007) or even eco-capabilities (Gabler et al., 2015).

An essential part of SDL is the distinction between different forms of resources that need to interact in order to create value. Multiple papers in this cluster feature this distinction dominantly, such as how certain resources impact market performance (Beitelspacher et al., 2012), enable marketing strategy (Madhavaram et al., 2014) and improve internationalization (Richey et al., 2011). Explicitly the resource based view becomes apparent in the identification of the buy or built decision of resources (Schmidt and Keil, 2013) and how technology as a resource impacts the logistic services and financial performance (Richey et al., 2009).

Cluster 6 - Service Quality & Branding (Papers: 82 Share: 6.3%)
Cluster six reflects on service quality and its role for marketing and branding. Central to this discussion is the role of the service brand that is seen as an essential objective for organizations focusing on branding themselves as service-driven (Skaalsvik and Olsen, 2014). Brodie et al. (2009) show that service has for those organizations not a direct influence on customer loyalty but is instead mediated by customer value. The topic of how service-oriented companies brand themselves is a recurring theme, researched on industrial service companies (Sandbacka et al., 2013), business services in the healthcare sector (Ramos et al., 2013) and as an extension of the brand of product-oriented firms (Brown et al., 2011). Branding, disjoined

from the service firm, is further analyzed from a wide range of different perspectives, highlighting the role of employees (King and Grace, 2010), the stakeholder viewpoint (García et al., 2012), its role for partnerships with other firms (Morgan et al., 2007) or even the role of branding for premium pricing (Persson, 2010).

Beyond the brand and image based perspective, the strategic role of service becomes a recurring theme, such as the addressing of how value creation can strategically be implemented (Hsieh et al., 2012), what role cultural values take in the co-creation of brands (Gyrd-Jones and Kornum, 2013) as well as highlighting how an organization can establish the internal and external alignment of a brand's value (de Chernatony et al., 2006). The theoretical framework is rooted mostly in core-marketing concepts such as brand equity (Gonçalves et al., 2010; So and King, 2010), brand loyalty (Cassia and Magno, 2012; Persson, 2010) and consumer behavior (Helm and Özergin, 2015; King and Grace, 2012).

Cluster 7 - Product & Service Innovation (Papers: 73 Share: 5.6%)

In the last cluster, the focus is on innovation, in particular how product and service innovation takes place in organizational settings. Sources of innovation are seen both in the traditional perspective such as R&D (Sawatani and Fujigaki, 2014) as well as a broad range of contemporary concepts of innovation research. Those deal with the general involvement of users in the innovation process (Bengtsson and Ryzhkova, 2013; Bogers et al., 2010) but also in more specific scenarios such as crowdsourcing (Ordanini and Parasuraman, 2011), how lead user integration can have positive impact on a service innovation process (Carbonell et al., 2012) as well as the role of ICT based platforms such as online communities (Sigala, 2012; Wang and Griskevicius, 2014) and in leveraging the potential of social media engagement for the innovation process (Schiavone et al., 2014).

The at times very narrow research on specific innovation tools and enablers (Jin et al., 2012) comes from a lens of practice research (Guardo and Cabiddu, 2015; Russo Spena and Mele, 2012). Within the firm, the influence of employees on innovativeness is attributed to the collaborative abilities (Melton and Hartline, 2013) as well as to the ability of employees collaborating with external partners (Ordanini and Parasuraman, 2011). The managerial perspective on the innovation process is encompassed by addressing topics such as in identifying capabilities that support the management process (den Hertog et al., 2010) or how having a service strategy can be an essential part of a successful innovation management approach (Edvardsson et al., 2013) where the success thereof often depends on its alignment with the overall strategy of a firm (Ryu et al., 2015)

**Table 2** The seven clusters of service-dominant logic

	Label	Items		Av. Publ. Year
Cluster 1	Co-Creation & Conceptualization	305	23.25%	2011.54
Cluster 2	Service Experience & Loyalty	301	22.94%	2012.06
Cluster 3	Service Science & Systems	235	17.91%	2012.25
Cluster 4	Value Creation & Cooperation	169	12.88%	2011.62
Cluster 5	Market Oriented Firm & Competition	147	11.20%	2011.66
Cluster 6	Service Quality & Branding	82	6.25%	2011.35
Cluster 7	Product & Service Innovation	73	5.56%	2012.37

4 Development of the clusters over time

The development of the clusters over time shows the outline of a research field that is still growing as visualized by the annual number of publications in Figure 2. But annual growth rates give reason for concern. The growth rate (GR) of the field was in the early 2010s still hovering around 45% (2009-2010 GR 44,9%; 2010-2011 GR 44,2%), the most recent data shows that the rate more than halved to the latest data available (2013-2014 GR 21,5%; 2014-2015 GR 19,8%). The growth rates are consistently diminishing over the whole research window, suggesting the research field is stabilizing. Clusters that had earlier in the timeline a

dominant share of the field – such as the Co-Creation & Conceptualization (1) cluster with a share of 40% of the total SDL publications in 2008, have had a relatively slow growth in comparison to the rest of the field. In the last two years the Service Experience & Loyalty Cluster (2) was the strongest cluster in terms of annual publications (2014: 24,2%, 2015: 25,8%). In particular, the cluster on Service Quality & Branding (6) has lost traction over the last years, dropping to a 2,8% share in 2015. The Product & Service Innovation (7) cluster had over the last five years its largest share in 2012 with 10,6% and is currently at 6.5%.

Figure 2 Annual number of publications per service-dominant logic cluster
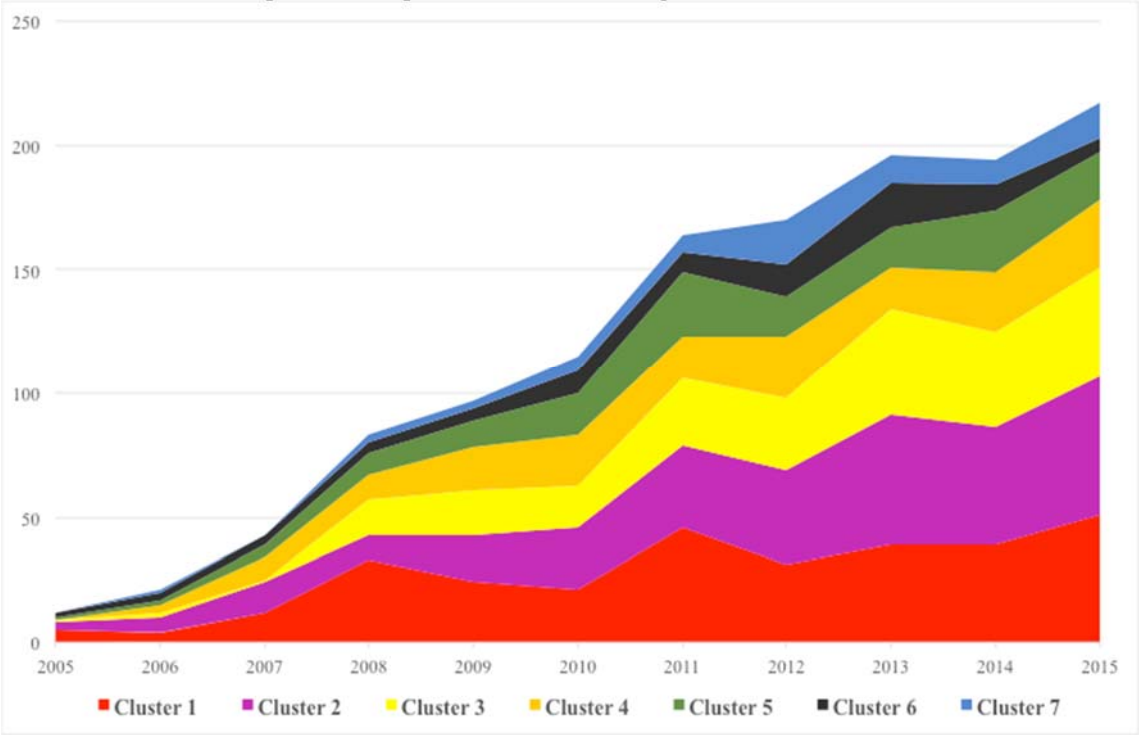
Source: Own illustration

5   Discussion

Open Questions

Across all clusters innovation has only occasionally been addressed explicitly as a specific concept; instead it is represented by more narrow elements of innovation research such as co-creation or various approaches to the role of value. The strongest innovation related cluster, the cluster Product & Service Innovation (7), is based on the average publication date the

youngest cluster of all, suggesting that SDL has only recently transcended into the field of innovation research. SDL is in innovation research associated with a very practical perspective that addresses issues of applicable methods and approaches firms use to foster innovation. The hands-on perspective is unique to this cluster as the others are mostly focused on the ex-post analysis of service related developments.

Standing out is the relatively limited amount of topics addressed in the innovation field, leaving out many trends of innovation research such as open innovation and sustainability. SDL research can be located in a relatively narrow field that has its focus on value creation and its enablers. While this establishes a direct relevance for practitioners interested in finding applied solutions for value creation, it creates tension with other core clusters of SDL, in particular the cluster on Co-Creation & Conceptualization (1). The constructive orientation emphasizing the all-inclusive SDL idea of service as a meta-concept aligns much closer to social theories of the rich narrative of complexity than the reductivistic view of value creation enablers. Aspects proposed for example by actor-network theory (Latour, 2007), such as networks essentially depending on the interaction of human and non-human participants, the quest for stabilizing networks in institutionalized form as well as power allocation seems to have strongly influenced Vargo and Lusch (2016). In order to gain a more broadly appealing role in innovation research, SDL needs to find alignments outside of its core in value creation and provide meaningful contributions on innovation themes such as on the enabling of innovation that is currently strongly influenced by the capabilities view (Jantunen et al., 2012; Teece, 2012) as well as on topics such providing alternatives to the classic diffusion perspective on innovation, an area already shown to be open towards constructivistic influences (Czarniawska and Sevon, 2005; Roberts, 2012).

Missing Links

The visualization of the seven clusters outlines four relatively independent entities, two clusters that are interconnected and one peripheral cluster. The clusters Co-Creation & Conceptualization (1) and Market Oriented Firm & Competition (5) are at the very core of the visualization therefore suggesting their importance to the field under research. While the Co-Creation & Conceptualization (1) cluster aligns with a more philosophical and constructivistic stand on service, the cluster on Market Oriented Firm & Competition (5) represents a viewpoint oriented on measuring the success of the firm. While both seem to follow contrary objectives, they both move the role of SDL forward with the first aiming to provide a grand service narrative the other gathering evidence for verifiable success stories of service developments.

The cluster on Value Creation & Cooperation (4) takes a peripheral position fostering strong connections with all clusters except Service Science & Systems (3). The development points at the importance of the B2B perspective represented in cluster (4), elevating the value creation perspective from the marketing centric consumer perspective towards a much broader range of cooperating stakeholders. This is an important development for the role of the SDL framework as it allows a much more versatile application of the SDL service concept to other areas of business research. The isolation of cluster (3) can be attributed to its overtly strong focus on engineering and technology and the those fields long standing demand for more scientification in order to align closer with natural sciences (Böhme et al., 1983).

The Product & Service Innovation (7) cluster borders with all clusters except the ones on Service Experience & Loyalty (2) and Service Quality & Branding (6). This identifies a lack of exchange between the product & service innovation concepts (7) with the traditional service understanding (2) and the role of service in marketing (6). It can be traced to the

traditional views of service represented in cluster (2) and (6) that create resistance towards redefining core concepts such as service, value, and innovation. The common agreement on the meaning of those terms is essential towards upholding the distinct character of those fields. For SDL, a redefinition of foundational premises as axioms as well as a lexicon of core language were recently proposed in order to provide more clarity towards the perception of concepts (Lusch and Vargo, 2014; Vargo and Lusch, 2016). In how far this will help or hinder its influence on fields with fundamentally different definitions remains to be seen.

Holistic perspective for SDL in innovation management and related fields

With the most recent reflections of Vargo and Lusch (2016) reaffirming a more philosophical positioning for SDL, they provide an ambitious path forward with the intention of developing SDL towards a fully fletched social theory. The current state of SDL suggests the successful positioning of the framework in marketing (1) and (6), innovation (7), stakeholder/supply chain (4) as well as market oriented management (5). Potential pathways towards moving beyond the business research field can be identified in the service science and technology cluster (3), which would provide a gateway towards a stronger theoretical development for example by aligning with the field of science and technology studies (Martin et al., 2012). The other path forward is via the Co-Creation & Conceptualization cluster (2) that already has a long tradition of incorporating SDL with other social theories. Considering the decline in the growth of this field over the last years as well as the outlets for publication of that field so far staying within business research and not branching out in other areas of social science, it seems to provide a challenging path forward for SDL to impact fields outside of business research.

6 Conclusion

The present study provides a coherent overview of the SDL research field and outlines a bibliographic mapping of the seven clusters representing the core strains of the field. Both, depth and broadness of the clusters show the substantial influence SDL has as the concept has long outgrown its origins in marketing research and reached a consistent presence across many strains of business research. Expansions of SDL beyond the field of business research have so far been relatively limited, with the Co-Creation & Conceptualization (1) cluster showing a potential path towards a postmodernistic philosophy while the Service Science & Systems (3) cluster provides the opportunity of moving more towards of systems and complexity theory.

So far, the application of SDL within innovation research has been reduced to a relatively applied perspective that emphasizes the co-creation element and seems to regard service most frequently with the classic product/service dichotomy—avoiding engagement with the holistic perspective of service provided by SDL. Embracing the philosophical underlining of SDL further would provide innovation research a fruitful path forward towards reinforcing its position within management research as not just as a driver of innovative activities but a core pillar of any progress in society.

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