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MAGISTERARBEIT

Titel der Magisterarbeit

„A Retrospective and Contemporary Analysis of
Service-Dominant Logic“

Verfasser

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angestrebter akademischer Grad

Magister der Sozial- und Wirtschaftswissenschaften (Mag. rer. soc. oec.)

Wien, 2012

Studienkennzahl lt. Studienblatt:
Studienrichtung lt. Studienblatt:
Betreuerin:

A 066 914
Magisterstudium Internationale Betriebswirtschaft
Ao. Univ.-Prof. Mag. Dr. Christine Strauß

Acknowledgements

I would like to thank Prof. Dr. Christine Strauß for not only supervising my thesis, but also for giving me the opportunity to work, study, reflect and learn at the department of electronic business at the University of Vienna. All experiences I made here contributed to my personal development and, thus, to the quality of this magister thesis.

Furthermore, I am very grateful for the expertise regarding form and content that Dr. Natalia Kryvinska was able to provide. On a professional level, her enormous experience helped me in the various phases I went through with my thesis. On a personal level, I enjoyed the period in which I had the honour to be a university colleague.

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Abstract (German)

Service-Dominant (SD) Logic hat sich als eine der führenden Ansätze in der aktuellen Literatur der Dienstleistungsforschung (engl.: Service Science) etabliert. Dieser Ansatz, erstmals im Jahr 2004 erwähnt, entstand nachdem sich das Feld der Dienstleistungswissenschaft bereits viele Jahre entwickelt hatte. Anstatt allein auf die Produktion und Vermarktung von Gütern zu fokussieren, unterstreicht dieser Denkansatz wie Organisationen, Märkte und die Gesellschaft auf Basis der Anwendung von Kompetenzen besser verstanden werden können. Die vorliegende Arbeit widmet sich zuerst einem Rückblick durch die Analyse der historischen Entwicklung der Dienstleistungswissenschaft von ihren Anfängen bis hin zur aktuell dominierenden SD Logic-Perspektive. Hierauf folgt eine detaillierte Literaturanalyse des Zeitraums 2004 bis 2011, in der über 100 veröffentlichte wissenschaftliche Arbeiten zum Thema SD Logic in Betracht gezogen werden. Die wichtigsten Studien zum Thema SD Logic wurden mittels Recherche in den wichtigsten betriebswirtschaftlichen Datenbanken sowie durch Cross-Referencing-Methoden ermittelt. Diese Arbeiten wurden systematisch hinsichtlich ausgewählter Attribute analysiert, nämlich Autor, Zeitschrift und Erscheinungsjahr der Veröffentlichung, Forschungsfeld, verwendete Methode, Schlagwörter sowie Resultate der Veröffentlichungen. Die Ergebnisse präsentieren die wichtigsten Autoren im SD Logic Bereich, diskutieren die empirischen Erkenntnisse und zeigen auf, in welchem Ausmaß SD Logic in anderen Bereichen als Marketing behandelt werden. Man kann beobachten, dass diesem Thema vermehrt Aufmerksamkeit geschenkt wird und auch dass sich ein vermehrt interdisziplinärer Fokus in Richtung SD-basierter Forschung etabliert. Dies unterstreicht die Bedeutung der aktuell dominierenden Perspektive auf gegenseitigen Serviceaustausch und einer kollaborativen Wertschöpfung.

Abstract (English)

Service-Dominant (SD) Logic has developed as a dominant perspective in contemporary Service Science literature. This mind-set, introduced in 2004, emerged after the Service Science field underwent several decades of development. Instead of focusing on simple production and marketing of goods, this way of thinking emphasises how the nature of organizations, markets and society can be better understood on the basis of employment of competences. This thesis first takes a retrospective view by analysing the historical development of this mind-set, starting with marketing dominated roots of Service Science, towards today's dominant perspective based on SD Logic. Next, a detailed literature analysis for the period 2004 to 2011 is undertaken in order to list and review over 100 published studies dealing with SD Logic. The major business-economic scientific databases were researched, and cross-referencing techniques were used to extract key studies dealing with SD Logic. These findings are systematically analysed regarding author(s), journal and year of publication, research area, applied research methodologies, keywords and output. Findings present key players, discuss the share of empirical results and outline the extent of application in areas other than those of the marketing discipline. The analysis serves as powerful evidence confirming the increased 'momentum' of SD Logic. Increased attention as well as an increasingly interdisciplinary focus for SD grounded research efforts is observed, underlining the importance of a currently dominant view on mutual service exchange and value co-creation.

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Chapter 1: Introduction

First analyses regarding the basic characteristics and marketing opportunities of services were performed several decades ago. These ‘service management’ efforts underwent multiple conceptual transitions between the 1970s and 2000, ultimately resulting in a new conceptualization called ‘Service-Dominant Logic’ (SD Logic). This evolutionary concept, which is based on the idea of using goods as a mechanism for service provision, provides “a framework for theorizing, confirming, and refining the theoretical foundation of Service Science” (cf. Lusch et al., 2008). Because the locus of value creation is moved towards a collaborative process of co-creation between multiple parties, it creates new opportunities for service provision (Vargo & Lusch, 2008a; 2008b). What makes the concept so relevant and interesting from a scientific as well as business-economic point of view, is that it leads to “an understanding of all marketing and management as being fundamentally about service, since service exchange is seen as offering the roots of economy and society” (cf. Gummeson et al., p. 11).

Hence, while considering this groundbreaking importance of the SD Logic mind-set, at the same time, one has to realize that SD Logic is still in a pre-theoretic stage (Brodie et al., 2011). Its influence on the Service Science discipline might have been demonstrated repeatedly meanwhile, but how this transition is influencing the multidisciplinary character of Service Science is still difficult to determine (Glushko, 2008). Exposing the progress of this transition, and with that the impact of SD Logic, requires a twofold effort. On the one hand, putting the evolution of the mind-set in a temporal perspective, so that the development of its tenets and characteristics can to be traced. On the other hand, a systematic and comprehensive mapping of research efforts will help to show what SD Logic related research has been able to contribute to date. Whereas Brodie et al. (2011) already noted that there are “many avenues for (empirical) research about SD Logic”, and founding fathers Vargo and Lusch (2008b) posited that SD Logic is an open-source evolution that encourages scholars to take part in it, many different kinds of authors have tried, from a variety of viewpoints, to expand the understanding and application of SD Logic. To date, both a

comprehensive overview as well as a systematic investigation of the approaches and contents of these efforts, have not been established.

Based on these insights, the main goals of this thesis might in short be described as follows: on the one hand, a retrospective view on the development of service management will be given, on the other hand, a detailed investigation of the SD Logic evolution will be provided. Taken together, these efforts will help putting SD Logic in perspective when considering the field of Service Science, whereas the overview of contemporary research efforts serves as an important indicator as to where SD Logic is currently located in the process of becoming a generally accepted theory for marketing and management (Brodie et al., 2011).

The outline of this thesis will look as follows. Chapter 2 will give an overview of the historical development of the field of Service Science. Figure 1 graphically depicts the most important phases. In phase 1, service marketing started to emerge, before services and related subtopics gained increasing attention in the 1990s (phase 2). In this period, the dominant opinion was that goods and services were inherently different. This difference blurred again after 2004, when SD Logic was introduced. Internationalization and increased interdisciplinary of the Service Science field are typical characteristics of this period (Moussa & Touzani, 2010). The chapter is finished with an overview of exemplary SD Logic applications.

Chapter 3 will investigate the phenomenon of SD Logic in more detail. SD Logic is an evolution, rather than a revolution, built on a dominant concern with “intangible, dynamic resources, inputs for co-created value, and relational, economic and social processes” (cf. Gummeson et al., 2010). It has become the dominant way of thinking about goods and services, both in theory and practice, during recent years. A thorough literature review, together with subsequent, extensive analysis is provided in order to shed more light on the most recent developments regarding this conceptualization, thereby aiming to depict the contemporary SD Logic landscape. By mapping and analyzing these efforts, the direction of SD Logic and hence the (potentially) robust theoretical and practical foundation of the scientific discipline called Service Science is provided (Lusch et al., 2008).

The final chapter will then summarize the findings of this thesis. The main insights resulting from the outcomes of the study will be discussed, together with the consequences for SD Logic as a research area. Finally, the consequences of the for the field of Service Science will be briefly outlined, based on the presented analyses in this work.

Chapter 2: “SD Logic” Business Model – Backward and Contemporary Perspectives

2.1 Tracing the Roots of Service Science

The distinction between goods and services has its origin in the discipline of marketing. Berry and Parasuraman (1993) concisely describe the chronology of how the discipline of services marketing developed in the period between 1970 and 1990. Tables 1 and 2 show the acceleration factors that contributed to the development of services marketing as they outlined them, divided into important events and important publications. Although others already ‘planted the seeds’, they describe that 1977 can be considered as a breakthrough year for services marketing. In this year, Lynn Shostack (1977) published his article, in which it was first recognized and specified that the intangibility of services posed special challenges for marketing. Fisk and colleagues outlined how some years before in 1969, Johnson already explicitly asked the question ‘Are goods and services different?’, thereby launching the debate that soon became the roots of an entirely new discipline (Fisk *et al.*, 1993). In 1983, Christopher Lovelock continued this view by arguing that above the differences between goods and services, services could be divided into five heterogeneous groups, followed by his book on service marketing the year thereafter (Lovelock 1983; Lovelock 1984).

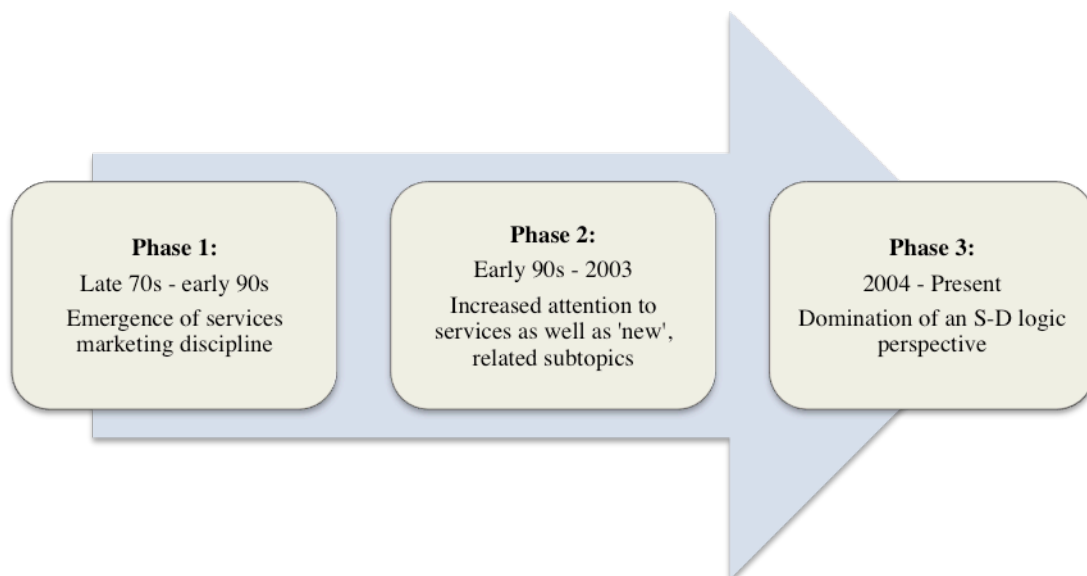


Figure 1: The trace towards and development of Service-Dominant Logic.

Table 1: Factors contributing to the development of the services marketing discipline: major events (adapted from Berry & Parasuraman, 1993)

Year	Event
1977	Marketing Science Institute established the Consumer Services Marketing Research program and published its first report from the program
1981	American Marketing Association held the first national conference on Services Marketing in Orlando, Florida
1984	American Marketing Association established a separate Services Marketing Division
1985	Arizona State University established the First Interstate Center for Services Marketing
1985	American Marketing Association held its first Faculty Consortium on Services Marketing at Texas A&M University
1988	University of Karlstad, Sweden, hosted the first Quality in Services (QUIS) symposium, a multi-disciplinary, multinational research conference held every other year
1990	Universite d'Aix-Marseille, France, sponsored the first International Research Seminar in Service Management. Researchers from multiple disciplines and countries presented papers on various service-organization issues

One year later, Zeithaml and colleagues published an article, in which they aimed to “... offer a conceptual framework summarizing the unique characteristics of services, the problems stemming from these characteristics, and the strategies suggested as appropriate to overcome the problems” [cf. Zeithaml *et al.*, 1985]. In this work, they also introduced and treated the IHIP framework extensively, which will be discussed later on. As described by Fisk *et al.* (1993), in the years thereafter one witnessed an ‘explosive growth of books, journal publications, conference proceedings and dissertations’ regarding the nature and treatment of services, in which attention was paid to ‘new’ topics like service quality, service design, customer retention and relationship marketing. Table 3 shows an overview by Fisk *et al.* (1993) of the number of articles about services that were published in the period between 1953 and 1992.

Table 2: Factors contributing to the development of the services marketing discipline: major publications (adapted from Berry & Parasuraman, 1993).

Year	Publication
1974	George & Barksdale: Marketing activities in service industries, <i>Journal of Marketing</i>
1976	Levitt: The industrialization of service, <i>Harvard Business Review</i>
1977	Kotler & Conner: Marketing professional services, <i>Journal of Marketing</i>
1977	Shostack: Breaking free from product marketing, <i>Journal of Marketing</i>
1978	Chase: Where does the customer fit in a service operation?, <i>Harvard Business Review</i>
1978	Thomas: Strategy is different in service industries, <i>Harvard Business Review</i>
1980	Berry: Services marketing is different, <i>Business</i>
1981	Levitt: Marketing intangible products and product intangibles, <i>Harvard Business Review</i>
1983	Lovelock: Classifying services to gain strategic marketing insights, <i>Journal of Marketing</i>
1985	Parasuraman, Zeithaml & Berry: A conceptual model of service quality and its implications for future research, <i>Journal of Marketing</i>
1985	Solomon et al.: A role theory perspective on dyadic interactions: the service encounter, <i>Journal of Marketing</i>
1985	Zeithaml, Parasuraman & Berry: Problems and strategies in services marketing, <i>Journal of Marketing</i>
1987	Shostack: Service positioning through structural change, <i>Journal of Marketing</i>
1988	Parasuraman, Zeithaml & Berry: SERVQUAL: a multiple-item scale for measuring customer perceptions of service quality, <i>Journal of Retailing</i>
1988	Zeithaml, Berry & Parasuraman: Communication and control processes in the delivery of service quality, <i>Journal of Marketing</i>

In 2004, Vargo and Lusch proposed to consider all goods as services, and urged scholars and researchers to take a more service-dominant view (Vargo & Lusch, 2004b). Because, in fact, every exchange or economic action fundamentally results in a form of service provision, they recommended abandoning strategies where it is distinguished between services and goods. Despite the fact that this view proved to possess internal consistency as well as to bring about interesting perspectives, Stauss (2005) describes this shift as a so-called *Pyrrhic victory*, where an apparent victory (acceptance of the proposed view) might in practice equate a severe loss (the abandoning of a complete, relevant field of research).

Table 3: Overview of “service” articles published in the period between 1953-1992 (adapted from Fisk et al., 1993).

Source	Number of “service” articles
Journal of Services Marketing	84
International Journal of Service Industry Management	41
Harvard Business Review	34
Service Industries Journal	30
Journal of Marketing	25
Business Horizons	22
Industrial Marketing Management	22
Journal of Retailing	19
Journal of the Academy of Marketing Science	16
European Journal of Marketing	15
Journal of Business Research	15
Journal of Professional Services Marketing	15
Sloan Management Review	15
Journal of Business Strategy	13

Academy of Management Review	10
Quarterly Review of Marketing	6
Journal of Consumer Marketing	5
Journal of Consumer Research	5
Journal of Marketing Research	5

Thus, why broadening the services perspective and abandoning this field's relevant lines of enquiry and research contributions could be necessary is exhibited in the form of six (potentially) problematic implications (Stauss, 2005), as follows:

1. the all-embracing, broader definition associated with the view of Vargo and Lusch is undesirable, since such generalizations cause the opposite of additional insights: "A general definition of service that includes virtually everything defines virtually nothing" (cf. Stauss, 2005).
2. since production of physical goods differs manifestly from production of services, characterizing all goods as services simply because customer value is created with goods is highly undesirable, from a theoretical as well as from a practical perspective.
3. there are inseparable services (though not all), where production and consumption necessarily have to take place simultaneously (e.g. Edvardsson *et al.*, 2005). Equating goods and services would imply that this important differentiation opportunity for such services goes unrecognized.
4. the same argumentation counts for the use of the term 'relationship'. Blithely using this term to refer to goods' transactions would deny the specific importance it has in a service context, where relationships with customers are far more than just transactional (Stauss, 2005).
5. modern service economy is not solely undergoing a process of 'servitization', but shows trends in opposite direction as well, with production oriented logics being applied to service industries.
6. so-called service specific knowledge developed because services' characteristics were so distinct to those of goods, posing specific challenges. Losing this distinction will therefore imply that dealing with challenges on the

basis of relevant recommendations and contributions from the past will no longer be possible (Stauss, 2005).

Since both streams that are described above might have put forward valid arguments, the truth might actually be ‘somewhere in between’. Facts are that service industries have been rapidly expanding and in recent decades, the economy has been shifting towards a service-based economy (Gummesson *et al.*, 2010; Larson, 2008; Nam & Lee, 2010). The expressions ‘servicizing products’ and ‘productizing services’ illustrate that boundaries between goods and services are blurring indeed. Products are increasingly offered together with value adding services, which indicates that there is a nested relationship between goods and services in which so-called bundled solutions are offered (Nam & Lee, 2010). Hence, differentiating between goods and services becomes increasingly complex.

The next section shows how the IHIP framework was used in order to delineate services from goods, and why so many authors considered this framework from a sceptical point of view.

2.2 The Intangibility-Heterogeneity-Inseparability-Perishability (IHIP) Framework

As highlighted in the previous section, it is pointed towards crucial distinctions regarding the characteristics of services when defending the field of service research. In the discussions, it was often referred either explicitly or implicitly to the IHIP framework, which is an abbreviation of four typical service characteristics: intangibility, heterogeneity, inseparability and perishability (Edvardsson *et al.*, 2005; Vargo & Lusch, 2004a). The next paragraphs will explain this framework in more detail, together with arguments as to why a critical view towards these factors might be important.

2.2.1 IHIP Characteristics and its Critics

During the second phase as represented in Figure 1, it started to become clear that the boundaries between goods and services were blurring. Nevertheless, services kept often being differentiated from goods in the literature. The most important framework in this respect was the IHIP framework. Although it is acknowledged in the literature, that there has never been any scientific justification for its characteristics, the framework has been widely used (Gummesson *et al.*, 2010).

The characteristics of the IHIP framework were already mentioned half a century ago, by Regan (1963). In a thorough evaluation regarding the origins of this framework, Lovelock and Gummesson (2004) elaborate on how, after various literature reviews and numerous citations, this framework has been accepted as a key source of wisdom in the service (marketing) literature. The framework basically consists of following elements: *intangibility* refers to the fact that services are not like physical goods that can be perceived with basic human senses, implying a high level of experience: “The idea is that services are activities that cannot be touched, for example, the service of an opera performance” (cf. Gummesson *et al.*, 2010). Two other characteristics result from this: *perishability*, which implies that services (activities and processes) cannot be stored, as well as *inseparability* (earlier in this chapter called ‘simultaneity of production and consumption’), which implies that services are produced and consumed at the same time (Sichtmann *et al.*, 2007). Inseparability exists between production, delivery and consumption, and typically takes place with the presence of

the customer (Gummesson et al., 2010). Finally, a distinct characteristic of services is their *heterogeneity*, which means that services “differ regarding their quality across time, organizations and people” (cf. Sichtmann *et al.*, 2007). Because services are usually performed by humans and not by machines, heterogeneity results from the non-existent need to standardize them, in contrast to (automated) production of standardized, homogeneous goods (Gummesson et al., 2010).

The impact of the IHIP framework during the 1980s and 1990s, is emphasized in detail by Edgett and Parkinson. In the introduction of their article in 1993, where they state: “It is now generally accepted that the marketing of services is sufficiently distinctive from the marketing of physical products to deserve separate treatment. ... the majority of scholars now accept that the debate is over.” (cf. Edgett & Parkinson, 1993). These words show that, at least in the marketing discipline, consensus existed regarding a separate treatment of goods and services during this time.

Zeithaml *et al.* (1985) and Edgett and Parkinson (1993) review the literature in order to discover what studies addressed the different characteristics from the IHIP framework. Table 4 shows the number of IHIP related studies identified by only Zeithaml *et al.* (1st column), only Edgett & Parkinson (2nd column) and the overlapping findings, mentioned by both of them (3rd column). [*For detailed information regarding their findings please see the original work by both authors*].

Table 4: Synthesis of studies dealing with IHIP between 1963-1993 (adapted from Edgett & Parkinson, 1993; Zeithaml et al., 1985).

Period	Number of findings Zeithaml et al. (1985)	Number of findings Edgett & Parkinson (1993)	Number of joint findings
1963-1973	1	5	3
1974-1978	6	5	12
1979-1984	11	31	12
1985-1993	-	38	-

A critical attitude towards the validity and applicability of these characteristics again brings us back into the debate that was described above: do goods really differ from services? Lovelock and Gummesson (2004) argue that this claim only holds for certain types of services, thereby rejecting the IHIP characteristics as a contemporary valid framework. They call for a critical stance, even scepticism towards the framework, arguing that not all characteristics of the IHIP framework are applicable to all types of services, because there are “sufficient exceptions to discredit the claim of universal generalizability” (cf. Lovelock & Gummesson, 2004). Vargo and Lusch (2004a) argue that due to the inaccuracy of the IHIP definitions and contradictory implications, the IHIP framework fails to delineate goods and services adequately. They conclude that “a strategy of differentiating services from goods should be abandoned” (cf. Vargo & Lusch, 2004a). Hence, in the remainder of this chapter it must be taken into consideration that, whether goods and services can be distinguished, is an underlying discussion that has been an important dispute in the past decades. In this respect, an interesting – but of course also debatable – recommendation seems to be the one by Edvardsson *et al.*, who choose to strike a balance between the different opinions: “We should not generalize the characteristics to all services, but use them for some services when they are relevant and in situations where they are useful and fruitful” (cf. Edvardsson *et al.*, 2005).

2.2.2 Implications for the Definition of Services

As a consequence of the debate above, it follows that defining the term ‘service’ is a complicated task. Not that there is a lack of definitions, on the contrary. Sixteen experts were asked to come up with a definition of service in the research of Edvardsson *et al.* (2005). Although similarities could be identified in the independent responses, for example the keywords ‘performance’ and ‘processes’ were mentioned in about half of the responses, it turned out that all definitions were on an abstract level, open to interpretation at an operational level. In fact, almost all experts responded that it does not make much sense to define services in one or two lines. Some authors referred to services as ‘deeds, processes and performances’, which, in turn, is maybe the best way to describe services, albeit in a very general way (Edvardsson *et al.*, 2005). Maglio and Spohrer follow the definition proposed by Vargo and Lusch, in which services are considered to be the application of resources

for the benefit of another” (cf. Maglio & Spohrer, 2007). Although these definitions might relatively well capture the meaning of services, it remains important to keep in mind that the concept of services is hugely debated, and therefore every definition is subject to interpretation within each respective specific context (Vargo & Lusch, 2004a).

An important additional remark regarding terminological issues related to service perspectives is whether one is talking about ‘service’ or ‘services’. According to Vargo & Lusch (2008a, 2008b), the plural ‘services’ is typically a Goods-Dominant representation (see Section 2.3 for more detailed information), whereas the singular ‘service’ reflects the Service-Dominant perspective. Hence, ‘service economies’ depict economies in which the resources of one party are used for the benefit of another. In such situations, “the locus of value creation moves from the ‘producer’ to a collaborative process of co-creation between parties” (cf. Vargo & Lusch, 2008a), as will be explained more detailed in the next paragraph.

The next sections will look at how services have become the basis of a whole new perspective in research and business, as represented with phase 3 in Figure 1.

2.3 Service Science Perspectives: Service-Dominant (SD) versus Goods-Dominant (GD) logic

2.3.1 Resource-based Definition of Service Logic

In line with the previously sketched debate regarding the role of services, Lusch and colleagues (2008) distinguish two conceptually differing logics that might underlie the field of Service Science. On one hand, there is a goods-dominant logic ('G-D Logic'), on the other hand there is a service-dominant logic ('SD Logic'). G-D logic is based on the essence "that economic exchange is fundamentally concerned with units of output that are embedded with value during the manufacturing process" (cf. Vargo, 2008). In contrast, in SD logic the focus of value creation "moves from the producer to a collaborative process of co-creation between parties" (cf. Vargo, 2008). As obvious proponents of the second logic, it must of course be realized that the mentioned authors belong to the group of scholars that propose to adhere to the approach where no differentiation is made between goods and services, as explained earlier. This should be kept in mind while reading the next section, where the main differences between the two logics according to Lusch *et al.* (2008) are summarized.

G-D logic is mainly based upon an orientation toward so-called *operand resources*: "Operand resources are those that are acted upon; they are static and usually inert" (cf. Lusch *et al.*, 2008). Such resources are typically physical (Madhavaram & Hunt, 2007). As a result, the production of (tangible) goods with these resources is the main focus of companies, since producing and selling those goods is how value is created. Customers have to be targeted more or less in a one-way direction, through promotion of these goods. Firms have a relatively static view of the world, with linear supply chains, utility-maximizing consumers and profit-maximizing firms (Lusch *et al.*, 2007; Lusch *et al.*, 2008).

In contrast, SD logic presumes an orientation toward *operant resources*: "Operant resources are often intangible (e.g., knowledge and skills) and are capable of acting on operand resources and even other operant resources to create value." (cf. Lusch *et al.*, 2008). These 'human' resources are not inherently valuable in this perspective, but become valuable after application of operant resources: they have to be turned

into benefits (Madhavaram & Hunt, 2007). This happens under interaction of firms and customers, which are actively involved in transforming the inputs into value.

In the literature, a threefold hierarchical classification among operant resources has been developed by (Madhavaram & Hunt, 2007). First, basic operant resources, like for example the skills and knowledge of individual workers, form the building blocks of higher-order resources. Second, composite operant resources, combine two or more basic operant resources, thereby enabling firms to create market offerings more effectively and/or efficiently. Third, interconnected operant resources are similar to composite operant resources, with the only difference that they are based on lower order resources significantly interacting and reinforcing each other. Such interaction enables then additional positive effects for the organization. The rationale behind the hierarchy in general, is that if one moves up in the hierarchy, resources become increasingly connected as well as more difficult for competitors to acquire or develop, which implies that a firm possesses greater potential for sustainable competitive advantages (Madhavaram & Hunt, 2007). Figure 2 graphically represents the overview of the described resources classification under G-D logic and SD logic.

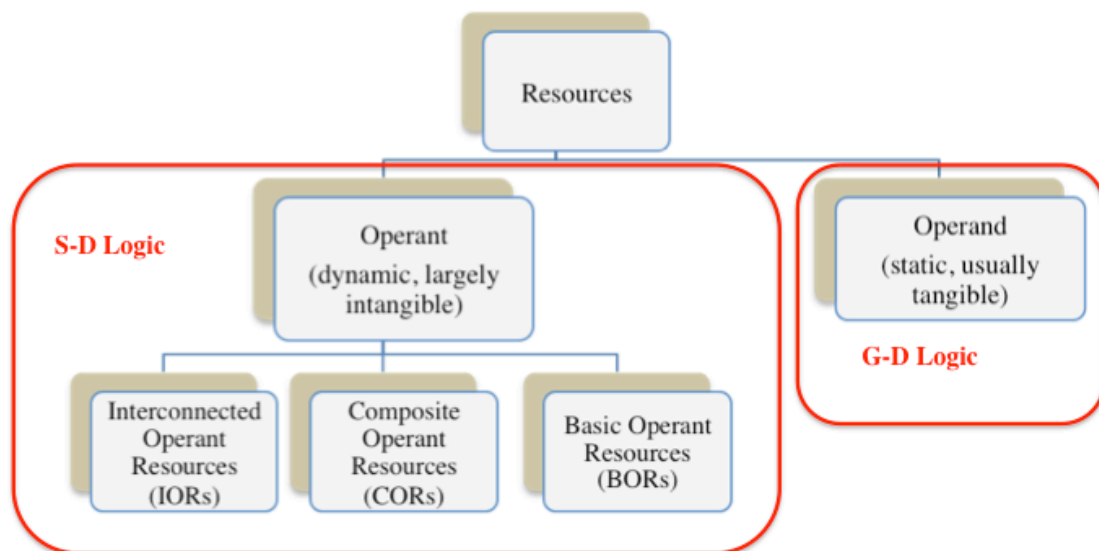


Figure 2: Schematic representation of the distinction between operant and operand resources (adapted from Madhavaram & Hunt, 2007; Vargo & Lusch, 2004b)

Hence, according to SD logic, the customer is seen as a co-creating collaborative partner of the firm, responsible for the creation of value (Lusch *et al.*, 2007; Lusch *et*

al., 2008). Since 2004, SD logic has become fundamental to Service Science, serving as its philosophical foundation (Maglio & Spohrer, 2007). Considering the increasing importance of this “emerging revolution in business and economic thinking in the twenty-first century”, it is relevant to have a closer look at how this philosophy is used as a foundation in practical research (cf. Maglio *et al.*, 2009).

2.3.2 SD Logic & General Theory

Brodie *et al.* (2011) relate the development of SD Logic to middle range as well as general theory. Middle range theory can have the important function of being a theoretical bridge between empirical findings and general theory, which is broader in scope and more abstract (Brodie *et al.*, 2011). If SD Logic based middle range theory is able to fulfil the function of being able to focus on a subset of phenomena relevant to the particular context at hand, empirical results can be translated to general theory. Because middle range theory development helps to show explicit links between the process of theory formulation and verification, the resulting general theory enjoys a stronger foundation and justification: “... middle range theories play an important role in the ‘scientific circle of enquiry’ in providing a bridge between general theory and empirical findings both in the context of discovery and the context of justification” (cf. Brodie *et al.*, 2011). In this way, SD Logic has the chance to guide the development of an empirical research agenda and thereby develop from an emerging paradigm into a higher order general theory.

2.3.3 Case Studies of Empirical Applications of SD Logic

In this section, several examples of empirical applications of SD logic will be provided. It will become clear that compared to earlier periods, in which service research belonged mainly to the marketing discipline (as emphasized in the introduction), in contemporary science, SD logic is at the basis of research in a broad variety of disciplines, often synthesizing these disciplines in a creative way (Glushko, 2008; Stauss, 2007). SD logic and its position and impact within the field of Service Science are extensively discussed within business and scientific communities, often in a challenging and critical fashion (e.g. Stauss, 2007). Vargo and Lusch noted 4 years after the initial publication that introduced SD logic that “there has been a steady stream of special issues, special sessions at leading conferences, dedicated conferences, an edited book with contributions from 50 top scholars, and independent journal articles dealing with various aspects of SD logic” (cf. Vargo & Lusch, 2008).

Thus, the remainder of this paper will be finished with a review classifying an exemplary variety of such research that is based on SD logic, since its foundation was developed in 2004.

SD Logic, Branding and Networks

Under SD logic, the function and role of brands might change. Brodie (2009) argues that brands are at the basis of value adding processes that are so important in the SD perspective, thereby contributing to the value perception of the customer. New logic in this field “acknowledges that brand value is co-created between the firm and its stakeholders” (cf. Merz *et al.*, 2009). The brands facilitate and mediate processes that are used for realizing experiences that drive co-creation of value (Brodie, 2009). Hence, branding in this context has to be seen as a dynamic and social process that is stretched over a broad context. As a result, in today’s service-based economies, investing into strong branding relationships becomes increasingly important (Merz *et al.*, 2009).

In general, relationships between social and economic actors are at the basis of networks. Such networks allow for quality interaction (e.g., in the form of high levels

of trust), which serves in turn as the key ingredient for successful co-creation of value under SD logic (Fyrberg & Jürriado, 2009).

SD Logic and Discontinuous Innovations

SD logic might also help to explain discontinuous innovations. Michel *et al.* (2007) term innovations discontinuous if they (1) change how value is created and (2) significantly affect market size, prices, revenues or market shares. Employing SD logic to the concept of innovations requires firms to look beyond the traditional focus on value-in-exchange. There are two reasons for this. First, in discontinuous innovations, the role of the customers changes into a co-creator of value. Second, the firm's value creation is changed in the case of discontinuous innovations. Value creation is now based on operant resources (as explained earlier) like skills, knowledge and competencies, whereas the customer acts as an integrator of these resources (Michel *et al.*, 2007). Hence, the SD perspective also influences and changes (conventional) approaches to innovation.

SD Logic and Co-produced Knowledge

Vargo & Lusch (2004b, 2008) argue that in an SD perspective, the customer is always co-creating value in an interactive way. At the same time, this jointly created knowledge between companies and customers serves as a fundamental source of competitive advantage (Payne *et al.*, 2008). Blazevic and Lievens (2007) show how SD logic can contribute to the management of this knowledge. They investigated the role customers play in knowledge creation, and were able to identify three roles differing in the extent to which knowledge was actively coproduced: customers could act as passive users, active informers or bidirectional creators. Customers are acting as exchange partners for joint knowledge creation in all these three cases, however to a different extent and with different subsequent influences on the innovation tasks and processes (Blazevic & Lievens, 2007). Hence, their research underscores that the coproduction of knowledge, which is typical within an SD context, occurs in diverse fashions and with dissimilar outcomes. Payne *et al.* therefore stress the importance of knowledge as a key operant resource (2008). A deep understanding of customer

experiences and processes is crucial in order to understand the dynamics of successful knowledge co-creation under SD logic.

SD Logic and Social Construction Theories

Instead of focusing on the value-creation process as such, Edvardsson *et al.* (2011) focused on the social setting in which the co-creation of value occurs. In their exploratory study, they applied key concepts from social construction theories to SD logic. Social construction theories are used to interpret the social world and the behaviour of actors within this environment. In the context of SD logic, this means that by using such theories, understanding about service systems and value creation within these systems can be enhanced (Edvardsson *et al.*, 2011).

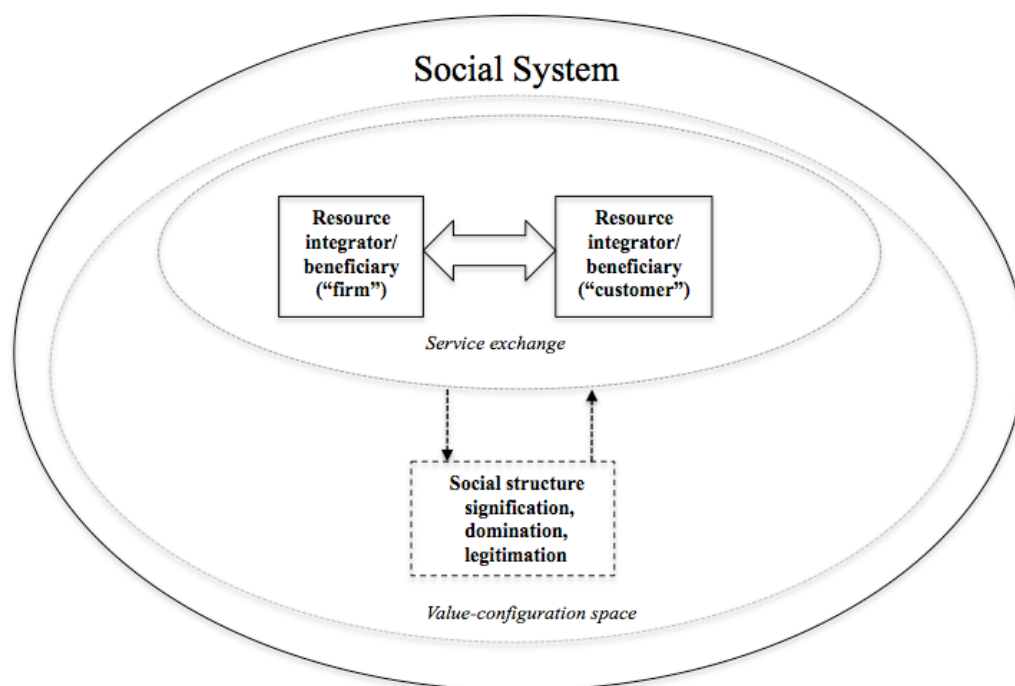


Figure 3: SD Logic and social construction theories (adapted from: Edvardsson *et al.*, 2011).

Figure 3 shows how Edvardsson *et al.* (2011) depict this situation. Two actors, the firm and the customer, act as resource integrators that mutually try to create value. Both parties are embedded in wider networks that play an important role in the service exchange, and can be considered as service systems (Vargo & Lusch, 2008). Because this service exchange takes place within a wider social system, the actors

draw upon the rules and resources ('social structures') within this context. Social structures enable and constrain, and hence, influence, the service exchange in an unobservable and implicit way: "Social structures are expressed through the norms, values and ethical standards that guide what is acceptable during interactions between individuals, which has implications for service exchange and value co-creation" (cf. Edvardsson *et al.*, 2011). This shows that consolidating social construction theories with SD logic might also help to advance knowledge within and understanding of the dynamics associated with service-dominant thinking.

SD Logic and Logistics Service Value

Successful co-creation of knowledge and mutual development of value propositions, are SD logic based activities that might help to create logistic service value, according to Yazdanparast *et al.* (2010). The authors specify how, on the basis of SD logic, logistics practitioners can increase the co-creation of value in such way that it may lead to competitive advantages. It is emphasized that particularly the field of logistics, typically characterized by its dynamically changing service offerings, might benefit from the application of SD logic theory (Yazdanparast *et al.*, 2010).

SD Logic and Procurement

In their discussion on the implications of 'servitization' of procurement, Lindberg and Nordin (2008) reach a two-sided conclusion when looking at the perspectives of industrial buyers. On the one hand, a clear movement towards SD logic can be identified, since buyers acknowledge that they are increasingly looking for the purchase of entire solutions rather than only products. On the other hand, a counteractive movement towards objectification of services seems equally apparent: buyers are trying to objectify and (partly) standardize the services they are buying, which is more in line with G-D logic. Hence, regarding the interplay between procurement and SD logic, they conclude that many buyers are "employing buying behaviour that is in line with both kind of logics" (cf. Lindberg & Nordin, 2008).

SD Logic and Service Experience

A key concept within the SD Logic paradigm is that of a 'service experience'. This concept refers to how we, consciously or unconsciously, experience services. Following up on the statement by Vargo & Lusch that service experience is the foundation of all business, Helkkula shows that the way in which customers perceive and engage in the co-creation of value is a key question under SD Logic (Helkkula, 2011).

Service experiences, often incorrectly reduced to only hedonic experiences, are relational, social and inter-subjective at the same time. Because under SD Logic stakeholders are simultaneously involved in the co-creation of value, they continuously experience the social phenomenon called service experience (Helkkula, 2011). The concept underlies an interesting paradox. On the one hand, in line with SD Logic, services and the corresponding experiences are to be considered holistically rather than as process-and-outcome components (Schembri, 2006). On the other hand, the service experience is unique to each individual, due to the specificity of time, location, context and content of the experience (Helkkula, 2011). As a central concept within SD Logic thought, future research on the phenomenon is needed in order to develop the concept further and relate it more closely to other concepts like for example (the co-creation of) value.

SD Logic and Competitive Advantage

Lusch *et al.* (2007) also propose to consider economic issues through an SD lens. They come up with nine propositions about how to achieve competitive advantage on the basis of services. In an environment, in which stakeholders in the market place are viewed as operant resources (Lusch *et al.*, 2007), collaboration and knowledge application are at the ways in which value (and possibly competitive advantage) is created. Value creation is subjective here, and other stakeholders in the market act as co-creators of it. Hence, on the basis of this, they formulate how managers can achieve competitive advantage from an SD point of view: "...the most fundamental implication is that firms gain competitive advantage by adopting a business philosophy based on the recognition that all entities collaboratively create value by serving each other" (cf. Lusch *et al.*, 2007) (*for a detailed investigation on operant resources that are important in value creation, see Madhavaram & Hunt, 2007*).

Cloud computing as an illustrative example of SD Logic

The earlier described trend towards the ‘servitization’ of goods might well be illustrated by the example of cloud services. Defined as “a computing mode in which applications, data and IT resources are provided as service for users over the Internet”, cloud computing has become an interesting information technology provisioning approach for many firms (cf. Qing & Chun, 2010, p. 145). Cloud computing has even proven to possess the potential to leverage increased value for all involved stakeholders in certain industries (Mladenow et al., 2012). The locus of value creation no longer resides within the boundaries of the firm. Instead, co-creation of value typically takes place between all the actors in the network (Kontos & Kutsikos, 2011). This typical SD Logic characteristic indicates that cloud computing might be an excellent contemporary illustration of the emerging service dominated mind-set.

Cloud services must not be restricted to the simple moment of operative use. Such a narrowed view, treating cloud computing as a simple, uni-directional activity would correspond with G-D Logic (Schmidt, 2011). This would be incorrect, since the full life cycle of cloud services have to be taken into account if one discusses the value creation that such technologies are able to leverage. Taking such an analytical perspective, clouds can be considered as platforms for value co-creation, in which the common effort of two or more service systems are combined. Schmidt (2011) describes how value creation can take place in each of the various interactive stages of the cloud-service lifecycle:

- First, cloud services have to be *integrated* into the client organisation by granting the users access to the service and its resources;
- Second, the user has to provide data to the cloud so that the cloud service can be *configured*;
- Third, before the consumer can request the service, resources to be operated upon by the cloud have to be *assigned*;
- Fourth, the actual service *operation* takes place;
- Fifth, the customer can make sure resources passed over are returned;
- Sixth, the cloud services are removed from the consumer’s computing environment, thereby being fully *disintegrated*.

In each of the above described interactions, co-creation of value occurs. Hence, it shows how people, technology, internal and external service systems jointly co-produce value throughout the lifecycle of a cloud service, thereby being an excellent illustration of the SD Logic paradigm (Schmidt, 2011). Future research on the specific dynamics and potential for maximized value creation is necessary in order to increase understanding of the way in which SD Logic helps to leverage the benefits of cloud computing.

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Chapter 3: SD Logic literature review and analysis

3.1 SD logic theory

One of the most influential contributions in the field of Service Science during the last decade, has been the introduction of SD logic (Moussa & Touzani, 2010). The Service-Dominant mindset has been developed by Vargo and Lusch, who argued in 2008 that it might rather be considered to be an organizing framework than a theory (Vargo & Lusch, 2004; 2008a; 2008b). It represents an evolution, rather than a revolution, in which reciprocal service exchanges are at the basis of economic exchange (Gummesson et al., 2010). Value creation is considered as a collaborative process of co-creation between multiple parties. Goods are no longer the essential source of value creation. They rather serve as vehicles to convey service provisions (Vargo & Lusch, 2008b). The knowledge and skills within these service provisions now become the core (intangible and dynamic) resources at the essence of exchange.

An important aspect within SD logic is the difference between the terms ‘services’ and ‘service’. Whereas the term ‘services’ implicitly refers to units of output, the term ‘service’ refers to collaborative processes, in which competences/resources are applied for the benefit of another entity (Vargo & Lusch, 2008b). Hence, this subtle difference reflects two entirely diverging views.

At the basis of SD logic are 10 foundational premises (so-called ‘FPs’). Originally defined in 2004, and critically examined and revised in 2008, they represent the ‘patchwork’ of SD logic (see Table 5).

Table 5: SD logic’s foundational premises (FPs) (adapted from: Vargo & Lusch, 2008a)

FP #:	Defined as:
FP1	Service is the fundamental basis of exchange
FP2	Indirect exchange masks the fundamental basis of exchange
FP3	Goods are a distribution mechanism for service provision

FP4	Operant resources are the fundamental source of competitive advantage
FP5	All economies are service economies
FP6	The customer is always a co-creator of value
FP7	The enterprise cannot deliver value, but only offer value propositions
FP8	A service-centered view is inherently customer oriented and relational
FP9	All social and economic actors are resource integrators
FP10	Value is always uniquely and phenomenologically determined by the beneficiary

The basic characteristics, called ‘Foundational Premises’ (FPs), around which SD Logic is structured, are listed in Table 5. They are based on a process rather than an output orientation, where the customer is involved in the co-creation of value (Edvardsson et al., 2011). All FPs are based on the underlying assumption that “reciprocal service, defined as the applications of competences for the benefit of another party, is the fundamental basis of economic exchange” (cf. Gummesson et al., 2010).

A fast growing, world wide community of scholars is trying to add to and work with SD Logic based knowledge. Since its introduction, SD Logic has triggered substantial concurrence, debate, dialog and inquiry, and might even provide a basis for “reorienting theories of society and economic science” (cf. Vargo & Lusch, 2008b). This underlines the importance of having a clearly depicted landscape regarding research efforts, which will be provided in the next paragraph.

3.2 Literature analysis SD logic

Table 6 presents the findings of an extensive literature analysis regarding studies dealing with SD logic that were presented in journal articles during the period 2004-2011. The analysis used a large variety of databases, including among others ISI Web of Knowledge, Econlit (EBSCO), ScienceDirect (Elsevier), SpringerLink, JSTOR, and Google Scholar. Furthermore, cross-referencing techniques were used in order to find topic-related relevant studies. Although it is not claimed that the analysis is fully

exhaustive, the most influential journal articles that have been published in the respective period are included.

Table 6: Literature Analysis S-D Logic (2004-2011)

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
1	Abela & Murphy	2008	Marketing with integrity: ethics and the service-dominant logic for marketing	Dealing with (compartmentalized) marketing ethics on the basis of S-D logic	Need for an integrated approach to overcome ethical tensions in marketing theory
2	Akesson & Skalen	2011	Towards a service-dominant professional identity:an organisational socialisation perspective	Practical establishment of S-D logic in an organization	Need for increased understanding regarding the practical establishment of an service-dominant professional identity among employees
3	Andreassen & Lanseng	2010	Service differentiation: a self-image congruency perspective on brand building in the labor market	The importance of branding in attracting the right employees	The need to discover how effects of self-image congruency and social norms on attitude towards being employed by a particular company vary under different levels of co-creation
4	Andreu et al.	2010	Value co-creation among retailers and customers: New insights into the furniture market	Value co-creation management under S-D logic	Fill a research gap by providing a framework that helps organizations to manage the value co-creation process
5	Arnould	2008	Service-dominant logic and resource theory	S-D logic and the resource based theory of the firm	To highlight points of interest related to the resource based theory of the firm, from an S-D perspective
6	Ballantyne & Aitken	2007	Branding in B2B markets: insights from the service-dominant logic of marketing	S-D logic and branding	Need to explore how S-D logic impacts B2B branding concepts and practice

	Methodology	Output	Journal Name	Field / Discipline
1 cont.	Conceptual/Analytical Research	S-D logic can serve as an approach to overcome ethical problems in marketing decision making by integrating ethical accountability	Journal of the Academy of Marketing Science	Marketing
2 cont.	Case study (mainly interviews) in a large Swedish organization	Identification of 1) four characteristics of an S-D professional identity as well as 2) five processes through which such identities can be established	Journal of Service Management	Service Science
3 cont.	Scenario-based survey with subsequent quantitative analyses (hierarchical regression analysis)	Image congruence, social norm, and motivation to comply with social norms have significant and positive impact on prospective employees' employer evaluations (which is an important measure under S-D logic, since knowledge of employees is a key operant resource)	Journal of Service Management	Organizational Behaviour
4 cont.	Case study research (in-depth interviews/surveys)	A framework of value co-creation that helps to understand customer and supplier roles in a furniture market context	Journal of Retailing and Consumer Services	Marketing, Service Science, Retailing
5 cont.	Brief review	Outlined existing opportunities of resources to draw on for resource theory inspired by S-D logic	Journal of the Academy of Marketing Science	Marketing, Organization
6 cont.	Conceptual/Analytical Research	Goods become service appliances. Firm's value propositions are increasingly based on service-ability. Focus on service experience is crucial in successful B2B branding activities	Journal of Business & Industrial Marketing	Marketing, Service Science

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
7	Ballantyne & Varey	2006	Creating value-in-use through marketing interaction: the exchange logic of relating, communicating and knowing	S-D logic and marketing interaction	Need to extend and elaborate S-D logic with interaction modes as value creating activities
8	Ballantyne & Varey	2008	The service-dominant logic and the future of marketing	Evolvment of S-D logic and implications for marketing science	Help understand dynamics/challenges caused by S-D logic introduction as done by Vargo and Lusch since 2004
9	Barnes et al.	2009	Re-evaluating the Theoretical Reasoning Regarding Market-Entry Position from a Service-Dominant Logic Perspective	S-D logic and order-of-entry assumptions	The need for a renewed (S-D based) evaluation of order of entry assumptions that have previously been made from a G-D perspective
10	Baron & Warnaby	2011	Individual customers' use and integration of resources: empirical findings and organizational implications in the context of value co-creation	Customer resource integration as a feature of S-D logic	Need to contribute to S-D logic, by examining the resource-based view of consumers in an organizational context
11	Bjurklo et al.	2009	The role of competence in initiating the transition from products to service	The role of competence in the transition of goods-dominant companies to service providers	The study contributes to a knowledge-gap in existing manufacturing literature by focusing on the role of competence in the initiation of the transition from products to service
12	Brodie et al.	2006	The service brand and the service-dominant logic: missing fundamental premise or the need for stronger theory?	S-D logic and branding	Examine whether the concept of branding is a missing premise in S-D logic

	Methodology	Output	Journal Name	Field / Discipline
7 cont.	Conceptual/Analytical Research	An model based on S-D logic including three exchange opportunities (relating, communicating, knowing) and their implications for the co-creation of value	Marketing Theory	Marketing
8 cont.	Brief review	Confirmation of S-D logic as an expanding and evolving challenge in the field of marketing	Journal of the Academy of Marketing Science	Marketing
9 cont.	Conceptual/Analytical Research	An evaluation as to how the type of resource that dominates the competitive environment alters a firm's optimal market entry position: e.g. pioneers benefit from an operant-dominant environment, late movers benefit from an operand-dominant environment	Journal of Marketing Theory and Practice	Marketing
10 cont.	Qualitative analyses (database analysis, collaborative discussion with executives and senior managers of the British Library)	Confirmation of organizational relevance of customer resource integration. Proven practical feasibility of sub-categorizing customer operant resources to establish a systematic analysis of users/clients	Industrial Marketing Management	Organization & Management
11 cont.	Case study research ('narrative approach')	Demonstration of how the transition from products to service can be initiated through customer value socialization and customer value management	Managing Service Quality	Supply Chain Management, Manufacturing Management
12 cont.	Conceptual/Analytical Research	More attention is required to the fundamental role of 'the service brand' in S-D marketing logic	Marketing Theory	Service Science, Marketing

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
13	Brodie et al.	2011	Theorizing about the service dominant logic: the bridging role of middle range theory	S-D logic, middle range theory and general theory	Need to explore how middle range theory can help to provide a bridge between S-D logic premises and empirical evidence, and hence, theoretical development of S-D logic
14	Brohman et al.	2009	A design theory approach to building strategic network-based customer service systems	S-D logic and customer service systems	The need to identify S-D logic based design principles for network-based customer service systems (NCSS) service delivery
15	Brookes	2007	The Service-Dominant logic of marketing: a logical and evidential case for multiple logics?	S-D logic theory and service innovation	The need for additional FPs that encompasses theoretical/ practical importance and possibilities of market-driven and market driving service innovation
16	Brown	2007	Are we nearly there yet? On the retro-dominant logic of marketing	S-D logic and marketing logics	Elaborate on the role and position of S-D logic in marketing logics
17	Brown & Patterson	2010	Harry Potter and the Service-Dominant Logic of marketing: a cautionary tale	S-D logic compared to Harry Potter	Examine S-D logic empirically through the lens of an authentic marketing phenomenon
18	Cesaroni & Duque	2010	Marketing for Technologies: S-D Logic and the Open Innovation Paradigm	S-D logic and the Open Innovation (OI) paradigm	Need for an investigation how S-D logic can serve as a successful guideline for firms that revise their strategic orientation by adapting to the OI paradigm

	Methodology	Output	Journal Name	Field / Discipline
13 cont.	Conceptual/Analytical Research	S-D logic can become a foundation for general theory by using middle range theory as a link between general theory and empirical findings	Marketing Theory	Service Science, Marketing Theory
14 cont.	Literature review	Provision of a design theory approach together with a framework for designing NCSS under S-D logic	Decision Sciences	Service Science, IT, Marketing
15 cont.	Theoretical conceptualization & extension based on previous research literature	Additional FPs to S-D logic are required to recognize the theoretical and practical differences between market-driven and market-driving approaches to innovation	Australasian Marketing Journal	Marketing, Innovation
16 cont.	Commentary	S-D logic answers an intellectual need, and is mainly driven by the story behind it	Marketing Theory	Marketing Theory
17 cont.	Qualitative research (focus groups, interviews)	Harry Potter shows both significant parallels with S-D logic but also highlights some of the difficulties that S-D logic faces	Journal of Marketing Management	Marketing
18 cont.	Conceptual/Analytical Research	Detailed description as to how S-D logic premises can be translated into a real-world OI approach. Provision of resulting practical implications for firms.	Pre-print version (to be published)	Marketing, Innovation, Service Science

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
19	Chandler & Vargo	2011	Contextualization and value-in-context: How context frames exchange	The role of context in co-creation in markets	The need to show how context, markets and value co-creation are (theoretically) related
20	Cova & Salle	2008	Marketing solutions in accordance with the S-D logic: co-creating value with customer network actors	S-D logic and marketing solution strategies	The need for an approach to implement S-D logic in a solution-based context for B2B firms, thereby overcoming current limits of B2B solution strategies
21	Dibrell & Moeller	2011	The impact of a service-dominant focus strategy and stewardship culture on organizational innovativeness in family-owned businesses	S-D logic focus in family- and non-family owned businesses	Little research on how family businesses can sustain a competitive advantage over non-family businesses in a service-dominant environment
22	Dong et al.	2008	The effects of customer participation in co-created service recovery	The role of customers and firms in the event of service recovery	The need to investigate customer participation in service recovery and its effect on customers' future co-creation behaviours
23	Edvardsson & Enquist	2011	The service excellence and innovation model: lessons from IKEA and other service frontiers	Ethical values and service value delivery	The need for a new business model that integrates the co-creation of value with customers, ethical values, sustainability, and service innovation
24	Edvardsson et al.	2008	Initiation of business relationships in service-dominant settings	S-D logic and initiation of business relationships	Need for empirical research that explores the dynamics in the relationship initiation process in industrial, service-dominant settings

	Methodology	Output	Journal Name	Field / Discipline
19 cont.	Conceptual/Analytical Research, Literature Analysis	Markets are created through conjoint service provision efforts of its participants, framed by the respective context.	Marketing Theory	Marketing, Service Science
20 cont.	Case study research (interviews, two case studies in two different companies)	Co-creation of value, the supply network and the customer network are core aspects in the development of successful B2B solution strategies	Industrial Marketing Management	Industrial Marketing, Service Science
21 cont.	Literature review and mail survey with quantitative analysis (in the US food industry)	For family businesses, a strong service-dominant focus exists, due to a much stronger relationship between S-D focus and stewardship culture compared to non-family businesses	Journal of Family Business Strategy	(Small enterprises) Marketing
22 cont.	Scenario-based role playing experiments (including focus group interview and small group surveys)	Recovery efforts by customers in co-created service contexts increase customers' specialized skills and knowledge, thereby enhancing their likelihood to co-create in the future	Journal of the Academy of Marketing Science	Marketing
23 cont.	Case study research, conceptual analysis	Provision of a business model ('SEIB') in which sustainability and CSR serve as the key drivers of service excellence and innovation	Total Quality Management & Business Excellence	Service Science, Innovation
24 cont.	Qualitative research (interviews, 'narrative approach')	Provision of three new concepts (status, converter, inhibitor) that help to clarify the dynamics in relationship initiation processes	Industrial Marketing Management	Industrial Marketing, Service Science

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
25	Edvardsson et al.	2011	Expanding understanding of service exchange and value co-creation: a social construction approach	S-D logic and social construction theories	The need for more understanding of core S-D logic aspects (service exchange & value co-creation) with key concepts from social construction theories
26	Edvardsson et al.	2011	Does service-dominant design result in a better service system?	Customer experience in S-D based versus G-D based service systems	Lack of an empirical study that compares customer experience outcomes in S-D based service systems versus G-D based service systems
27	Enquist et al.	2011	Contractual governance for public service value networks	Linking contractual governance with performance measurement based on S-D logic	The need to find out how S-D logic influences contractual governance and performance measurement, and how these influences affect the governance of public service businesses
28	Flint	2006	Innovation, symbolic interaction and customer valuing: thoughts stemming from a service-dominant logic of marketing	S-D logic and the relationship between innovation, symbolic interactionism and customer value	Taking a closer look at customer value by using symbolic interactionism as a useful but under-represented perspective
29	Ford	2011	IMP and service-dominant logic: divergence, convergence and development	Characteristics of business actors, value and services under S-D logic	Relate players and discussions of the 2nd Otage Forum on S-D logic with previous S-D logic research and knowledge developed by the IMP Group (Industrial Marketing and Purchasing)

	Methodology	Output	Journal Name	Field / Discipline
25 cont.	Literature Analysis, Case Study Research (interviews, 'narrative approach')	A framework that describes how S-D logic aspects are affected, by recognizing that they are embedded in social systems, and 'value' is a social construction	Journal of the Academy of Marketing Science	Service Science
26 cont.	Survey, experiments and subsequent quantitative analyses	An S-D service system outperforms a G-D service system in terms of both objective and subjective criteria. Furthermore the subjects' perceived importance of the S-D service system's characteristics is highlighted	Journal of Service Management	Service Science, Consumer Behaviour
27 cont.	Case study research (in the Swedish public sector)	Replacement of the currently dominating G-D logic model of contractual governance and performance measurement by a redefined arrangement based on S-D logic	Journal of Service Management	Service Science, Organization
28 cont.	Conceptual/Analytical Research	Insights regarding (1) the way market research must be conducted and (2) the way marketers interact with customers	Marketing Theory	Marketing, Innovation, Sociology
29 cont.	Conceptual/Analytical Research	Interaction is a core process of business, and service becomes the dominant view. The terms 'service' and 'value' must be considered in a contextual way by managers.	Industrial Marketing Management	Service Science, Industrial Marketing

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
30	Ford & Bowen	2008	A service-dominant logic for management education: it's time	S-D logic / services coverage in management education	Too little attention for services in conventional management education (research, teaching, curricula)
31	Franzak & Pitta	2011	Moving from service dominant to solution dominant brand innovation	S-D logic and brand management	Understand the effects of S-D logic on the activities of brand managers
32	Fyrberg & Jüriado	2009	What about interaction? Networks and brands as integrators within service-dominant logic	Networks, brands and interaction within S-D logic	Insufficient emphasis on the understanding of networks within S-D logic, a need to demonstrate the importance of interaction between network actors as a driving force behind co-creation of value
33	Grönroos	2006	Adopting a service logic for marketing	Service logic in marketing	Discussion of the contribution of service marketing to marketing at large
34	Grönroos	2008	Service logic revisited: who creates value? And who co-creates?	Value-in-use and the nature of service marketing	Insufficient consideration of the value-in-use notion and the nature of service marketing in discussions to date

	Methodology	Output	Journal Name	Field / Discipline
30 cont.	Literature Analysis, Conceptual/Analytical Research	Provision of a review regarding contemporary coverage of service in the management discipline, an overview of minimally covered or ignored issues, and suggestions on how to add coverage regarding services into management education	Academy of Management Learning & Education	Education, Service Science
31 cont.	Literature review	Under S-D logic, brand managers should also focus on consumer-to-consumer relationships instead of only on the traditional brand-consumer relationship	Journal of Product & Brand Management	Brand Management
32 cont.	Empirical conceptualization (through in-depth interviews & survey)	Conceptualization of key actors in the co-creation process, advancement of the service brand-relationship-value triangle, deeper understanding of actors' interaction and value co-creation in a network approach	Journal of Service Management	Service Science
33 cont.	Literature Analysis, Conceptual/Analytical Research	Service logic fits better than a goods logic to goods producing businesses today, but goods have to be considered as service-process enablers rather than as services as such	Marketing Theory	Marketing, Service Science
34 cont.	Theoretical analysis & conceptual development	Market offering expands from goods-based to include also firm-customer interactions, marketers are no longer restricted to making value propositions only, and these value propositions should be developed while keeping in mind that customers might 'buy services in the form of goods'	European Business Review	Marketing Theory, Services Marketing

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35	Grönroos & Ravald	2011	Service as business logic: implications for value creation and marketing	Value co-creation under a service logic-based view	The concept of value co-creation has to date been treated on a too abstract level, needing more theoretical and practical analysis
36	Gummerus	2010	E-services as resources in customer value creation - A service logic approach	Service logic and e-service value	No study to date that demonstrates how a service logic perspective can be beneficial to e-service research and practice, by considering different categories of input resources in the customer value-creation process
37	Gummesson	2008	Extending the service-dominant logic: from customer centricity to balanced centricity	Towards balanced centricity in marketing under S-D logic	Customer-centricity is insufficiently able to serve as a foundation for marketing
38	Gummesson et al.	2010	Transitioning from service management to service-dominant logic	The conceptual transition from mainstream service management to S-D logic	Lack of a coherent reflection on actions and obstacles in the conceptual transition from mainstream service management towards S-D logic
39	Haase & Kleinaltenkamp	2011	Property Rights Design and Market Process: Implications for Market Theory, Marketing Theory, and S-D Logic	Property Rights & S-D logic	Need to show contribution of property rights theory to S-D logic

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35 cont.	Historical analysis of marketing research	Provision of five service logic based theses that increase understanding of the value (co-)creation process between suppliers and customers, and highlight the resulting implications for marketing	Journal of Service Management	Marketing Theory, Services Marketing
36 cont.	Online survey (with subsequent regression analysis)	The use of some service configurations has a positive relationship with (e-service) value, whereas the use of others has not; the content of different services has varying impacts on value; service processes are important for value perceptions in e-services	Managing Service Quality	(e-)Service Science
37 cont.	Brief review	Under S-D logic based networks, the concept of balanced centrality, in which all stakeholders have the right to satisfy needs and wants, might be a better suited holistic approach to be implemented in practice	Journal of the Academy of Marketing Science	Service Science, Marketing
38 cont.	Conceptual analysis of scientific discourse	The value proposition S-D logic has evolved from mainstream service management, received a considerable amount of attention, and will need so in the future in order to develop further	International Journal of Service and Quality Science	Service Science, Systems Theory
39 cont.	Conceptual/Analytical Research	Property rights logic was found to be similar and highly compatible with that of S-D logic, enabling for instance equal transaction arrangements	Journal of Macromarketing	Property Rights Theory, Marketing

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40	Harris et al.	2011	A theatrical perspective on service performance evaluation: the customer-critic approach	Service performance evaluation	The need for a new approach for service performance evaluation that is more closely aligned to the S-D logic of marketing
41	Heinonen et al.	2010	A customer-dominant logic of service	Customer-dominant (CD) business logic	Because S-D and G-D logic are provider-dominant, they fail to view service value creation from a customer context (life, practices, experiences). C-D logic should serve as an attempt to do so adequately.
42	Helkkula	2011	Characterising the concept of service experience	Service experience	The need to have a characterisation of the concept of service experience in service marketing research
43	Holttinen	2010	Social practices as units of value creation: theoretical underpinnings and implications	Value creation in social practices	A need to conceptualize the operational logic of value creation
44	Jacob & Ulaga	2008	The transition from product to service in business markets: An agenda for academic inquiry	S-D logic (general)	Provide an overview of the G-D logic -> S-D logic transition (purpose: introduction to special issue)
45	Kowalkowski	2011	Dynamics of value propositions: insights from service-dominant logic	S-D logic and value propositions	Examine value propositions within the context of S-D logic

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40 cont.	Literature review/comparison	A new approach to service performance evaluation that allows consumers to articulate the value they uniquely receive from any service experience	Journal of Marketing Management	Service Science
41 cont.	Conceptual analysis on the basis of previous literature and theories	CD logic helps to better understand customer experiences. The ultimate outcome of marketing should not be the service, but the customer experience and the resulting value-in-use for customers in their particular context	Journal of Service Management	Service Science, Marketing, Consumer Behaviour
42 cont.	Literature review ('content analysis')	Identification of three characterisations of the concept of service experience: process-based, outcome based and phenomenological service experiences	Journal of Service Management	Service Science
43 cont.	Conceptual analysis	Definition of practical elements, roles and interdependencies of the operational logic of value creation processes	International Journal of Quality and Service Sciences	Consumer Behaviour
44 cont.	Brief review, interview with director of ThyssenKrupp AG	Overview of key aspects S-D logic, challenges for top executives of industrial companies as well as directions for future research	Industrial Marketing Management	Industrial Marketing, Service Science
45 cont.	Literature Analysis, Conceptual/Analytical Research	Presentation of four guiding principles, to be used to manage different customer segments with different value propositions, which is nowadays at the core of competitive advantage	European Journal of Marketing	Marketing, Service Science

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
46	Laczniak & Santos	2011	The Integrative Justice Model for marketing to the poor: an extension of S-D logic to distributive justice and macromarketing	S-D logic and societal/ethical concerns	Illustrate how a developed model for marketing to poor consumers addresses issues directly related to S-D logic, thereby extending the S-D logic perspective to societal and ethical concerns
47	Layton	2008	The Search for a Dominant Logic : A Macromarketing Perspective	Extending S-D logic for a broader marketing systems framework	Vargo and Lush's proposed S-D logic has 'exchanges' as the fundamental unit of analysis, which is insufficient to serve as common ground for the discipline of marketing as well as for its various subdisciplines
48	Lilrank et al.	2011	Processes, episodes and events in health service supply chains	Value co-creation in a healthcare services context	Need to investigate to what extent and under what conditions supply chain and process concepts are applicable in healthcare service production
49	Liu & Deitz	2011	Linking supply chain management with mass customization capability	Supply chain processes and mass customization capabilities under S-D logic	The need to examine the significance of supply chain management upon the development of mass customization capabilities
50	Löbler	2011	Position and potential of service-dominant logic - Evaluated in an 'ism' frame for further development	S-D logic linked to philosophy of science	To date, no research has linked S-D logic with basic meta-theory within a framework

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46 cont.	Conceptual/Analytical Research	Illustration of symbiotic possibilities between a developed, normative model and S-D logic: e.g. S-D based marketing practices included in the model, or societal friendly aspects from the model to be included in S-D logic	Journal of Macromarketing	Ethics, Service Science, Marketing
47 cont.	Conceptual/Analytical Research	Extension of S-D logic from exchange transactions to a marketing system in which these exchanges are embedded ('System-embedded service-dominant logic')	Journal of Macromarketing	Macromarketing
48 cont.	Literature review, conceptual analysis & case study research	Studying health services only as producer processes tends to overemphasize an industrial logic, and fails to capture the patient's role as a co-creator of health outcomes	Supply Chain Management: An International Journal	Health care management, Supply Chain Management
49 cont.	International, cross-industry survey in 262 plants, with subsequent quantitative analyses	A first theoretical foundation, based on S-D logic, showing that mass customization capabilities are based on the deployment of supply chain based, operant resources	International Journal of Physical Distribution & Logistics Management	Supply Chain Management, Service Science
50 cont.	Conceptual/Analytical Research	A framework that links S-D logic to the intersubjective streams of philosophy of science, including five propositions in this context	Marketing Theory	Social constructionism, Philosophy of science, Marketing

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51	Lusch	2011	Reframing supply chain management: a service-dominant logic perspective	S-D logic and supply chain management research	The need to reframe supply chain management under S-D logic, thereby identifying key future research possibilities
52	Lusch & Vargo	2006	Service-dominant logic: reactions, reflections and refinements	Clarifications and refinement of S-D logic issues	Response needed to a handful of recurring, contentious issues regarding S-D logic as a service-centric philosophy
53	Lusch & Webster	2011	A Stakeholder-Unifying, Cocreation Philosophy for Marketing	Value propositions in a networked business environment under the S-D logic of marketing	Outline the consequences for a firm's (marketing) strategy in a highly networked S-D environment
54	Lusch et al.	2007	Competing through service: insights from service-dominant logic	Competing through service in an S-D retailing environment	The need for a demonstration on how S-D logic, rather than G-D logic, can help retailers compete through service
55	Lusch et al.	2010	Service, value networks and learning	Supply Chain Management in an S-D environment	A shifted focus to service provision urges research to address the changed orientation in an SCM context
56	Macdonald et al.	2011	Assessing value-in-use: a conceptual framework and exploratory study	S-D logic and value-in-use	The need for a framework about customer perceived value, in which not only provider attributes are assessed, but also customer processes as well as customer evaluations of the obtained value-in-use

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51 cont.	Review of theoretical discourse, analysis of future challenges	Provision of a research agenda for supply chain management under S-D logic by identifying five 'meta-questions'	Journal of Supply Chain Management	Supply Chain Management & Service Science
52 cont.	Conceptual/Analytical Research	A structured response regarding five relevant, recurring themes in S-D philosophy	Marketing Theory	Service Science, Marketing
53 cont.	Conceptual/Analytical Research	A firm's strategy must include ways on how to support customers in their resource integration and value cocreation activities	Journal of Macromarketing	Marketing, Strategy
54 cont.	Conceptual/Analytical Research	Nine propositions that inform marketers on how to compete through service in an S-D environment	Journal of Retailing	Service Science, Marketing
55 cont.	Conceptual/Analytical Research	A detailed description regarding the firm as a service providing agent within the value network, as is the case in an S-D environment	Journal of the Academy of Marketing Science	Supply Chain Management, Marketing, Service Science
56 cont.	Case study research (interviews) and conceptual analysis	Provision of a framework regarding value-in-use, in which it is shown how both providers and customers contribute to value creation	Industrial Marketing Management	Service Science, Industrial Marketing

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
57	Madhavaram & Hunt	2008	The service-dominant logic and a hierarchy of operant resources: developing masterful operant resources and implications for marketing strategy	Operant resources	The need for a more detailed analysis regarding operant resources in marketing theory and practice
58	Maglio et al.	2009	The service system is the basic abstraction of service science	The creation of a service-system abstraction in an emerging world view characterized by S-D logic	The need for an 'abstraction' that can help to understand the new service-dominant worldview
59	Melancon et al.	2010	Synergistic effects of operant knowledge resources	Firm & employee knowledge as (operant resources that build) a foundation for competitive advantage	A lack of research regarding knowledge resources specified under S-D logic. Little empirical research that focused on the operant element of knowledge
60	Mele	2009	Value innovation in B2B: learning, creativity, and the provision of solutions within Service-Dominant Logic	Analysis of innovation in a B2B relationship under S-D logic	The need for an explicit and systematic analysis of innovation and S-D logic
61	Merz et al.	2009	The evolving brand logic: a service-dominant logic perspective	Branding, brand value and S-D logic	Making a connection between the parallels between S-D logic and brand/branding developments in the past decades

	Methodology	Output	Journal Name	Field / Discipline
57 cont.	Literature Analysis, Conceptual/Analytical Research	An extension of the concept of operant resources under S-D logic: a review, elaboration and discussion about various operant resources and the implications for marketing practice and resources	Journal of the Academy of Marketing Science	Marketing, Strategy
58 cont.	Literature Analysis, Conceptual/Analytical Research	Understanding service and service innovation requires that a new science of service is developed in which the service system becomes the new basic unit of analysis	Information Systems and e-Business Management	Service Science
59 cont.	Survey (among 293 retail and service providers)	Employees' knowledge of its customers and competitors allow the firm to enhance its ability to meet customer needs, whereas knowledge of firm practices does not enhance a firm's ability to meet customer needs	Journal of Services Marketing	Service Science, Knowledge Management
60 cont.	Literature review, case study research, conceptual framework development	Innovations under S-D logic can best be understood as 'value innovations', which consist of the development of new competencies for the provision of new or increased benefits to one or more parties	Journal of Customer Behaviour	Service Science, Innovation
61 cont.	Literature Analysis, Conceptual/Analytical Research	The evolution in which brands are seen in terms of collaborative, value co-creation activities of firms and stakeholders, and brand value in terms of perceived value-in-use, parallels the evolving S-D logic in marketing	Journal of the Academy of Marketing Science	Service Science, Marketing

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
62	Michel, Brown & Gallan	2008	An expanded and strategic view of discontinuous innovations: deploying a service-dominant logic	Deployment of S-D logic to discontinuous innovations	Current literature on (discontinuous) innovations is outdated because it assumes a G-D logic perspective instead of an S-D perspective
63	Michel, Vargo & Lusch	2008	Reconfiguration of the conceptual landscape: a tribute to the service logic of Richard Norman	Tribute to Richard Normann's work and its similarities/differences with S-D logic	A tribute to Richard Normann and his important work
64	Nam & Lee	2010	Typology of Service Innovation from Service-Dominant Logic Perspective	Service innovations and S-D logic	A novel theoretical perspective is needed that unifies conventional innovation literature from an S-D perspective
65	Ng et al.	2009	Outcome-based contracts as a driver for systems thinking and service-dominant logic in service science: Evidence from the defence industry	S-D logic and outcome-based contracts in the defence industry	The need to illustrate how outcome based contracts are subject to S-D logic, and view them from a systems perspective

	Methodology	Output	Journal Name	Field / Discipline
62 cont.	Conceptual/Analytical Research	Six S-D logic categories of discontinuous innovation that can aid with analyzing, designing and implementing advances in resource use	Journal of the Academy of Marketing Science	Service Science, Innovation
63 cont.	Brief review	The conclusion that like Vargo and Lusch, Normann shifted the focus of the offering from an output to a process of value creation and perceived the firm as an organizer of this process, with the customer as a co-producer, rather than a receiver of value	Journal of the Academy of Marketing Science	Service Science
64 cont.	Literature Analysis, Conceptual/Analytical Research	Four types of service innovation are presented based on two dimensions (degree of co-creation and the degree of networked collaboration). It is indicated that it is critical for productive service innovation to make customers participate in value creation process	Journal of Universal Computer Science	Service Science, Innovation
65 cont.	Multiple qualitative methods (32 in-depth interviews, participant observation) with corresponding analysis	Outcome-based contracts are excellent examples of S-D logic application, as well as of the challenges involved with a transition that has to take place from G-D logic to S-D logic	European Management Journal	Service Science, Organization

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66	Ngo & O'Cass	2009	Creating value offerings via operant resource-based capabilities	Value offerings under S-D logic	The need for a value-creation business model based on operant resource-based capabilities under S-D logic
67	O'Shaughnessy & O'Shaughnessy	2008	The service-dominant perspective: a backward step?	A critical view/rejection of the S-D logic perspective	The need to demonstrate that S-D logic as a perspective is not logically sound
68	O'Shaughnessy & O'Shaughnessy	2011	Service-dominant logic: a rejoinder to Lusch and Vargo's reply	A critical view/rejection of the S-D logic perspective	Show that Lusch and Vargo's S-D logic is unlikely to be practically fruitful, and remains theoretically limited
69	Ordanini & Parasuraman	2011	Service innovation viewed through a service-dominant logic lens: a conceptual framework and empirical analysis	Service innovations and S-D logic	The need for a finer grained understanding regarding antecedents and consequences of service innovations under S-D logic

	Methodology	Output	Journal Name	Field / Discipline
66 cont.	Empirical research: quantitative descriptive survey	Insights regarding operant resource-based capabilities as important (positive) antecedents of a firm's value offering: innovation-based & marketing-based capabilities	Industrial Marketing Management	Resource-based theory
67 cont.	Conceptual analysis	A definition of services that embraces all types of marketing is too broad to have much operational meaning. Instead multiple perspectives in marketing as well as methodological pluralism is required	European Journal of Marketing	Marketing, Service Science
68 cont.	Argumentation based on previous research efforts	S-D logic as put forward by Vargo & Lusch does, according to the authors, not rely on objective information but rather on subjective assumptions that are considered self-evident by Vargo & Lusch	European Journal of Marketing	Marketing, Service Science
69 cont.	Empirical research: case study with subsequent quantitative analysis (surveys and telephone interviews in the Italian luxury hotel industry)	A comprehensive basis for understanding the sources and consequences of service innovation	Journal of Service Research	Service Science, Innovation

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
70	Ordanini et al.	2011	Crowd-funding: transforming customers into investors through innovative service platforms	Crowd-funding phenomenon	The need for a better understanding of the role of the consumer in crowd-funding, as well as more insights in the set-up of crowd-funding initiatives
71	Paswan et al.	2009	Toward a contextually anchored service innovation typology	S-D logic and service innovation	Limited attention to date to theoretical anchoring of service innovation typologies in the key determinants of service innovation, particularly in the context of S-D logic
72	Paulin & Ferguson	2010	Relational Norms in Interfirm Exchanges: From Transactional Cost Economics to the Service-Dominant Logic	Implication and importance of S-D logic to interorganizational relational exchange	The need to expand relational exchange theory and practice on the basis of S-D logic
73	Payne et al.	2008	Managing the co-creation of value	Customer engagement in the co-creation of value under S-D logic	Need to explore value co-creation under S-D logic in detail
74	Penaloza & Mish	2009	The nature and processes of market co-creation in triple bottom line firms: leveraging insights from consumer culture theory and service dominant logic	S-D logic, Consumer Culture Theory (CCT) and co-creation of value	A need to add to the understanding of market co-creation by cross-fertilizing insights from consumer culture theory with S-D logic
75	Penaloza & Venkatesh	2006	Further evolving the new dominant logic of marketing: from services to the social construction of markets	An extension of Vargo & Lusch's S-D logic framework based on re-conceptualizing the market as a social construction	Need to build upon S-D logic while examining markets as a social construction

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70 cont.	Empirical research: qualitative case analysis (semi-structured as well as in-depth interviews)	New insights related to crowd-funding from a consumer's point of view as well as from the service organization's point of view. Demonstration how crowd-funding reflects core aspects of S-D logic theory, thereby providing further support for S-D logic	Journal of Service Management	Service Science, Finance, Marketing
71 cont.	Literature review and conceptual development (of a typology)	Provision of a service innovation typology framed along three contextually important dimensions, and embedded in S-D logic	Decision Sciences	Service Science, Innovation, Strategy
72 cont.	Database search, analysis and conceptualization of findings	The findings validate the fundamental assumption of S-D logic, that relational exchange is instrumental in the co-creation of value (exchange performance) whether service is rendered directly or indirectly through goods or a combination of both	Journal of Business-to- Business Marketing	Service Science, B2B
73 cont.	Conceptual analysis, utilization of field-based research	A new process-based framework providing insights into managing the process of value co-creation under S-D logic	Journal of the Academy of Marketing Science	Service Science, Marketing
74 cont.	Case study research	A demonstration of three levels of meaning and value negotiated by multiple actors in markets	Marketing Theory	Marketing Theory, Cultural Theory
75 cont.	Conceptual/Analytical Research	A translation of S-D logic towards a more radically transformed marketing practice	Marketing Theory	Macromarketing

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
76	Ple & Caceres	2010	Not always co-creation: introducing interactional co-destruction of value in service-dominant logic	S-D logic and co-destruction	Showing that not only co-creation but also co-destruction of value can be a fundamental tenet of S-D logic
77	Polese et al.	2010	Managing business relationships: between service culture and a viable systems approach	Business relationships under S-D logic	Analysis on how to manage business relationships to promote diffuse value creation and competitiveness
78	Purvis & Long	2011	Affinities between multi-agent systems and service-dominant logic: interactionist implications for business marketing practice	Interactionism as an underlying approach of S-D logic and multi-agent systems technology	Lacking coverage of the nature of information in both Information Science and Service Science (S-D logic)
79	Randall et al.	2010	Evolving a theory of performance-based logistics using insights from service dominant logic	Performance based logistics and S-D logic	A gap exists in the understanding of how processes spanning multiple trading partners can be effectively aligned by performance-based outcomes at the end-user level under S-D logic
80	Richey et al.	2011	Aligning operant resources for global performance: An assessment of supply chain human resource management	S-D logic in global supply chains	Need for an S-D logic strategy centered on service as a means to differentiate global strategy from those of competitors
81	Sandström et al.	2008	Value in use through service experience	Service experience	The need for a new framework, that illustrates which dimensions influence service experience, and how this is linked to value in technology-based services

	Methodology	Output	Journal Name	Field / Discipline
76 cont.	Literature Analysis, Conceptual/Analytical Research	Co-destruction occurs when a service system misuses resources by acting in an inappropriate or unexpected manner	Journal of Services Marketing	Service Science
77 cont.	Conceptual/Analytical Research	Presentation of a new approach (Viable Systems Approach) where systemic elements gain more importance in inter-firm relationships	Esperienze di Impresa	Service Science, Business
78 cont.	Conceptual/Analytical Research	Much of the distributed multi-agent literature is complementary to the issues being explored concerning S-D logic	Industrial Marketing Management	Marketing, Service Science, IT
79 cont.	Literature review, interviews & conceptual framework development	S-D logic can serve as a vehicle for examining and explaining SC-relationships. The provided theoretical model extends understanding of antecedents, processes, and outcomes in performance-based SC-relationships	Journal of Business Logistics	Supply Chain Management, Marketing, Service Science
80 cont.	Conceptual/Analytical Research	Leveraging service based operant resources in a global supply chain is critical, as well as understanding how to optimize these resources in the global marketplace	Journal of Management & Organization	Supply Chain Management
81 cont.	Conceptual analysis	Presentation of a framework that depicts how value is created through experience in the context of technology-based services. Extension of the service experience concept to non-hedonistic, value-creating experiences	Managing Service Quality	Service Science

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
82	Schembri	2006	Rationalizing service logic, or understanding services as experience?	Critical discussion of eight premises of S-D logic as put forward by Vargo and Lusch	Need for a critical evaluation of S-D logic's basic premises on an ontological level
83	Schmidt & Kieninger	2009	DYNSEA - a dynamic Service-Oriented Enterprise Architecture based on S-D-Logic	S-D logic and enterprise architecture	Current enterprise architectures have not been evaluated from an S-D logic perspective
84	Shaw et al.	2011	Aspects of service-dominant logic and its implications for tourism management: examples from the hotel industry	S-D logic and tourism management	The need for an application/investigation of S-D logic implications for tourism management
85	Sichtmann et al.	2011	Service quality and export performance of business-to-business service providers: the role of service employee- and customer-oriented quality control initiatives	Quality control initiatives (QCIs) in the context of services' export performance	No existing work (1) treating QCIs in an export context, (2) empirically comparing different QCIs and their subsequent impact on service quality in an export performance context
86	Spring & Araujo	2011	Service, services and products: rethinking operations strategy	S-D logic and operations management	The need to use S-D logic instead of the IHIP framework as a basis for operations management theory and practice
87	Theoharakis & Sajtos	2007	The Service Dominant Logic: an MC21 Project View	S-D logic and links to other disciplines	Need for strengthened theoretical grounds of marketing by linking S-D logic to other disciplines

	Methodology	Output	Journal Name	Field / Discipline
82 cont.	Conceptual/Analytical Research	The insight that marketers and researchers need to question S-D logic's underlying assumptions in a critical way, thereby understanding services as constituted in the customer's experience	Marketing Theory	Service Science, Marketing
83 cont.	Other (architecture development)	Creation of a dynamic service-oriented enterprise architecture using S-D logic as a basic perspective	Journal of Business Information Systems	IT
84 cont.	Literature Analysis, Case Study Research	S-D logic helps to better understand how the consumer is becoming central in the complex but important value co-creation process between producer and consumer in the tourism industry	Tourism Management	Marketing, Tourism Management
85 cont.	Survey Research	Customer-oriented training, customer coproduction instructions, and work process standardization have a positive influence on relative service quality, which in turn positively affects export performance	Journal of International Marketing	Marketing, Service Science
86 cont.	Literature Analysis, Conceptual/Analytical Research	An outline of various approaches to the combination of products and services, under which S-D logic, might add to the research in the field of operations management	International Journal of Operations and Production Management	Operations Management, Marketing, Economics
87 cont.	Commentary	A discussion on the foundational premises of S-D logic with emphasis on innovation, value creation and resource allocation	Australasian Marketing Journal	Service Science, Marketing, Innovation

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
88	Tokman & Beitelspacher	2011	Supply chain networks and service-dominant logic: suggestions for future research	S-D logic and supply chain networks	The need to have an overview of research gaps in the area where supply chain networks and S-D logic intersect
89	Tronvoll	2007	Customer complaint behaviour from the perspective of the service-dominant logic of marketing	S-D logic and customer complaint behaviour	The need to capture a dynamic perspective of customer complaint behaviour based on S-D logic
90	Vargo	2008	Customer Integration and Value Creation: Paradigmatic Traps and Perspectives	CI-FTU framework & S-D logic	Need for a discussion regarding G-D logic potency as well as a broader perspective development as challenges in the development of S-D logic
91	Vargo	2011	On marketing theory and service-dominant logic: Connecting some dots	S-D logic & theoretical orientations	Introduce special section on 'Extending Service-dominant Logic'
92	Vargo & Lusch	2004	Evolving to a New Dominant Logic for Marketing	S-D logic's basic introduction	The need for a new perspective for marketing, in which service provision rather than goods provision is fundamental to economic exchange
93	Vargo & Lusch	2008	Service-dominant logic: continuing the evolution	S-D logic specifics/foundational premises	Need to revise/update original foundational premises of S-D logic as described in 2004

	Methodology	Output	Journal Name	Field / Discipline
88 cont.	Literature Analysis, Conceptual/Analytical Research	Identification of three main categories of research gaps in S-D logic and supply chain management areas	International Journal of Physical Distribution & Logistics Management	Supply Chain Management
89 cont.	Literature Analysis, Case Study Research (,narrative approach'), Conceptual/Analytical Research	Customer complaint behaviour in services works as a dynamic adjustment process that occurs during the service interaction and includes post-interaction activities related to the evaluation of value-in-use	Managing Service Quality	Consumer behaviour, Service Science
90 cont.	Commentary	S-D logic is unfolding dynamically and has become much bigger than the original work of Vargo and Lusch in 2004. Researchers should look at most recent publications to avoid 'currency problems' as a result	Journal of Service Research	Service Science
91 cont.	Commentary	Conclusion that the articles in the respective special issue begin to move S-D logic beyond the characterization of a perspective and toward the building of market theory	Marketing Theory	Service Science, Marketing
92 cont.	Conceptual/Analytical Research	The outline of a service-dominant perspective for marketing, including 8 theoretical foundations (,FPs')	Journal of Marketing	Marketing, Service Science
93 cont.	Conceptual/Analytical Research	A detailed discussion on the contemporary state of the original foundational premises, as well as an introduction of additional ones	Journal of the Academy of Marketing Science	Service Science, Marketing

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
94	Vargo & Lusch	2008	From goods to service(s): Divergences and convergences of logics	The theoretical and practical transition from G-D to S-D logic	The need for a coherent description of the understanding of the shift from G-D to S-D logic, as well as the transition parallels in comparison to other disciplines than marketing literature
95	Vargo & Lusch	2011	It's all B2B...and beyond: Toward a systems perspective of the market	S-D logic as a systems orientation to value creation	Driven by S-D logic, the systems-oriented framework must be further developed into a general theory of the market
96	Vargo et al.	2008	On value and value co-creation: A service systems and service logic perspective	S-D logic and value creation	Traditional models of value creation are based on output and price, instead of taking into account S-D logic
97	Warnaby	2009	Towards a service-dominant place marketing logic	S-D logic and place marketing	Need to discuss issues in the place marketing literature from an S-D logic perspective
98	White et al.	2009	Lessons from arts experiences for service-dominant logic	S-D logic and art experiences	Address a research gap since there exists little research that explores the applicability of art experiences to S-D logic.

	Methodology	Output	Journal Name	Field / Discipline
94 cont.	Conceptual/Analytical Research	S-D logic represents the intersection of service marketing and business marketing, which are both driven by the inadequacies of G-D logic driven marketing. S-D logic also has a bridging function to other (sub-)disciplines	Industrial Marketing Management	Marketing, Service Science
95 cont.	Conceptual/Analytical Research	Under S-D logic, all economic exchanges can be considered B2B, in a dynamic, networked and systems orientation to value creation	Industrial Marketing Management	Marketing, Service Science
96 cont.	Literature Analysis, Conceptual/Analytical Research	Service systems interact through mutual service exchange relationships, improving the adaptability and survivability of all service systems engaged in exchange, by allowing integration of resources that are mutually beneficial	European Management Journal	Service Science
97 cont.	Literature Analysis, Conceptual/Analytical Research	Viewed through an S-D lens, issues which have in the past been argued to create a degree of distinctiveness in place marketing theory could actually have much resonance with more mainstream marketing	Marketing Theory	Marketing
98 cont.	Document Analysis (research participant diaries, photo elicitation), Case Study Research (in-depth interviews, focus groups)	For art organizations, considering co-production and co-creation in their programming and marketing strategy is useful	Marketing Intelligence & Planning	Marketing, Arts, Strategy

	Author(s)	Year	Title	Topic / Researched subject	Challenge / Problem
99	Williams & Aitken	2011	The service-dominant logic of marketing and marketing ethics	S-D logic and ethics	Explore whether S-D logic needs to be modified in order to fully integrate ethical considerations
100	Winklhofer et al.	2007	Researching the Service Dominant logic - normative perspective versus practice	S-D logic	Reviewing empirical studies based on S-D logic in order to provide preliminary evidence of the adoption of S-D marketing
101	Xie et al.	2008	Trying to prosume: toward a theory of consumers as co-creators of value	Value co-creation and presumption	Explore the motivational mechanisms underlying 'prosumption' propensity under S-D logic (prosumption: when buyers produce products for their own consumption)
102	Yan et al.	2010	Ontology of collaborative manufacturing: Alignment of service-oriented framework with service-dominant logic	S-D logic and service-oriented architecture	Need for attention for the different role of service computing technologies and service-oriented management logic
103	Yazdanparast et al.	2010	Co-creating logistics value: a service-dominant logic perspective	S-D logic and logistics service value	Need to have the S-D logic perspective applied in a logistics context (co-creation of service value)

	Methodology	Output	Journal Name	Field / Discipline
99 cont.	Literature Analysis, Conceptual/Analytical Research	An additional foundational premise (FP) added to S-D logic theory, that takes into account the role of personal and societal values	Journal of Business Ethics	Service Science, Ethics
100 cont.	Literature Analysis, Conceptual/Analytical Research	S-D logic offers the potential to extend theory by providing better explanations of observations, whilst also integrating theory (e.g. in the area of market orientation or relationship marketing)	Australasian Marketing Journal	Marketing Theory
101 cont.	Survey Research	An empirically supported, theoretical framework in which presumption propensity was found to be a function of attitude towards success, towards the process, and self-efficacy	Journal of the Academy of Marketing Science	Consumer Behaviour
102 cont.	Case Study Research	An empirically supported, theoretical framework in which presumption propensity was found to be a function of attitude towards success, towards the process, and self-efficacy	Journal of the Academy of Marketing Science	Consumer Behaviour
103 cont.	Literature Analysis, Conceptual/Analytical Research	Three phases of co-creation of value in a logistics context (learning, innovation and execution, outcomes). Framework, presents phases and key elements regarding co-creation of logistics value	The International Journal of Logistics Management	Supply Chain Management, Service Science

3.2.1 Author-Year

The first two columns in the matrix in Table 6 present the author(s) as well as the year of publication of each study. The next paragraphs will analyse the insights resulting from these columns.

Chronology

The analysis concerned the period between the year 2004 and present. The year 2004 was chosen because, as already explained, this was the year in which Vargo and Lusch's pioneering article 'Evolving to a New Dominant Logic for Marketing' was published. It took two years before the first journal articles appeared that used or responded to the theoretical propositions from Vargo and Lusch. This is not surprisingly, since it is known that the process in which a scientific 'response' is formed and published in a journal might take up to years. A look at Figure 4 shows that since 2006, a steady increase of articles dealing with SD logic appeared. An update of the theoretical discourse in 2008, where key issues were clarified and foundational premises (FPs) were revised, might have been responsible for the continuing increase of publications in the years 2009, 2010 and 2011. In general, it can be concluded that SD logic as a topic seems to be in the middle of its 'momentum', while being studied in an increasing amount of studies and in an increasing variety of research areas (more detailed analysis on this later).

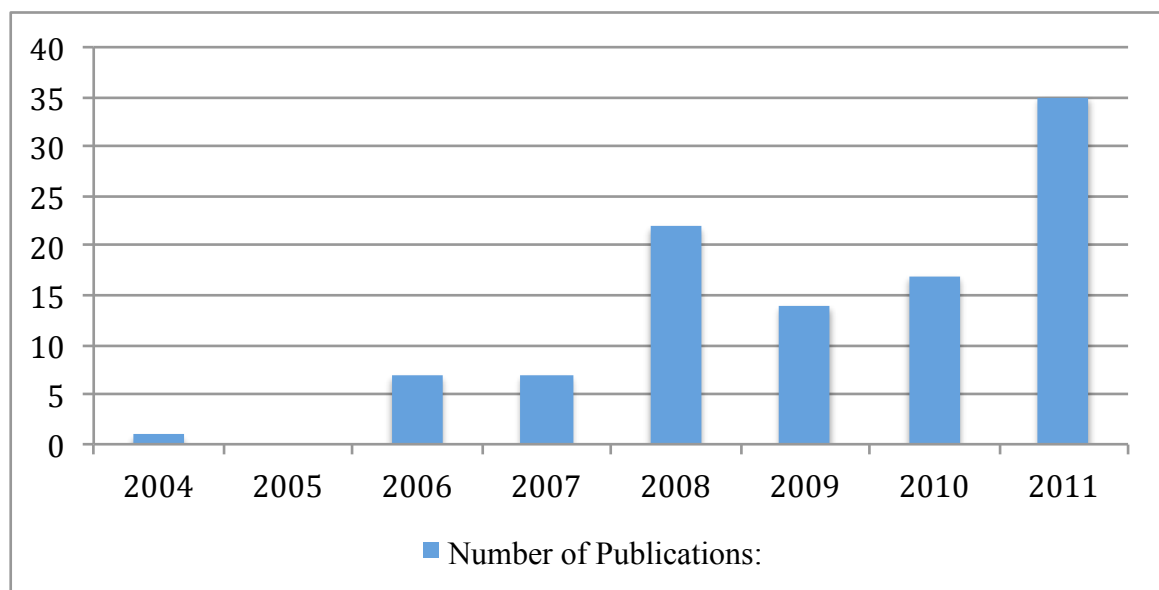


Figure 4: SD logic related publications (summary 2004-2011)

Authors

When considering the authors more closely one can identify some interesting players. For example, Professor Bo Edvardsson seems to be an important fellow researcher in the field of SD logic, focusing among others on industrial service, service quality and value creation through services. Professor Evert Gummesson is considered to be an international pioneer in the fields of service, relationships and networks, which are all topics that are closely related to SD logic. Professor Christian Grönroos also came up with significant contributions in the field, albeit with a slightly different nuance in comparison to Vargo and Lusch: although he agrees that a change in perspective has taken place, he consistently prefers to use the term ‘service logic’ instead of service-dominant logic. Finally, it is worth mentioning professors John O’Shaughnessy and Nicholas Jackson O’Shaughnessy, who consistently keep rejecting SD logic theory. Their rejecting attitude towards the theory is, from their point of view, based on the grave theoretical limitations of SD logic theory. They advocate complete abandonment of SD logic theory (O’Shaughnessy & O’Shaughnessy 2008, 2011). Interesting to observe is that Vargo and Lusch also actively engage in discussion with these authors, underlining their claim that because they consider SD logic as an open-source evolution, they try to remain “as open to comments of scepticism as to praise” (cf. Vargo & Lusch, 2008, p. 1).

3.2.2 Titles, Topics and Challenges

When considering the titles, topics and challenges of the various studies, some general conclusions can be made. Regarding the studies’ titles, one can see that many efforts are done to unravel, strengthen and develop the field of SD logic. Title words typically tend to emphasize that the study presents (new) perspectives or insights, provides links, connections, or typologies, evaluates, extends, assesses or expands SD perspectives. Furthermore, the fact that many titles are posed in the form of a question might possibly be typical for a (relatively) young research perspective, in which there are still numerous issues to be clarified. A glance at the topics reveals that often subtopics are either combined with SD logic, or analysed within an SD logic perspective. Of course, the term ‘value’, that plays a central role in SD logic, is encountered quite often, in various forms (e.g. ‘value co-creation’, ‘value-in-use’, ‘value-in-context’). Regarding the column with research challenges, one can identify

that, as is usual in research, theoretical gaps are identified and needs are articulated. Apart from addressing issues that have not – or insufficiently – considered to date, several studies explicitly aim to strengthen the basic elements of SD logic theory (‘FPs’).

3.2.3 Research Methodologies

Categorisation of approaches

The sixth column in the presented matrix contains information on the research approach that has been used by the author(s). In order to be able to aggregate and analyse the presented studies, a classification including six categories with research approaches was developed on the basis of literature dealing with research methodologies (Figure 5). Every approach is either empirical or non-empirical, as shown (with exceptions in the fourth category). Note that the situation in which multiple approaches are used within one and the same study is encountered frequently. Next, each of the categories in this table will be described more closely.

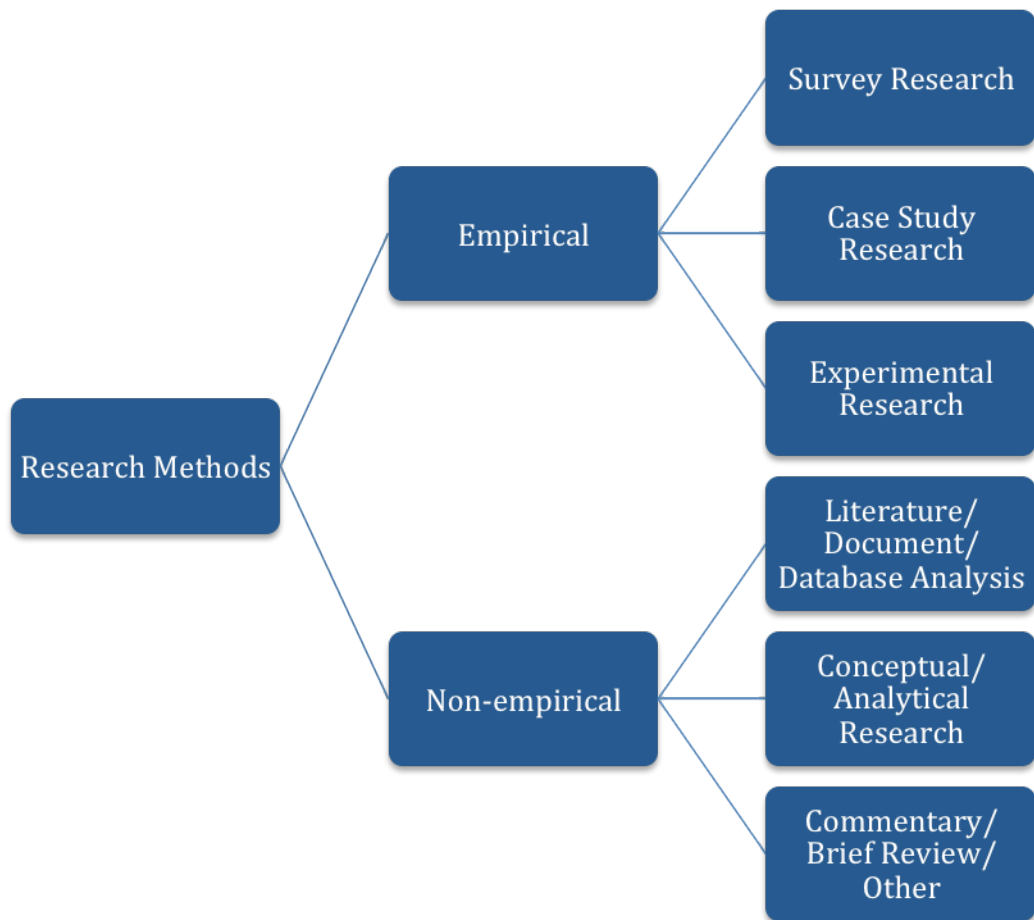


Figure 5: Categorization of research methodologies (source: own representation)

Within the range of empirical methods, three main approaches can be distinguished:

- First, survey research is a primary data-collecting approach in which people are surveyed, and the responses are recorded for further, quantitative analysis (Blumberg et al., 2008). Surveying might take place in a variety of ways: telephone interviews, personal interviews, but also self-administered and web-based surveys belong to the researcher's options. Without considering the research in too much depth, it can be said that (possible) advantages of survey research might be the opportunity to ask (targeted) follow-up questions, low costs, computer assistance, geographic coverage, rapid and anonymous data collection, depending upon the specific survey method chosen. In contrast, each survey method also exhibits disadvantages, ranging from low response rates to high costs, and from unavailability/inaccessibility of respondents to incomplete responses (Blumberg et al., 2008).

- Second, case study research is a qualitative research method that ‘allows investigators to retain the holistic and meaningful characteristics of real-life events’ (cf. Yin, 2003, p. 2). Particularly if the boundaries between the studied phenomenon on one hand, and the real-life context on the other hand, are not clearly evident, case study research might serve as a suited empirical inquiry (Yin, 2003). Case study research is used for a variety of research objectives, like explanatory, descriptive or exploratory goals (Blumberg et al., 2003).
- Third, experimental research includes studies in which (deliberate) manipulation of independent variables takes place, in order to observe whether a hypothesised dependent variable is affected by this intervention (Blumberg et al., 2003). It is looked at how humans respond to the change of the independent variable. An example is scenario-based role-playing, which provides the researcher with the opportunity to adapt independent variables (the scenario) and observe the outcomes. Biases associated with self-reporting surveys might be overcome in such role-playing experiments.

Within the range of non-empirical methods, three additional approaches have been distinguished:

- First, literature analysis includes all studies where a substantial part of the research is based upon the collection and presentation of previous research efforts. In some cases this analysis can even be as broad as a full literature review, that summarizes previous literature, but also creates the foundation for advancing knowledge: “It facilitates theory development, closes areas where a plethora of research exists, and uncovers areas where research is needed” (cf. Webster & Watson, 2002, p. xiii). Apart from literature analysis, included in this category are also document as well as database analyses. The latter two sub-approaches are often called empirical, forming an exception within this category. Although secondary data sources are consulted in these two approaches, empirical observations in written records like documents, reports, manuscripts or even visual materials can be made (Reynolds, et al., 2011).
- Second, a broad category including conceptual and analytical efforts has been established. According to Jarvinen (2000), conceptual-analytical studies are either set up to derive theory, models or frameworks, or to analyse the basic

assumptions that underlie previously presented theories, models or frameworks. The category contains non-empirical assessments of theory and research. For the purpose of the presented analysis, the approach is considered in a very broad sense. Attempts to classify, identify, precisely define, interpret, compare or model issues on the basis of theory are included under this header, but also the establishment of typologies, taxonomies, segments or propositions.

- Third, a residual category including non-empirical studies, made up of commentaries and brief reviews, has been developed. It also includes other work (e.g. architecture development) that can not be attributed to one of the previous categories.

Analysis of Aggregated Findings

Figure 6 shows how exactly one-third of studies in the analysis were of empirical nature (34). The other two-third did not contain an empirical component, according to the above outlined classification of research methods. These findings underline the frequently expressed call for more empirical research. For example, Brown and Patterson argued: “Regardless of where researchers stand on SDL, one thing is clear from the papers published thus far. Empirical evidence is in short supply” (cf. Brown & Patterson, 2010, p. 520). Other authors also noted that “most research to date has focused on solidifying the foundational premises (FPs) of SDL, yet the empirical support for SDL, especially when compared with GDL, is lacking” (cf. Edvardsson, et al., 2011, p. 541). The fact that one-third of the studies that were found uses empirical methods in order to research SD Logic related aspects shows that attempts to deliver empirical evidence exist, but can probably be increased in future research efforts.

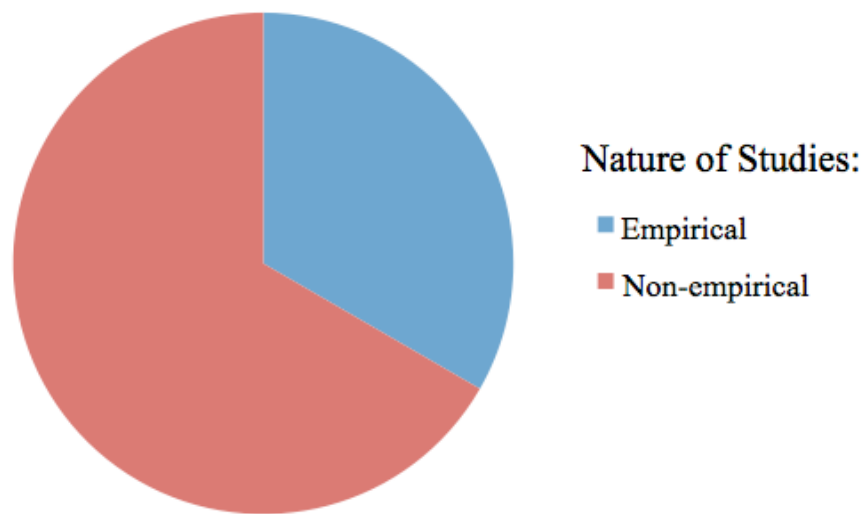


Figure 6: Overview of empirical versus non-empirical studies within the analysis

Taking a closer look at the applied research methodologies provides further insights. First, almost two-third of the studies used conceptual or analytical approaches in order to develop the work. Note that multiple research approaches can be, and were, often combined in one study. Second, 20 empirical studies used case study research, which corresponds with 58,8% (rounded) of the total empirical researches, making it the favoured methodology among this group. Figure 7 shows how often the different research methodologies were applied on an aggregated scale.

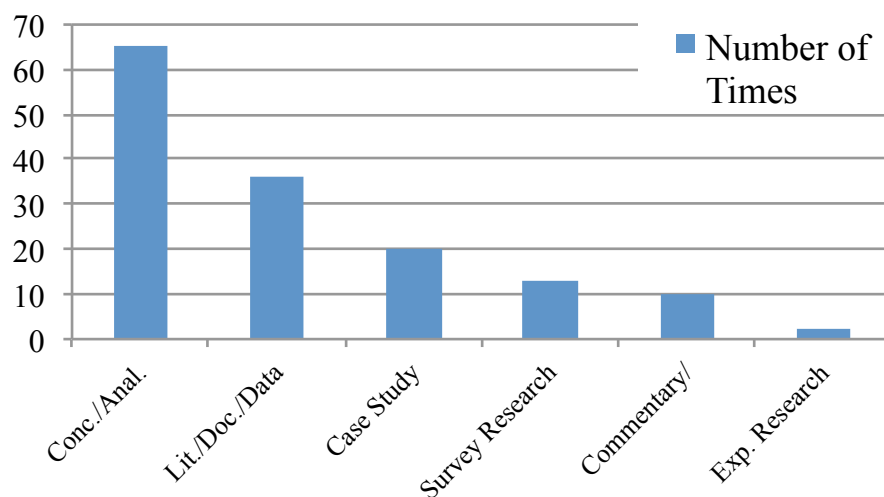


Figure 7: Overview of the frequency with which the various research methodologies were applied

3.2.4 Output

As a logical consequence to the defined research challenges (see Section 2.3.2), the outcomes correspond to the questions that were posed. Typically, the output was presented in the form of frameworks, outlines, evaluations, concepts, business models, principles or definitions. The next section reflects that the content of the output descriptions often covered a broad variety of different research areas. Furthermore, this section analyses in what Journals the various studies were published, and what conclusions can be drawn from these insights.

3.2.5 Publication and Research Area

Journal Publications

A closer examination considering the journals in which the identified studies were published shows that there are some journals in which relatively much articles on SD logic have been published (see Table 7 below for the complete overview). This is (partly) due to the fact that there have been several special sections/issues devoted to SD logic: Marketing Theory, Industrial Marketing Management and the Australasian Marketing Journal in 2007, the Journal of the Academy of Marketing Science in 2008, the International Journal of Quality and Service Sciences in 2010, as well as the European Journal of Marketing in 2011.

Table 7: Overview of Journals in which researched studies were published

Journal Name:	Number of publications:
Journal of the Academy of Marketing Science	14
Marketing Theory	14
Industrial Marketing Management	10
Journal of Service Management	9
Managing Service Quality	4
Journal of Macromarketing	4

Australasian Marketing Journal	3
European Journal of Marketing	3
Decision Sciences	2
European Management Journal	2
Journal of Services Marketing	2
Journal of Service Research	2
Journal of Marketing Management	2
Int. Journal of Physical Distribution & Logistics Management	2
Journals in which one study was published	29

Furthermore, one can observe that, apart from the clustering as a result from special issues/sections, one encounters an enormous variety of scientific journals in which SD related work appeared. A strong marketing focus can still be discerned, but also Service Science has developed as a dominating area (e.g. publications in Managing Service Quality, Journal of Service Management, Journal of Service Research, International Journal of Service and Quality Science, Total Quality Management & Business Excellence). Moreover, as will be analysed in more depth in the next paragraphs, publications in journals like Information Systems and e-Business Management, Decision Sciences, Expert Systems with Applications, International Journal of Logistics Management, Journal of Universal Computer Science, Journal of Supply Chain Management or Tourism Management are just some examples of the observable expansion of the application of SD logic related researches.

Research Area

Directly related to the described increasing variety of journals is the increasing diverseness of research areas in which SD logic has been applied or studied. The last column in Table 6 provides information on the research area in which the study was carried out. The aggregated findings, presented in Figure 8, confirm the above analysis. Among all studies that were found, Service Science (65%) and marketing (59%) are the two areas to which most studies can be attributed. Note that single

studies might have links to multiple areas, and that the composed categories are simplified aggregations itself (e.g. marketing encompasses marketing theory, industrial marketing, small enterprises marketing as well as macromarketing).

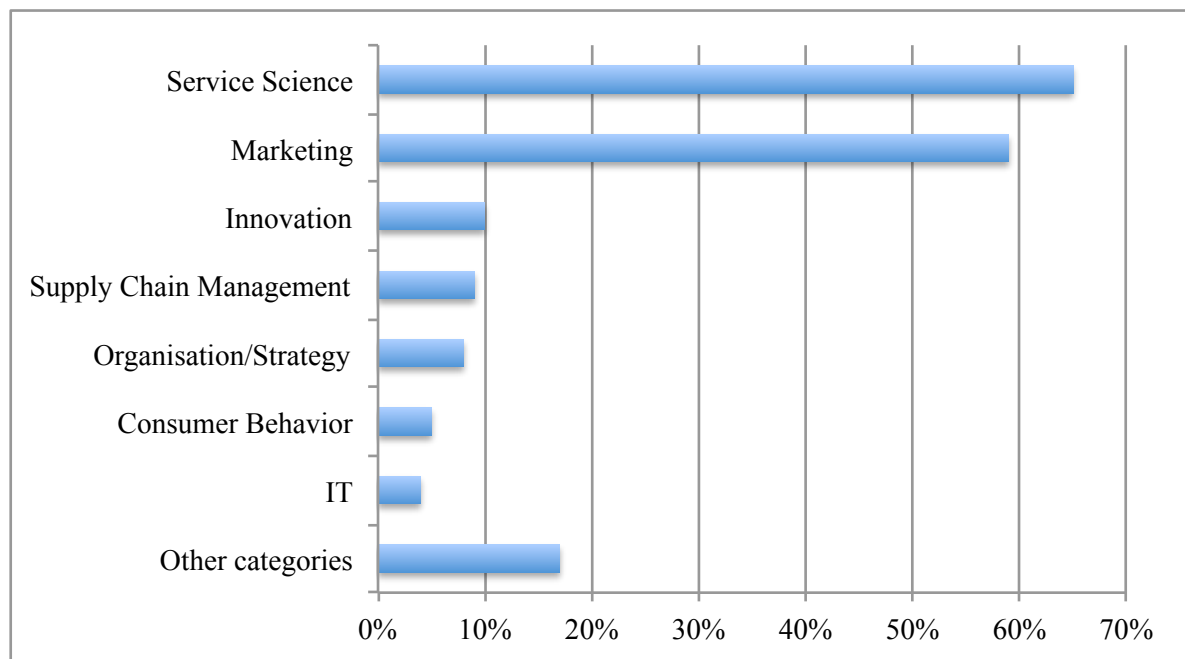


Figure 8: Research areas in which SD logic has been applied

Apart from the dominance of marketing and Service Science areas, it is also shown that there is no other research area to which more than 10% of studies could be attributed. Instead, the findings show a relatively scattered landscape, with studies dealing with innovation, supply chain management, organisation and strategy, consumer behaviour and IT as the main ‘follow-up’ areas. Finally, 17% of studies were found to have a link with other categories. Within this selection, the (potential) heterogeneousness of SD logic application areas can be observed, ranging from arts to education, from sociology to philosophy of science, from finance to cultural theory, from tourism management to knowledge management, and from ethics to operations research.

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(Note: Entries marked with an asterisk (*) are included in the literature analysis)

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Chapter 4: Conclusions

The aim of this thesis was to analyse an important transition that the field of Service Science underwent in recent years. Driven by the introduction of SD Logic, the Service Science discipline has been influenced heavily since 2004. The purpose of this thesis was on the one hand to put the evolution of the SD Logic mind-set in a temporal perspective, by taking a backwards perspective on the development of the Service Science discipline. On the other hand, the contemporary developments as a result of SD Logic have been investigated, by means of a systematic and comprehensive mapping of research efforts related to SD Logic since its introduction. The various efforts to deepen and extend the understanding of SD Logic, and with that, to make Service Science evolve, have been collected and analysed systematically.

In chapter 2, an overview of the historical development of the field of Service Science was provided. It was shown that in already the 1960s the distinction between goods and services was made. During the 1980s and 1990s, special attention was paid to the unique characteristics of services. The Intangibility-Heterogeneity-Inseparability-Perishability (short: IHIP) Framework enjoyed a high degree of popularity among researchers and practitioners in order to distinguish goods from services, despite the lack of empirical validation. The IHIP framework provided recommendations on how to market services different from goods, which showed that Service Science was almost purely an issue within the marketing discipline during these years.

Not without resistance, after 2000, the IHIP framework was criticized more and more. It was argued that every economic exchange might result in some form of service provision, making the goods-services distinction redundant. Blurring boundaries between goods and services were emphasized by the use of the terms ‘servicizing products’ and ‘productizing services’, implying the nested relationship between goods and services. With these critics, the basis for an SD Logic mind-set was introduced. Instead of thinking of goods as units of output that are manufactured to be sold (G-D logic mind-set), the collaborative process of co-creation between parties became at the locus of value creation. With operant (instead of operand) resources at the basis,

knowledge and skills became valuable assets, on the basis of which participants in economic exchanges could create value. Hence, the view that services are the application of resources for the benefit of another, and this also counts for the production and marketing of goods, became more and more accepted.

Based on this knowledge, the chapter was finished with a series of exemplary case studies, that showed the broad application areas in which SD Logic is being applied: not only in marketing, but also in knowledge and innovation management, logistics and supply chain management, and even in cloud computing or sociology, to mention just some examples.

Chapter 3 then build on the previously mentioned observations, by investigating SD Logic related publications in more detail. A thorough literature review, analysing over 100 publications in the period between 2004-2011, was presented together with subsequent analyses, in order to depict the SD Logic landscape. Literature was collected in various databases (e.g. Web of Knowledge, ScienceDirect, JSTOR, etcetera), and articles from the most influential journal articles have been included in the resulting presentation (see Table 6).

The outcomes of the analyses yielded several interesting insights. First, throughout the period between 2004 and 2011, SD Logic gained more and more ‘momentum’, with a peak in 2008 (the year in which Vargo and Lusch revised the foundational premises). In 2011, the most studies were discovered dealing with SD Logic, and the end of this trend is not yet in sight. Second, key players could be identified on the basis of results. Not only Vargo and Lusch, but also Edvardsson, Gummesson or Grönroos made multiple important contributions, thereby further shaping the field of Service Science. Third, the fact that SD Logic is not yet a well defined theory, but a mind-set in progress is reflected by the analysis of titles and problem statements of the studies. Numerous issues are still to be clarified, and SD Logic is often combined with (sub-)topics that are not directly related. A focus on basic elements (e.g. FPs) of SD Logic can be observed in several studies at the same time. Fourth, it was concluded that among all studies, only one-third was empirical by nature. The frequently expressed call for more empirical efforts in order to give SD Logic more validity and credibility is legitimized by this result. Furthermore, a glance at the

research methodologies revealed that the majority of studies was conceptual and/or analytical by nature, and more than half of the empirical studies used case study research as a research methodology. Fifth, considering the journals in which the various studies have been published, it could be concluded that on the one hand this happened in a large variety of different journals, whereas on the other hand, some journals (like e.g. JAMS, Mark. Theory, IMM) showed a clustering of SD Logic related articles, which was due to the special issues to certain related topics that appeared. Sixth and finally, it could be observed how Service Science and Marketing where the two main research areas in which studies were performed. A minority of studies was done in other research areas like SCM, Innovation or IT. Despite the fact that marketing still seemed one of the most important applications areas, the expansion of SD logic to other research areas was demonstrated and supported by the findings.

This thesis tried to show the impact of SD Logic on the field of Service Science, by taking a retrospective as well as contemporary point of view. The work showed that SD Logic as an evolutionary mind-set can serve as a lens through which to look at social and economic exchange phenomena from a new perspective (Vargo & Lusch, 2008a). The analysis of efforts so far has shown that, as Vargo and Lusch expressed it, SD Logic might be(come) “the philosophical and conceptual foundation for the development of Service Science“ (cf. Vargo and Lusch, 2008b), thereby remaining of crucial importance in the upcoming years.

In the future, SD Logic might shed further light on the role of exchange between and among service systems at different levels of analysis (Vargo & Lusch, 2008b). It possesses the potential to further determine the research agenda of Service Science efforts, by embracing transdisciplinary approaches to challenges (Lusch et al., 2008; Stauss, 2007). Truly transdisciplinary and integrated service curricula can also serve as important channels to advance interest and efforts in this context (Moussa & Touzani, 2010). In accordance with the statements by Brodie et al. (2011), this thesis also pointed out that more empirical efforts might help SD Logic to emerge from an open-source mind-set in development towards a sound theoretical foundation that is able to theorize, confirm and refine the theoretical foundation of Service Science.

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2 Studies

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3 Publications

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Paul Dohmen, Natalia Kryvinska, Christine Strauss (2012). SD Logic Business Model – Backward and Contemporary Perspectives. *In: Exploring Service Science - Third International Conference on Exploring Services Science (IESS 1.1) Lecture Notes in Business Information Processing (LNBIP), Springer, Berlin 2012, (to appear).*

Andreas Mladenow, Elisabeth Fuchs, Paul Dohmen, Christine Strauss (2012). Value Creation using Clouds – Analysis of Value Drivers for Start-Ups and Small and Medium Sized Enterprises in the Textile Industry. *The 26th IEEE International Conference on Advanced Information Networking and Applications (AINA 2012)*, March 26-29, Fukuoka, Japan, IEEE Computer Society Digital Library (to appear).

4 Teaching experience

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