



Critical meta-analysis of servitization research: Constructing a model-narrative to reveal paradigmatic assumptions



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ABSTRACT

The literature on servitization in the manufacturing context has grown rapidly. This study is the first systematic analysis of the paradigmatic assumptions of servitization research. Considering scientific research as a rhetorical activity, this study introduces the methodological approach to industrial marketing management research. This systematic review identifies both stylistic and structural aspects characterizing servitization research. The current review is based on a representative sample of 55 articles covering marketing, management, operations, innovation, and entrepreneurship research. The review discovered four paradigmatic assumptions that guide servitization research: 1) alignment to the Western narrative of constant development; 2) realist ontology; 3) positivist epistemology; and 4) managerialism. Following these findings, the study develops alternative directions for servitization research to challenge these paradigmatic dominances. The refined method of the model-narrative has the potential to generate insightful future research in the field of industrial marketing management. As an effective approach to analyzing research streams systematically, it facilitates critical meta-level reflection on servitization and could be widely applied beyond that topic.

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1. Introduction

The transition of industrial companies towards increasingly service-dominant business models has been on the research agenda of industrial marketing since the late 1980s. During the past decade, this research stream has grown from a niche topic into a broad cross-disciplinary research area as service-based strategies and business models have become increasingly common in different industries (Turunen, 2013). The term *servitization*, taken from the article by Vandermerwe and Rada (1988), has become an accepted label for this stream of research. Servitization studies typically either take the implementation view and consider the manufacturer's process of becoming an increasingly service focused business (e.g. Brax, 2005; Oliva & Kallenberg, 2003; Salonen, 2011), or analyze the different strategic options through the new types of offerings (e.g., integrated solutions) and roles (systems integrators) enabled by the service approach (Davies, Brady, & Hobday, 2007; Mathieu, 2001; Wise & Baumgartner, 1999). This study concentrates on the underlying paradigmatic assumptions that have developed within servitization research and influenced the progress of the field.

While some literature reviews of servitization have been conducted, they have rarely employed a critically oriented research approach.

Existing meta-analyses summarize the empirical research on servitization and concentrate on research themes, agendas, and methodologies, concepts, and managerial or technical expertise (Antonacopoulou & Konstantinou, 2008; Baines, Lightfoot, Benedettini, & Kay, 2009; Beuren, Gomes Ferreira, & Cauchick Miguel, 2013; Gebauer, Ren, Valtakoski, & Reynoso, 2012; Grubic, 2014; Lightfoot, Baines, & Smart, 2013; Ostrom et al., 2010; Reim, Sjödin, Parida, & Persson, 2014; Tukker & Tischner, 2006; Velamuri, Neyer, & Möslin, 2011). These previous reviews have not examined the paradigmatic assumptions of servitization research, although such discussion has emerged on related topics such as general service research and definitions (e.g. Araujo & Spring, 2006; Lovelock & Gummesson, 2004; Tronvoll, Brown, Gremler, & Edvardsson, 2011; Vargo & Lusch, 2008) and industrial networks (Peters, Pressey, Vanharanta, & Johnston, 2013).

Only a few recent studies have recognized the need to increase awareness of the basic assumptions underlying servitization research (Finne, Brax, & Holmström, 2013; Kowalkowski, Windahl, Kindström, & Gebauer, 2015; Kowalkowski, Witell, & Gustafsson, 2013; Spring & Araujo, 2013). For instance, Finne et al. (2013) identified patterns of reversed servitization, and the study by Antonacopoulou and Konstantinou (2008) presented an analysis of the governing assumptions of the New Service Model. More recently, the study by Kowalkowski et al. (2015) utilized the problematization method introduced by Alvesson and Sandberg (2011) to analyze the assumptions of the service transition concept. Kowalkowski et al. (2015, p. 67) also

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encouraged scholars “not to uncritically accept the usual assumptions and blind spots in the discipline”. While starting the critical analysis of servitization related concepts these studies neither extensively discuss the paradigmatic assumptions behind servitization research nor suggest paradigmatic extensions. As a relatively new stream of research (as exemplified by the rapid increase in the amount of published research within the last ten years), a reflective meta-analysis of servitization literature is both necessary and timely (Turunen, 2013, p. 7). Therefore, to address this research gap, the present study investigates: *What paradigmatic assumptions guide servitization research?*

This critical study contributes in three main areas. First, it is the first systematic review on the paradigmatic assumptions of servitization research, targeting the underlying basic assumptions in servitization studies. Second, by doing so, it identifies areas for paradigmatic extensions and alternative research topics for servitization researchers. Third, it introduces a new methodological concept, the *model-narrative*, for use in conducting critical reviews, which, in general, could be useful for industrial marketing scholars.

1.1. Overview

In this study, we define the concept of *paradigmatic assumption* based on the writings of Burrell and Morgan (1979), Deetz (1996), Silverman (2010), and Alvesson and Sandberg (2011) as an *underlying, meta-theoretical framework of acquiring, structuring and justifying the knowledge in the study field*. These paradigmatic assumptions essentially guide the research settings and construct the objects of study in a given field and *are discursive elements underpinning the production of scientific research* (Bazerman, 1988; Deetz, 1996; Myers, 1990). A crucial part of this discursive production is “the role of rhetoric in the construction of knowledge claims and justification of research practices” (Shepherd & Challenger, 2013, p. 227). Following this definition, we consider scientific writing to be a *discursive and rhetorical activity connected to a certain meta-theoretical framework*.

Within the *meta-theoretical framework*, researchers use various *rhetorical strategies* to promote acceptance of their ideas and findings, to secure interest in their work and to align with what is considered *current, popular or acceptable in the field*. Influenced by their (often implicit) assumptions about the different actors involved in the publishing process, authors make choices in positioning and justifying their constructions (Welch, Plakoyiannaki, Piekkari, & Paavilainen-Mäntymäki, 2013, p. 246). Rhetorical performance is a fundamental element of knowledge creation in a discipline (Gross, Harmon, & Reidy, 2002; Latour, 1987; Prelli, 1989). The use of language in scholarly research is explicitly or implicitly dialogical: texts must gain acceptance and legitimation in the dialogical relationship between authors and their target audience. Hence, authors must convince readers if they are to win the readers' acceptance (Bazerman, 1988; de Waard, 2010; Gross et al., 2002).

This study employs the concept of the *narrative* (Bazerman, 1988; Latour & Woolgar, 1986; Rouse, 1990) to examine the rhetorical aspects of servitization research. The study outlines the methodological concept of the *model-narrative* based on prior approaches considering *scientific texts as narratives*. This methodological concept is used to analyze how rhetorical issues are codified in one of the core products of academic research: the journal article, which has become “the canonical form for communicating original scientific results” (Gross et al., 2002, p. 4). This approach allows industrial marketing scholars to identify dominant paradigmatic assumptions and, by deconstructing them, enables servitization research to move towards “alternative paradigmatic directions” (Tronvoll et al., 2011, p. 562) in the industrial context.

This analytical journey is structured as follows. First, the methodological concept of the *model-narrative* is explained. Second, the selection methods employed to obtain a representative sample of servitization research articles are explained, and the narrative analysis producing the meta-synthesis is outlined. Next, the *model-narrative*

concept is utilized to structure and communicate the meta-level storyline systematically produced from this literature set. This model-narrative has three main parts that echo the different roles of the beginning, middle, and concluding sections in research articles. The article concludes with critical observations of prior research on servitization and proposes alternative orientations for future research.

2. The model-narrative in the rhetorical analysis of research

In the field of marketing, *narratives are typically used as a way to structure empirical data obtained through interviews* (e.g. Borghini, Carù, & Cova, 2010; Edvardsson, Holmlund, & Strandvik, 2008). Such narratives reflect the assumptions of the subjects studied (i.e., the interviewed individuals). In addition, Gadde (2014) performed a literature review and communicated the evolution of a research area in the form of a meta-level historical narrative. Narratives are also distinguished as a focal theme in the research agenda of the Industrial Marketing and Purchasing or IMP Group (Lowe & Hwang, 2012).

Alternative forms of narrative analysis can be used to reveal the assumptions made in research communities. This analysis of “the art of persuasion” in scientific texts (Suddaby & Greenwood, 2005, p. 39) has been most vigorous in the fields of the history and philosophy of science (Kuhn, 1962), the sociology of knowledge (Ben-David, 1981; Collins, 1983; Latour & Woolgar, 1986) and linguistics (Bazerman, 1988; Gross, 1990; Myers, 1990). Although meta-analyses (Möller, 2013), narratives (Araujo & Easton, 2012; Borghini et al., 2010; Makkonen, Aarikka-Stenroos, & Olkkonen, 2012) and the rhetoric of science has been discussed to some extent, industrial marketing and management scholars have not systematically applied the *narrative approach to study the rhetorical aspect of the study field*.

One stream of rhetorical research considers how researchers reconstruct scientific texts into *narratives* (Bazerman, 1988; Knorr-Cetina, 1981; Latour, 1987; Rhodes & Brown, 2005). Perhaps the most basic definition of a narrative refers to a temporal model composed of the three phases of 1) equilibrium, 2) disruption and 3) new equilibrium; this chain of events corresponds to the beginning, middle, and end of a story (Jahn, 2005; Todorov, 1969). The intrinsic chronological structure of research makes the narrative a central creative component of scientific articles (Holmes, 1989). It creates commonality among scholars and offers a shared foundation on which to base rhetorical analysis (Gross et al., 2002).

The main traditions in research treating scientific texts as narratives are *structuralism and post-structuralism*. The *structuralist* tradition identifies structural parallels between scientific texts and other narratives like myths, fairy tales, theological accounts, or classic tales of heroes (de Waard, 2010; MacCormac, 1976; Verene, 1993). The rhetorical, persuasive aspect of the scientific text is connected to the idea of the narrative creating a tension between temporal events or characters following classic story structures (Dahlstrom, 2010; Gooding, 1990; Sheehan & Rode, 1999). To illustrate, de Waard (2010) constructs a method for comparing scientific articles and fairy tales and finds that both consist of a setting, a theme, and episodes. The *post-structuralist* tradition analyzes how scientific knowledge is narrated in different academic fields in order to make it accepted, powerful, and legitimate (Knorr-Cetina, 1981; Latour, 1987). These studies consider the discursive and persuasive contents and the rhetorical forces in scientific narratives.

Our methodological concept, the *model-narrative*, combines these two traditions based on the notions of Feldman, Sköldböck, Brown, and Homer (2004), and of Riessman (2005) and Czarniawska (2011). The studies argue that 1) these traditions are not exclusive, but complementary and 2) they offer an applicable base for narrative analysis. Therefore, the structure of our concept of *model-narrative* is inherited from the structuralist tradition that comprises three elements: 1) the preliminary narrative, 2) the main narrative and 3) the concluding narrative. In the preliminary narrative, a scientific text begins with a

problem or an illustration of disequilibrium that changes the original state of things (the equilibrium) (Todorov, 1969) and considers also these events to be drivers to start the narrative. The narrative continues by describing how to establish a new equilibrium or eliminate complications. The main narrative considers the challenges faced and ways to overcome them. It follows the structure of a fairy tale based on the idea that a scientific article always resolves the complication (Sheehan & Rode, 1999). This consistency makes research narratives an identifiable genre that Curtis (1994, p. 430) sarcastically calls the “perfect little story, a traditional narrative of resolution”. Nevertheless, the concluding narrative is the last part of the model-narrative and addresses events after the complication has been overcome. The purpose of that conclusion is to tie up loose ends and stress the importance or relevance of the story in order to discuss what more should be done (Sheehan & Rode, 1999). In addition, De Waard (2010) argues that, **similar to a fairy tale, this conclusion aims to offer a moral lesson.**

The post-structural elements of the model-narrative are: 1) narrative settings and 2) discursive strategies. The *narrative settings* refer to a story world—the historical context in which the action is located by the author (Truby, 2007, p. 145). This world is populated by the characters who tie together the events in the narrative (Chatman, 1978). Here, at least the *protagonists* (main actors) and their *antagonists* (opponents) can typically be easily identified (Pentland, 1999). The authors also provide a narrative voice to these characters that orients the narrative text (Bal, 1985; Genette, 1980). **This means the story is presented in the text through the mediation of a perspective.** The *discursive strategies* are the rhetorical tactics with which a given topic under discussion is made persuasive in research articles. Here, these strategies consist of various textual devices connected to categories of legitimation (Shepherd & Challenger, 2013; Suddaby & Greenwood, 2005; Van Dijk, 2004; van Leeuwen & Wodak, 1999). **Using these constructs, we identify and address the paradigmatic assumptions of servitization research.**

The methodological concept makes it possible to construct a meta-level synthesis of a generalized narrative identified in the literature within a research stream. **This approach differs from standard literature reviews in two ways:** 1) the researcher takes an active role: narratives are interpretative accounts reinterpreted by the narrative analyst (Riessman, 2002), and 2) the analysis does not just focus on the immediate or explicit notions such as themes and research agendas easily extractable from the articles, but instead probes beyond the data (Coffey & Atkinson, 1996). **The model-narrative generated does not directly represent the narrative of a single study but reflects the underlying paradigmatic assumptions of a group of research articles,** and is therefore suitable for the purposes of this study.

The next section first describes the search for articles for the review, and then the analysis process employed in the review.

3. Review methods

3.1. Selection of articles

The article search and review process followed the principles of **systematic review methodology** (Denyer & Tranfield, 2006; Tranfield, Denyer, & Smart, 2003) with a focus on leading research (Tatli & Özbilgin, 2012). To ensure broad coverage, relevance, and good quality research both top-tier journals from the fields of marketing, organization studies, management and entrepreneurship (levels 3 and 4 in ABS 2010 ranking) and journals specifically targeted at the service-sector were included (Harvey, Kelly, Morris, & Rowlinson, 2010). The criteria led us to investigate content from 62 journals.

According to Baines, Lightfoot, Benedettini and Kay (2009, p. 548), servitization studies “**deal with the application of service concepts to manufacturing, the management of the transition from products to services and the provision of integrated solutions**”. Accordingly, the article abstract information fields in the selected journals were searched using a query that combined the key dimensions of servitization: **service**

(Serv*) AND industry (Indust* OR Manuf*); AND transformation OR change OR transition OR transformation OR infusion OR adapting OR migration.

The first search across the 62 selected journals produced more than **900 hits. Next, we examined the abstracts in detail,** as we considered it best to evaluate all the papers manually instead of artificially limiting the search criteria. This fine-grained analysis revealed that most of the articles were not relevant for the purposes of the study: even when the words in the search strings included terms such as change, transition and transformation, most of the articles did not address these aspects of servitization. As a result, studies that addressed topics relating to the service business in manufacturing, but did not address the process of strengthening the service focus were excluded from further analysis. The excluded studies focused on topics such as contracting and governance, service categories or offerings, service networks, service productivity or revenue models, without any observable connection to issues related to organizational change. As a result, **only 37 articles from top-tier journals were retained after the examination of the abstracts.**

Next, the reference lists of all the selected articles were studied to identify additional articles in other journals beyond the original set (i.e., those not ranked as top-tier). As a result, **a further 11 articles** were identified and passed the fine-grained analysis, and thus were added to the data set. Furthermore, the idea of **snowballing was applied by examining the references of references** (Greenhalgh et al., 2005, p. 420), resulting in five additional articles. Closer examination of the articles revealed that an author or authors who had written several articles on the subject were consistent in their approach and style. Thus, **multiple articles from the same authors were included only if the contents of the articles differed in terms of the research question, background theory and methodology.** Finally, the list of articles was cross-checked against the 58 related articles reviewed by Baines et al. (2009), which led to two additional articles being identified. Thus, the final data set contains **55 research articles on servitization, as listed in Table 1.**

3.2. Review process

The review started with a careful reading of the 55 selected articles. **Paradigmatic assumptions are difficult to analyze if merely applying thematic analysis, so we applied four different styles of analytical reading when analyzing the scientific articles: the thematic, narrative, rhetorical, and paradigmatic. Thematic reading** accounts for the different subject topics in the texts. **Narrative reading** concentrates on the plot, tensions, story world, characters and voices. **Rhetorical reading** identifies the discursive strategies and rhetorical devices of the researchers. **Paradigmatic reading** creates an understanding of the wider and underlying rules and conventions of scientific texts. **The different modes of reading are required to construct the model-narrative.**

First, to construct the model-narrative of servitization, we identified preliminary, **main and concluding narratives** in each article (article-specific narratives are summarized in Table 4 in the online appendix). **Then a more detailed thematic analysis was conducted focusing on the content of the articles.** This analysis phase required a **semantic reader who listed various words and sentences from the data** (Eco, 1994) while concentrating on what was said in the texts (Riessman, 2005). In the preliminary narratives two parts were distinguished and their contents further categorized; **first were the various drivers that disturbed the equilibrium and then the proposed ways of establishing the new equilibrium.** This process was repeated with the main narrative, **identifying challenges and the means of overcoming them, and with the concluding narrative, distinguishing what happens after the challenge has been overcome.** This analysis generated a thorough understanding across the data set about the common or dominant themes and concepts for each part of the model-narrative.

Table 1
The division of data between journals and articles selected (55) for the data set.*

| Journal groups | Number of articles in abstract search | Articles in top tier marketing, organization, management and entrepreneurship journals ^a | Other journals ^b | Number of articles for analysis |
|----------------------|---------------------------------------|--|---|---------------------------------|
| Management (general) | 209 | Chase & Garvin, 1989; Bowen, Siehl, & Schneider, 1989; Quinn 1990; Anderson & Narus, 1995; Wise & Baumgartner, 1999; Allmendinger & Lombreglia, 2005; Cohen, Agrawal, & Agrawal, 2006;; Rothenberg, 2007; | Vandermerve & Rada 1988; Gebauer, Fleisch, & Friedli, 2005; Brady, Davies, & Gann, 2005; Malleret, 2006; Auguste, Harmon, & Pandit, 2006; Martinez, Bastl, Kingston, & Evans, 2010, Kumar, 2006 | 15 |
| Marketing | 200 | Tuli, Kohli, & Bharadwaj, 2007; Penttinen & Palmer, 2007; Davies et al., 2007; Matthyssens & Vandenbempt, 2008; Fang, Palmatier, & Steenkamp, 2008; Lindberg & Nordin, 2008; Vargo & Lusch, 2008; Windahl & Lakemond, 2010; Salonen, 2011; Eggert, Hogreve, Ulaga, & Muenkhoff, 2011; Ulaga & Reinartz, 2011; Kowalkowski et al. 2012; Storbacka, Windahl, Nenonen, & Salonen, 2013; Spring & Araujo, 2013; Ferreira, Proença, Spencer, & Cova, 2013; Kastalli & Van Looy 2013 | Gebauer & Friedli, 2005 | 18 |
| Service management | 34 | Martin & Horne, 1992; Mathieu, 2001; Oliva & Kallenberg, 2003; Neu & Brown, 2005; Fischer, Gebauer, Gregory, Ren, & Fleisch, 2010; Lay, Copani, Jäger, & Biege, 2010; Ng & Nudurupati, 2010; Grönroos & Helle, 2010; Raddats & Burton, 2011 | Brax, 2005; Gremyr, Löfberg, & Witell, 2010 | 11 |
| Operation management | 169 | Cook, Bhamra, & Lemon, 2006; Johnstone, Dainty, & Wilkinson, 2009; Baines et al. 2009b Pawar, Beltagui, & Riedel, 2009; Biege, Lay, & Buschak, 2012 | Auramo & Ala-Risku, 2005; Neely, 2008; Tan, Matzen, McAlone, & Bains, 2010; Turunen & Toivonen, 2011 | 9 |
| Organization | 188 | Galbraith, 2002 | | 1 |
| Innovation | 64 | – | Shepherd & Ahmed, 2000 | 1 |
| Entrepreneurship | 70 | Kindstrom et al., 2013 | – | 1 |
| Strategic management | 48 | – | – | 0 |

* Search phrase: In ABSTRACT [service (Serv*) AND industry (Indust* OR Manuf*) AND transformation OR change OR transition OR transformation OR infusion OR adapting OR migration].
^a Other journals: European Management Journal, Operations Management Research, Managing Service Quality, CIRP Journal of Manufacturing Science and Technology, International Journal of Project Management, European Journal of Innovation Management, McKinsey Quarterly, Journal of Manufacturing Technology Management, Journal of Business & Industrial Marketing, International Journal of Logistics: Research and Applications, Journal of Quality in Maintenance Engineering.

^b Levels 3 and 4 in ABS 2010 ranking: Journal of Marketing, Journal of Marketing Research, Journal of Consumer Research, Marketing Science, Journal of Retailing, International Journal of Research in Marketing, Journal of the Academy of Marketing Science, European Journal of Marketing, Journal of International Marketing, Industrial Marketing Management, Psychology & Marketing, International Marketing Review, Journal of Advertising, Journal of Business Research, Marketing Letters, Journal of Advertising Research, Journal of Marketing Management, Journal of Product Innovation Management, R&D Management, Technovation, Organization Science, Organization Studies, Leadership Quarterly, Human Relations, Research in Organizational Behavior, Organizational Research Methods, Group & Organization Management, Organization, Organizational Dynamics, Academy of Management Review, Academy of Management Journal, Administrative Science Quarterly, Journal of Management, Journal of Management Studies, Harvard Business Review, British Journal of Management, California Management Review, MIT Sloan Management Review, International Journal of Management Reviews, Academy of Management Perspectives, Journal of Management Inquiry, Strategic Management Journal, Journal of Economics & Management Strategy, Long Range Planning, Journal of Operations Management, International Journal of Production Economics, International Journal of Operations and Production Management, Manufacturing and Service Operations Management, IEEE Transactions on Engineering Management, International Journal of Production Research, Production Planning and Control, International Small Business Journal, Journal of Business Venturing; Entrepreneurship: Theory and Practice, International Journal of Entrepreneurial Behavior and Research, Journal of Small Business Strategy, Entrepreneurship and Regional Development, Journal of Service Research, Journal of Service Management, International Journal of Service Industry Management, Journal of Cleaner Production.

In the preliminary narrative, the drivers were connected to changes in manufacturing markets, problems with products and opportunities with services requiring a change in manufacturing. The contents of the preliminary narrative were therefore classified as a) change from products to services, b) combining products and services, c) service-based strategies and d) development of new services in manufacturing industries. In the main narratives, the various themes of challenges and overcoming could be characterized as being mainly linked to various elements of manufacturing organization, particularly to the tasks of the management function relating to overcoming the challenges. The contents of the concluding narratives were categorized as a) suggestions for further research, b) the future with the services dominating and c) the future without the services (Table 3, in the online appendix, summarizes the themes of this phase).

Following the thematic analysis, the articles were read again with an increased focus on persuasion techniques (Riessman, 2005). Implementing Eco's (1994) instructions for critical reading, we used guiding questions to trace the narrative setting, that is, the story world (Truby, 2007). The instructions involve asking: Where is the action located? Who are the protagonists and antagonists in this story world? Which voices or perspectives are presented by the scientists? A micro-level analysis of discursive strategies and rhetorical devices was performed simultaneously in this analysis round (Shepherd & Challenger,

2013; Suddaby & Greenwood, 2005; van Leeuwen & Wodak, 1999). The discursive categories were associated with the different parts of the constructed model-narrative and named. By the end of this analysis both the thematic categories and the persuasion techniques associated with each of the three structural parts had been mapped. This enabled the synthezation of the meta-level narrative, that is, the model-narrative that communicates the generic storyline embedded in the servitization literature, as explained in the next section.

The final round of the analysis used the paradigmatic reading approach in line with the problematization method devised by Alvesson and Sandberg (2011). This kind of reading “aims at identifying, articulating, and challenging underlying assumptions of the existing literature” (Alvesson & Sandberg, 2011, p. 248). Theoretical concepts from Guba and Lincoln (1994) and Deetz (1996) were applied in identifying and naming these paradigmatic assumptions.

4. The reconstructed model-narrative of servitization

This section is structured around our methodological concept and constructs the core elements of the servitization model-narrative based on the selected research articles. Each phase includes both structural and post-structural elements. Quotations from the original texts are selected examples of the key phrases that provided the analysis with

direction. We first reconstruct the narrative as 'grounded' in the literature, and conclude the section by summarizing the narrative separately. While reading this section, the reader is recommended to use Table 2, in Section 4.4, as a reference to provide structure by summarizing the findings at a general level. As additional information, Table 3 (see the online appendix), provides an overview of the servitization subtopics and themes addressed in the articles.

4.1. Preliminary narrative

In servitization studies, the **main driver** of the preliminary narrative is the change in manufacturing markets. In particular, the emergence of **"low cost sources of supply"** (Martinez et al., 2010) **disrupts** the original state of things for "formerly well-established good-producers" (Biege et al., 2012, p. 932). Chase and Garvin (1989, p. 61) noted that competition based on manufacturing excellence alone has become harder. Correspondingly, Wise and Baumgartner (1999, p. 133) confirm this by stating that "most large manufacturers have struggled during the past decade".

The narrative setting consists of the struggle of Western manufacturing (the protagonist) against low-cost rivals (the antagonists). For example, Martinez et al. (2010, p. 450) report that the situation "affects every developed economy, not just the UK", and Cook et al. (2006) talk about the worldwide servitization of advanced economies. The following statement illustrates how the phrase "our economies" refers to the voice of "the developed":

'Macro-economic data for developed countries confirm that our economies are becoming increasingly tertiarized' (Malleret, 2006, p. 106).

The studies then present various connections to the concept of **servitization as a means to gain a new equilibrium. Previous product-based business logics have become obsolete** as products approach commodity status, a shift marked by shrinking profit margins, and accordingly product-related cultural habits must be eliminated (Cohen et al., 2006, p. 2; Fischer et al., 2010, p. 591; Gebauer et al., 2005, p. 21; Raddats & Burton, 2011, p. 523). **In contrast**, services and integrated solutions promise value and **various competitive advantages**; continuous revenue streams, better customer relationships, an improved company image, and heightened environmental performance (Brady et al., 2005; Fang et al., 2008; Malleret, 2006; Rothenberg, 2007).

From the rhetorical perspective, service and integrated solutions act as hyperbole invoking strong effects among the audience (Van Dijk, 2004). According to Pawar, Beltagui and Riedel (2009, p. 469), services "account for a greater share of profits than manufacturing operations". **Services are "more difficult to imitate"** (Gebauer & Friedli, 2005, p. 70), even "superordinate" (Vargo & Lusch, 2008, p. 256), and can create "lucrative profit centres" for manufacturing companies (Johnstone et al., 2009, p. 522). In the articles reviewed, the integrated solutions and hybrid offerings are presented as the most recent development in Western manufacturing (Davies et al., 2007, pp. 184–185; Ulaga & Reinartz, 2011, p. 5).

The analysis above demonstrates how studies utilize the discursive strategy of **polarization by separating the developed from the developing countries and services from products.** Polarization refers to "polarized cognitions and the categorical division of people in the in-group" (us, Western, developed) and out-group (them, developing) and "sub-categories of good and bad" (Van Dijk, 2004, p. 738).

However, **as the research area matures the polarization between developed and developing countries declines.** Similarly, following the introduction of the integrated solutions and product-service systems theme that focuses on complex offerings consisting of services, goods, and information (cf. Brax & Jonsson, 2009), **the polarization between products and services fades.** In the new situation, competitiveness is based on integrative combinations or the complementarity of different

offerings. Here the **rhetorical device of authorization** (van Leeuwen & Wodak, 1999) is applied using three types of authorities. First, studies present academic writers as authorities who lend support to the evolving trend:

"Rich and growing body of literature has explored the numerous opportunities that service strategies can provide". (Mathieu 2001, p. 31)

"This new approach is part of the larger move throughout industry to the provision of services, which, academic evidence has shown, is linked to higher and more stable profits" Rothenberg (2007, p. 83).

"Indeed, for many manufacturers to remain viable, research has recommended that they diversify into the provision of services" (Ng & Nudurupati, 2010, p. 656).

Second, studies present "companies that understand this approach" (Quinn, Doorley, & Paquette, 1990, p. 58) as institutional authorities:

"They have moved beyond the factory gate to tap into the valuable economic activity that occurs throughout the entire product life cycle" (Wise & Baumgartner, 1999, p. 133).

"Manufacturers such as Honeywell with its aerospace equipment, ABB with its power plant equipment, Siemens with its medical equipment, and GE with its jet engines and locomotives all produce assets so critical to customers' work..." (Allmendinger & Lombreglia, 2005, p. 132).

"Organizations such as IBM, General Electric, Xerox, Cannon and Parkersell have had a significant share of revenues and profits from services since the middle of 1990s... attributed to a shift from product to service..." (Martinez et al., 2010, p. 450).

Third, the authorization comes from customer demands or the logic of customer-centricity (Galbraith, 2002; Mathieu, 2001, p. 31):

"Customers are demanding more complex solutions, incorporating technologies, products and specialized services provided by numerous external suppliers" (Davies et al., 2007, p. 172).

In contrast to the analysis of polarization strategy, we did not observe any major changes during the period examined: **the authorization (Van Leeuwen, 2007) by academic experts, leading companies and customers tend to co-exist in the literature.** However, authorization by academic experts may further increase reflecting the increase of published articles in the field.

4.2. Main narrative

In the main narrative studies address the **recommended change from the current state of being (product-centric business logic) to the future state of being (the ability to provide services).** The setting **moves from** a more general argument of **Western versus non-Western** companies towards specific arguments related to one or a small number of industrial supplier companies. **The focus of the research articles shifts to a single manufacturing company or supplier,** and the antagonists (low cost rivals) identified in the preliminary narrative are no longer an active constituent of the narrative. This transfer in the narrative displays an authorization strategy; **all manufacturing companies are viewed as facing the same situation and should follow the leading companies.** Interestingly, **although a majority of the studies are based on case research, which is characterized as a context-specific method**

(Yin, 1994), the differences between manufacturing companies, their customers and products are not illustrated in these studies, an approach that facilitates the transfer of the focus from an industry-level consideration to a manufacturing-company level in the narrative.

At its core, the main narrative captures the suppliers' "progressive movement from products to higher margin services" (Shepherd & Ahmed, 2000, p. 103). In the words of Martinez et al. (2010, p. 451), this is "the journey or transformation process whereby an organization enables its product-service offerings". In many studies, researchers place an individual manager, or managers, from the supplier company center stage to serve as the key player (i.e., protagonist) in the main narrative:

"Managers have to learn about how they align organizational elements with different service strategies" (Fischer et al., 2010, p. 598).

"Manufacturer's management must take the lead in securing the resources and building the capabilities we have identified" (Ulaga & Reinartz, 2011, p. 22).

"This monitoring system allows managers, for the first time, to realign the size of the service market and account for services' contribution to the firm's operations" (Oliva & Kallenberg, 2003, p. 166).

However, researchers see this transformation process as challenging and painful because companies experience difficulties, problems and obstacles (Brady et al., 2005, p. 361; Galbraith, 2002, p. 2; Salonen, 2011, p. 688; Turunen & Toivonen, 2011, p. 74). Oliva and Kallenberg (2003, p. 16) point out that the list of manufacturing organizations with strong service strategies is shorter than the literature would predict. Here, the studies also portray managers and their product-centered mind-sets as antagonists, particularly in the beginning of the change. Managers are reported as being risk averse, lacking belief in the economic potential of services, unable to break the rules of the game and broaden their perception corridors (Fischer et al., 2010, p. 594; Gebauer et al., 2005, p. 16; Matthyssens & Vandenbempt, 2008, p. 327). This is the obstacle that must be negotiated first:

"It is much harder to overcome the product-centric mindset of most senior management teams" (Allmendinger & Lombreglia, 2005, p. 144).

"Managers' failure to recognize the economic potential of extended service business is the second cognitive phenomena limiting investment in services" (Gebauer et al. (2005, p. 16).

In addition, researchers represent other members in the company and the supply chain and customers as antagonists that create challenges along the transformation path towards the new and necessary service-dominant principles, structures, and capabilities (Oliva & Kallenberg, 2003, p. 161). These antagonists hinder the "complete shift in patterns of thought and organizational routines" (Cook et al., 2006, p. 1461). The researchers make these antagonists appear incompetent using the discursive strategy of *invalidation*. For instance, Rothenberg (2007, p. 86) states that "the most resistant to such change is often the sales staff", who according to Anderson and Narus (1995, p. 77) "just tend to focus on product-based transactions giving services for free to customers". Sometimes, researchers find antagonists among the workers in a service business who need to "fully understand the benefits of investing resources in extending the service business and commit themselves to it" (Gebauer et al., 2005, p. 21). Additionally, Kastalli, Van Looy and Neely (2013, p. 101) find that the suppliers' current accounting and its measurement systems drive behaviors that are ill-advised in modern manufacturing firms. Likewise, Ferreira, Proença, Spencer and Cova (2013, p. 1100) argue that there is a need to integrate the whole supply chain in the solution business model to achieve "a reciprocal fit between multiple actors involved in the solution process".

In the same manner, many studies perceive the customer as lacking some required competence, such as "the proper thinking and cognitions

such as systems thinking, total cost of ownership" (Matthyssens & Vandenbempt, 2008, p. 322). Customers may think that services are unnecessary or even a "necessary evil" (Kindström, Kowalkowski, & Sandberg, 2013, p. 1070; Turunen & Toivonen, 2011, p. 81). The studies using this discursive strategy then legitimate the action needed to address the customers' mindset as the incompetency gives space for action on the part of the manufacturer's management, "who have accepted the risk of extending the service business" (Gebauer & Friedli, 2005, p. 25). We term this strategy *managerialization* because it highlights the role of the single supplier's manager in action.

At the same time, this managerialization strategy makes the antagonists the objects of, rather than the agents in, the transformation process that comprises pre-established stages (cf. Vandermerwe & Rada, 1988, pp. 315–316). Having nominated the manager as the main change agent, such studies present a vast to-do list for managers:

- define clear strategic intents and goals in their service business (Auguste et al., 2006; Bowen et al., 1989; Fischer et al., 2010; Gebauer & Friedli, 2005; Lay et al., 2010; Quinn et al., 1990; Salonen, 2011; Tan et al., 2010);
- adapt factors related to strategy and organization to complex market environments (Fischer et al., 2010; Grönroos & Helle, 2010; Johansson & Olhager, 2004; Martinez et al., 2010; Neu & Brown, 2005);
- identify the company's and their network's core value-adding activities (Ferreira et al., 2013; Fischer et al., 2010; Quinn et al., 1990; Spring & Araujo, 2013);
- create key partnerships and alliances with technology and service suppliers (Auramo & Ala-Risku, 2005; Cook et al., 2006; Ferreira et al., 2013; Shepherd & Ahmed, 2000; Wise & Baumgartner, 1999);
- analyze and manage customer processes (Auramo & Ala-Risku, 2005; Biege et al., 2012; Brady et al., 2005; Brax, 2005; Kastalli et al., 2013; Kumar, 2006; Matthyssens & Vandenbempt, 2008);
- identify and understand customer value, its business process and its problems (Allmendinger & Lombreglia, 2005; Auramo & Ala-Risku, 2005; Grönroos & Helle, 2010; Mathieu, 2001; Neely, 2008; Shepherd & Ahmed, 2000; Wise & Baumgartner, 1999);
- create a customer-centric organization structure and units (Auguste et al., 2006; Cook et al., 2006; Davies et al., 2007; Fischer et al., 2010; Galbraith, 2002; Gebauer & Friedli, 2005; Gremyr et al., 2010; Malleret, 2006; Oliva & Kallenberg, 2003; Raddats & Burton, 2011; Tan et al., 2010);
- initiate a relationship marketing approach (Anderson & Narus, 1995; Gebauer & Friedli, 2005; Grönroos & Helle, 2010; Tuli et al., 2007; Vargo & Lusch, 2008);
- modify and motivate client behavior (Brax, 2005; Martin & Horne, 1992; Neely, 2008);
- coordinate different internal units and information (Biege et al., 2012; Johnstone et al., 2009; Kowalkowski, Kindström, Alejandro, Brege, & Biggemann, 2012; Tuli et al., 2007);
- assess the value and costs of providing services (Anderson & Narus, 1995; Auguste et al., 2006; Fang et al., 2008; Malleret, 2006; Mathieu, 2001; Ng & Nudurupati, 2010; Rothenberg, 2007);
- apply the concepts of change management (Gebauer & Friedli, 2005; Kindström et al., 2013; Rothenberg, 2007; Salonen, 2011; Ulaga & Reinartz, 2011);
- develop service capabilities, competencies, mind-sets, orientations and culture (Cook et al., 2006; Fischer et al., 2010; Gebauer & Friedli, 2005; Gremyr et al., 2010; Ng & Nudurupati, 2010; Penttinen & Palmer, 2007; Rothenberg, 2007; Salonen, 2011; Shepherd & Ahmed, 2000; Storbacka et al., 2013);
- adjust reward/compensation schemes (Anderson & Narus, 1995; Kastalli et al., 2013; Rothenberg, 2007; Shepherd & Ahmed, 2000; Tuli et al., 2007);
- recruit new people with the right attitudes (Salonen, 2011), and
- manage and seize new service opportunities and development processes (Allmendinger & Lombreglia, 2005; Cohen et al., 2006; Eggert et al.,

2011; Fischer et al., 2010; Gebauer & Friedli, 2005; Gremyr et al., 2010; Kindström et al., 2013; Martin & Horne, 1992).

Indeed, these findings reflect the 'paucity of guidelines' observed by Barquet, de Oliveira, Amigo, Cunha, and Rozenfeld (2013). By fulfilling this enormously long task list, the manager then facilitates the manufacturing company acquiring the capability level required to offer industrial solutions, for instance, to leverage "a service ethos... across the organization" (Johnstone et al., 2009, p. 531). Baines et al. (2009, p. 521) conclude that "the company is now at a relatively advanced stage of servitization", which in the words of Fischer et al. (2010, p. 597) leads to "coalescence where service strategy and organizational factors are internally consistent, complementary and mutually reinforcing". The manufacturer has broken out of its "pattern of antagonistic relations" (Matthyssens & Vandenbempt, 2008, p. 327). We therefore conclude that these statements all point to the arrival of a new equilibrium for the manufacturer.

4.3. Concluding narrative

In the concluding narrative the studies explain the activities manufacturers undertake to resolve the disequilibrium and to regain competitive advantage as the new equilibrium. The focus shifts from a single transformed industrial company (or a small number of them) to Western companies in general. Now, the narrative tension is constructed around the new equilibrium and a possible new disequilibrium. Here, the researchers apply various strategies of *verification* and *intimidation* connected to servitization. Two verification approaches are common: 1) texts strengthen the value of servitization for the manufacturing company and 2) request additional research to verify the current results. Readers are further persuaded by the intimidation strategy invoked in forecasting problems for 'non-servitizing' manufacturers.

The discursive strategy in the last summarizing sentences of the articles typically emphasizes the significance of servitization, for instance: "S-D logic can serve as a foundation for a sounder theory of markets and marketing" (Vargo & Lusch, 2008, p. 258); and "a more complex pattern of organizational forms is emerging" (Davies et al., 2007, p. 192). While these sentences create positive expectations connected to the research area, they also persuade the reader to conduct additional research, e.g., to quantitatively study interdependencies (Windahl & Lakemond, 2010). The proposed research should also verify the common qualitative research settings through quantifying approaches:

"A natural next step would be an empirical validation to quantify the proposed effects" (Uлага & Reinartz, 2011, p. 22)

Further studies target at confirming or modifying the findings with richer data "(Kindström et al., 2013, p. 1071), because the current study "is based on a limited sample" (Lindberg & Nordin, 2008, p. 299) and lacks wider generalisability" (Ng & Nudurupati, 2010, p. 670). In rare cases, researchers propose alternative orientations. For example, Johnstone et al. (2009, p. 535) encourage critical debates, and Gebauer et al. (2005, p. 25) request interdisciplinary approaches that could integrate service management and behavioral theory. Following Gross et al. (2002, p. 215), we interpret this approach as part of modern scientific communication, in which "scientific facts have to be tested at the experimental and observational bar and no theory passes this test with a perfect grade". The persuasive aspect of future research is largely about obtaining further evidence, reliable testimonies and precise measurements connected to the phenomenon of servitization. We conclude that this persuasive aspect illustrates the preferences for quantitative approaches in the field: that is, time- and context-free generalizations are considered desirable and possible to reliably and validly determine the real causes of scientific outcomes. Accordingly, we note that servitization literature primarily follows the discourse of normative studies (cf. Deetz, 1996).

Alongside verification requests, we identified that authors utilized the strategy of *intimidation* to strengthen the servitization manifesto. Intimidation is directed at antagonists in manufacturing companies. The policy works on the premise that those who doubt the importance of servitization will fail to "realize the promise of these fast growing businesses" (Auguste et al., 2006, p. 51). Articulation becomes a powerful element, for example when authors predict "disaster if the companies are connected to product rather than service-activity" (Quinn & Paquette, 1990, p. 67), warn that companies ignoring aftermarket opportunities for service business "do that at their peril", (Cohen et al., 2006, p. 12), and expect that, for non-servitizers, "the next decade will be even bleaker than the last" (Wise & Baumgartner, 1999, p. 141).

The intimidation strategy is based on the logic that all products and services will eventually reach a commodity status and their competitive value will inevitably decrease (Matthyssens & Vandenbempt, 2008, p. 316). There is a danger of new rivals offering services or integrated solutions who might attract the manufacturer's current customers who "will be locked in to other service providers" (Allmendinger & Lombreglia, 2005, p. 145). According to Ferreira et al. (2013, p. 1100), "the solution provider has to construct its business model as ever-evolving in order to maintain... external fit". The managers of manufacturing companies, as the protagonists, must "fashion a solutions organization and manage it actively" (Galbraith, 2002, p. 18) to avoid their firms being tempted to return to product-based business.

Table 2

Summary of structural and rhetorical elements in the narrative of servitization research.

| Narrative elements | Preliminary narrative | Main narrative | Concluding narrative |
|-----------------------|--|--|--|
| Plot | Western manufacturers are losing competitive advantage to low-cost rivals. | Strong and visionary management can conquer the obstacles and reorient the company become a service-dominant business. | Manufacturers have chosen the right path but must maintain focus, and further research must convince them of this necessity. |
| Tension | The move from equilibrium to disequilibrium | Struggle to regain equilibrium | Affirmation of new equilibrium: explaining the struggle, validating the outcome and the threat of new disequilibrium |
| Setting | Global competition in manufacturing industries and good markets | The manufacturing company, its customers and close networks | The servitizing population of manufacturing firms; The academic of community of servitization research |
| Protagonists | Well-established manufacturers in developed economies | The visionary and persistent manager | Managers Researchers |
| Antagonists | Low-cost rivals in developing economies | Managers, company staff, and customers who do not understand the potential of servitization. | Internal: managers and company members who either lose focus or remain unconvinced of the promise of servitization; External: new industrial rivals entering the servitized offerings market |
| Discursive strategies | Polarization Authorization | Invalidation Managerialization | Verification Intimidation |

4.4. Conclusion: Summarizing the model-narrative of servitization

Table 2 summarizes the structural and rhetorical aspects. To further illustrate the findings from our analysis, we reconstruct a generic, verbal summary of the identified model-narrative of servitization research as follows:

Western manufacturing companies need to change from being product-based businesses towards offering bundled, integrated solutions of products and services. This need derives from the entry of low-cost rivals into manufacturing markets, which causes disequilibrium in the current state of being. In this situation, the Western manufacturer must eliminate this outdated product-based business and identify a more attractive service-based business verified by various authorities (customers, advanced industrial companies, academics). However, for the manufacturer, this change is not simple but difficult and challenging. Still, with the proper management, the manufacturer may overcome these problems and achieve the successful delivery of integrated solutions. Through this operation, Western manufacturers will achieve a new equilibrium. However, the new equilibrium will not last long, particularly if the company does not constantly nurture the solution business logic.

Thus, we conclude that paradigmatic patterns are identified in the multidisciplinary stream of servitization literature in the ways authors build the storylines of their articles and utilize rhetorical devices. In the next section we clarify the meaning and implications of these findings and discuss the contributions of this study. We begin by exploring the broader paradigmatic tendencies and basic assumptions underlying the model-narrative of servitization.

5. Discussion: the paradigmatic assumptions of servitization research

5.1. A meta-synthesis of the paradigmatic assumptions

Answering to the call for critical research on servitization (Antonacopoulou & Konstantinou, 2008; Brax, 2005; Brax & Visintin, 2013; Johnstone et al., 2009; Kowalkowski et al., 2015), this study set out to analyze the paradigmatic assumptions in servitization research by considering scientific writing as a rhetorical activity. In utilizing the concept of paradigmatic assumption, we referred to an underlying, meta-theoretical framework of acquiring, structuring and justifying the knowledge in the study field (Alvesson & Sandberg, 2011; Burrell & Morgan, 1979; Deetz, 1996; Silverman, 2010). We implemented this inquiry in the form of a narrative-based meta-analysis. We explicated the hidden structures and assumptions guiding this research stream using the refined methodological concept of the model-narrative, thereby opening the discussion on normal science in servitization research and directing attention to potential new avenues of research. This systematic review examined 55 relevant articles published between 1988 and 2013.

As summarized in Table 2 and explained in Section 4, this analysis discovered that servitization scholars use a common set of narrative setting elements, players and discursive strategies to convince their target audience of the benefits of servitization. This narrative has remained largely consistent throughout the 25 years of servitization research investigated in the current research. Despite qualitative and case-based research designs dominating the data, the same paradigmatic assumptions were identified in quantitative research. Adherence to the narrative thus is not a flaw of a particular kind of research method. These observations support the first argument: (i) this narrative has become institutionalized in this research field.

As a whole, as presented in Section 4, the findings point to four ultimate *paradigmatic assumptions* that implicitly guide servitization research: 1) alignment to the Western narrative of constant development, 2) realist ontology, 3) positivist epistemology and 4) managerialism.

5.1.1. Western narrative of constant development

The current analysis drew parallels between fairy tales and scientific texts demonstrated how the model-narrative compels drama. This may have contributed to the success and popularity of the research field, fostering its acceptance, legitimacy and growth in academia and beyond. In this storyline, the balance of Western manufacturing is disrupted by foreign entrants, causing the manufacturers to lose competitive advantage. Servitization can reverse this trend, but the path is challenging. The role of researchers is to reveal the universal secrets to conquering the obstacles on the path, and the role of the proper manager is to implement and complete the task. At the collective level, Western manufacturing can be saved by this operation, and competitive advantage restored. The “low-cost players will continue to mushroom, and some will succeed” (Kumar, 2006, p. 112), but Western manufacturing can survive by focusing on value-added services.

However, whose development and competitive advantages are the studies discussing? As part of this constant development, the ‘developed’ are placed at the forefront, as reflected in our characterizations and analyses of the narrative voice. This divided worldview clearly reproduces the discourse in which original equipment manufacturers (OEMs) are considered to self-evidently belong to ‘The Occident’, that is, the scientific hemisphere consisting of Western Europe and North America (Said, 1978). Implicit in this fabrication is the idea that Western society is developed, rational, flexible and superior. Other countries are viewed as ‘developing’ or ‘low cost’ and thus not the focal part of the narrative(s) of servitization. For instance, even if “the poorer countries have opportunities to supply services to the richest in the group”, it is likely that “the information trade will occur primarily between countries with linguistic and cultural similarities” (Karmarkar, 2004, p. 104). This can be summarized as the second argument: (ii) clearly, servitization researchers more or less implicitly address their texts to an audience of Western readers and write from a Western manufacturing point of view.

5.1.2. Realist ontology

Our third argument is that (iii) this analysis reveals how servitization research is based on a realist ontology: the ‘secrets of servitization’ are treated as separate entities or ‘truths out there’, yet to be revealed by researchers. This realist ontology assumes that the real world has intangible structures that exist irrespective of our labels (Peters et al., 2013). In other words, the secrets of servitization are considered intrinsic properties of the data that are separate and independent of the knower and process of knowing (Mauthner & Doucet, 2008). Thus, servitization research shows no influences from the linguistic turn of social science that views “language as constituting the objects, not just naming them” (Deetz, 1996, p. 192). Nevertheless, servitization knowledge is “contextually and historically grounded, as well as linguistically constituted” (Mauthner & Doucet, 2003, p. 416). We consider that applying the realist ontology (consciously or unconsciously) may partly be explained by the general dominance of realism in science, and partly by the strong effect of the natural sciences on manufacturing, operations and related fields echoed in the first important articles (e.g., Oliva & Kallenberg, 2003; Vandermerwe & Rada, 1988). Moreover, realism in itself purports to have an appealing persuasive strategy: making the research subject a separate entity incorporating ‘secrets’ that are subsequently revealed to the scholarly audience.

5.1.3. Positivist epistemology

Fourth, we argue that (iv) servitization research is connected to a positivist epistemology in which servitization is seen to consist of universal laws or models that refer to change as a linear and planned process. This finding is in line with the latest studies criticizing the underlying assumptions based on a “forward-unidirectional process across the continuum from goods- to service-focused” that guide servitization research (Finne et al., 2013, p. 514; see also Kowalkowski et al., 2015). Epistemological precepts concern the way in which ‘facts’

can be known: positivist explanations take “the general form of if A then B statements” (Steinmetz, 2004, p. 377). Demonstrating this underlying positivist epistemology, we identified the tendency of servitization researchers to request validation of current research results particularly by quantification. Generalizable knowledge of servitization could be acquired by verifying the current findings in larger empirical research settings. Thus, the recommendations draw on the positivist logic that “using... categorical research language allows statistical testing and calculations” (Tronvoll et al., 2011, pp. 566–567). These findings support the statement of Tronvoll et al. (2011) that current service research is dominated by the positivistic paradigm and its restricted epistemological perspective. Such basic assumptions represent the normative discourse that dominates North American research and is applied in organizational research globally (Deetz, 1996).

5.1.4. Managerialism

In the analysis of the main and concluding narratives, we discovered managerialism as the fourth underlying paradigmatic category: (v) authors focus on managers as the focal actors (protagonists) contributing to the regeneration of the manufacturing firm. If and when servitization is about manufacturers developing universal capabilities to offer integrated solutions, then the central action role is the one of managers. This was demonstrated in the long list of required managerial actions traced from the literature (see Section 4.2). This approach presents the manager as the efficient champion of progress and economic development (Washbourne & Dicke, 2001). According to the critical view, the generalized ideology of managerialism seeks to legitimize management as the main source of rationality and the logic and techniques of effectiveness and efficiency (Parker, 2002). The manager plays the role of social engineer attempting to foster harmony and a sense of belonging among the employees, reduce conflict, and produce an orderly whole (Thompson & McHugh, 1995, p. 12). Correspondingly, failures related to servitization can only be attributed to irrational management and poor process design (Antonacopoulou & Konstantinou, 2008, p. 456). In this manner, the practical and managerial implications provided describe how this “service wisdom” could be increased in the manufacturing world.

The question is why is the paradigmatic assumption of managerialism so dominant in the field. Various reasons for managerialism are discussed in previous studies including the romance of leadership (Meindl & Ehrlich, 1987), ‘the halo-effect of leadership’ (Rosenzweig, 2007), ‘the persistence of scientific management both production and service industries’ (Buchanan & Huczynski, 2004). Overall, these reasons have led to a situation where “managerialism is perpetuated by the hegemonic narrative that dominates the literature and teaching in our business schools” (Vickers, 2008, p. 560). Putting the critical views aside, one explanation for the dominance of the managerial discourse could be that authors strongly target their research at the non-academic audience of managers in the manufacturing industry.

5.2. Alternative orientations and implications for servitization and industrial marketing research

Narratives are interpretative accounts that are reinterpreted by narrative analysts (Riessman, 2002). In contrast to normative studies, our approach has not been a quest for scientific truth in the realist frame but a quest for patterns and (hidden) meanings (Rhodes & Brown, 2005). This type of narrative analysis unmasks the underlying aspects of research articles from persuasive tactics and rhetoric devices (Alasuutari, 1996).

The methodological concept of the model-narrative we implemented to conduct meta-level narrative analysis in the systematically selected set of articles enabled us to depart from our roles as servitization researchers – the main target group of readers for the authors studied – and to nurture a critical perspective on prior research. Therefore, we conclude that the model-narrative is a promising

approach for conducting meta-theoretical research in and beyond industrial marketing and management. Because we identified such a strong and institutionalized meta-narrative in servitization research, we argue that other research streams will benefit from similar critical research. Thus, we invite researchers to shape and implement this approach and encourage them to extend the use of the model-narrative approach beyond servitization research in different research streams connected with industrial marketing and management.

Paradigms are typically discussed in industrial marketing when a paradigm war or a shift is polemized (Grönroos, 1994; Lovelock & Gummesson, 2004; Tadajewski, 2008, 2014; Vargo & Lusch, 2004). However, this study demonstrates the need to investigate paradigmatic issues even *before* a paradigm (or its shift) is observed, because the assumptions are unrecognized in this ‘normal’ state. Supporting some earlier observations (Kowalkowski et al., 2012; Kowalkowski et al., 2015; Tronvoll et al., 2011) this research shows that there is a demand for paradigmatic alternatives or multiple paradigms in servitization research.

Current findings suggest that research should extend beyond the dominant division between ‘developed’ and ‘developing’ countries towards a more neutral global reach. Is the servitization phenomenon characteristic to OEM companies of Western origin, or does it concern a wider set of organizations? Thus, answering that question would involve researching “idiosyncrasies around manufacturing in developing countries” (Gebauer et al., 2012, p. 127) and complementing it with comparative research that makes servitization in ‘developing countries’ visible. Such research could validate, diversify and enrich existing knowledge.

Existing research represents servitization as a solution for companies. Future research could adopt a critical stance and investigate whether companies adopt a servitization agenda when under threat, or to what extent this experience of competition is down to the rhetorical strategy of polarization. Is servitization associated with market maturity and commoditization or are there other reasons for it? Has servitization been a successful strategy for all the companies that have pursued it? Supposing the manufacturing industry is not one category, but includes a variety of different organizations, we might then ask: what kind of manufacturing companies might benefit from this type of strategy? To produce convincing answers, a critical realist would demand research designs that objectively assess the ‘problem state’ faced prior to servitization, and apply longitudinal or follow-up designs to investigate the impact of the service dominant approach. Because many of these studies are based on selected successful cases, researchers should investigate larger populations of companies to be able to identify possible counter-evidence and alternative explanations. For instance, the study by Fang et al. (2008, p. 11) found that the impact of service transition (when it is considered as an evolutionary stage in industrial business) on firm value maybe non-linear (Kohtamäki, Partanen, Parida, & Wincent, 2013).

Managerialism was identified as one of the central paradigmatic assumptions in the research stream. Similar tendencies have been identified in management research earlier, and as a response, critical management studies have proposed different conceptualizations and forms of leadership (see Fournier & Grey, 2000, for a review). Servitization studies should evaluate the role of the manager in the research design and context more critically – and ask what else is needed besides managerial action. Critical studies should investigate whether the transition to a service-dominant business takes place as a planned strategic organizational transformation, or whether it might unfold as an emergent, path-dependent process. What is the role of external factors in explaining servitization success and failure? What about contextual factors such as the market situation and disruptions? In addition to shifting the focus from the Western to a global context, we would encourage a shift of focus at the company level beyond the managers and taking a closer look at the ‘complementary voices’ of customers as well as employees on both sides of service exchange. Likewise, going beyond the rhetorical strategy of invalidation in manufacturing, we could

consider 'the doubting antagonist voices' as an interesting new research topic. What if there are reasons for resistance to services beyond "merely not understanding the benefits of service business" (see Gebauer et al., 2005, p. 21)? Therefore, from the dissensus perspective (Deetz, 1996), these other voices could make a valuable contribution to understanding aspects of servitization.

5.3. Concluding remarks

To sum up, this study both reveals paradigmatic assumptions and discusses alternatives to them. **Our results confirm that the available research articles follow a largely consistent generic narrative with the dominant assumptions discussed above. This can restrict the potential to produce radical theoretical advancements in the field of servitization.** We also conclude that even if this study provides no evidence of the generalizability of the identified paradigmatic assumptions beyond servitization literature, we assume that those assumptions may be observed in other streams of research too. We also expect that the paradigmatic extensions beyond normative servitization studies will increase. This is based on the observation that the related contributions in the field are still quite rare, but those that exist present promising findings. This research offers comment and guidelines in this direction for researchers in the field of servitization and beyond.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.indmarman.2016.04.008>.

References

- Alasuutari, P. (1996). Theorizing in qualitative research: A cultural studies perspective. *Qualitative Inquiry*, 2(4), 371–384. <http://dx.doi.org/10.1177/107780049600200401>.
- Allmendinger, G., & Lombreglia, R. (2005). Four strategies for the age of smart services. *Harvard Business Review*, 83(10), 131–145.
- Alvesson, M., & Sandberg, J. (2011). Generating research questions through problematization. *Academy of Management Review*, 36(2), 247–271.
- Anderson, J. C., & Narus, J. A. (1995). Capturing the value of supplementary services. *Harvard Business Review*, 73(1), 75–83.
- Antonacopoulou, E. P., & Konstantinou, E. (2008). The new service model: A review, a critique and a way forward. *Service Industries Journal*, 28(6), 845–860. <http://dx.doi.org/10.1080/02642060801990403>.
- Araujo, L., & Easton, G. (2012). Temporality in business networks: The role of narratives and management technologies. *Industrial Marketing Management*, 41(2), 312–318. <http://dx.doi.org/10.1016/j.indmarman.2012.01.014>.
- Araujo, L., & Spring, M. (2006). Services, products, and the institutional structure of production. *Industrial Marketing Management*, 35(7), 797–805. <http://dx.doi.org/10.1016/j.indmarman.2006.05.013>.
- Auguste, B. G., Harmon, E. P., & Pandit, V. (2006). The right service strategies for product companies. *McKinsey Quarterly*(1), 40–51.
- Auramo, J., & Ala-Risku, T. (2005). Challenges for going downstream. *International Journal of Logistics: Research & Applications*, 8(4), 333–345. <http://dx.doi.org/10.1080/13675560500407358>.
- Baines, T., Lightfoot, H., Benedettini, O., & Kay, J. M. (2009). The servitization of manufacturing: A review of literature and reflection on future challenges. *Journal of Manufacturing Technology Management*, 20(5), 547–567. <http://dx.doi.org/10.1108/17410380910960984>.
- Bal, M. (1985). *Narratology: Introduction to the theory of narrative*. Toronto: University of Toronto Press.
- Barquet, A. P. B., de Oliveira, M. G., Amigo, C. R., Cunha, V. P., & Rozenfeld, H. (2013). Employing the business model concept to support the adoption of product-service systems (PSS). *Industrial Marketing Management*, 42(5), 693–704. <http://dx.doi.org/10.1016/j.indmarman.2013.05.003>.
- Bazerman, C. (1988). *Shaping written knowledge: The genre and activity of the experimental article in science*. Madison: University of Wisconsin Press.
- Ben-David, J. (1981). Sociology of scientific knowledge. In J. F. Short (Ed.), *The state of sociology: problems and prospects* (pp. 40–59). London: Sage.
- Beuren, F. H., Gomes Ferreira, M. G., & Cauchick Miguel, P. A. (2013). Product-service systems: a literature review on integrated products and services. *Journal of Cleaner Production*, 47(0), 222–231. <http://dx.doi.org/10.1016/j.jclepro.2012.12.028>.
- Biege, S., Lay, G., & Buschak, D. (2012). Mapping service processes in manufacturing companies: Industrial service blueprinting. *International Journal of Operations & Production Management*, 32(8), 932–957.
- Borghini, S., Carù, A., & Cova, B. (2010). Representing BtoB reality in case study research: Challenges and new opportunities. *Industrial Marketing Management*, 39(1), 16–24. <http://dx.doi.org/10.1016/j.indmarman.2008.05.006>.
- Bowen, D. E., Siehl, C., & Schneider, B. (1989). A framework for analyzing customer service orientations in manufacturing. *Academy of Management Review*, 14(1), 75–95.
- Brady, T., Davies, A., & Gann, D. (2005). Creating value by delivering integrated solutions. *International Journal of Project Management*, 23(5), 360–365. <http://dx.doi.org/10.1016/j.ijproman.2005.01.001>.
- Brax, S. A. (2005). A manufacturer becoming service provider – challenges and a paradox. *Managing Service Quality*, 15(2), 142–155. <http://dx.doi.org/10.1108/09604520510585334>.
- Brax, S. A., & Jonsson, K. (2009). Developing integrated solution offerings for remote diagnostics: A comparative case study of two manufacturers. *International Journal of Operations & Production Management*, 29(5), 539–560. <http://dx.doi.org/10.1108/01443570910953621>.
- Brax, S. A., & Visintin, F. (2013). Metamodeling servitization: Conceptualizations of transition. In T. Baines, & H. Lightfoot (Eds.), *Proceedings of spring servitization conference* (pp. 183–188). Birmingham: Aston Business School.
- Buchanan, D., & Huczynski, A. (2004). *Organizational behaviour: An Introductory Text* (5th ed.). Harlow: FT Prentice Hall.
- Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organisational analysis*. 248. London: Heinemann.
- Chase, R. B., & Garvin, D. A. (1989). *The Service Factory*. *Harvard Business Review*, 67(4), 61.
- Chatman, S. (1978). Story and discourse. Narrative Structure in Fiction and Film. New York: Cornell University Press.
- Coffey, A., & Atkinson, P. (1996). Making sense of qualitative data: Complementary research strategies: Sage publications, Inc.
- Cohen, M. A., Agrawal, N., & Agrawal, V. (2006). Winning in the aftermarket. *Harvard Business Review*(Maqy), 129–138.
- Collins, H. M. (1983). The sociology of scientific knowledge: Studies of contemporary science. *Annual Review of Sociology*, 9, 265–285. <http://dx.doi.org/10.2307/2946066>.
- Cook, M. B., Bhamra, T. A., & Lemon, M. (2006). The transfer and application of Product Service Systems: from academia to UK manufacturing firms. *Journal of Cleaner Production*, 14(17), 1455–1465. <http://dx.doi.org/10.1016/j.jclepro.2006.01.018>.
- Curtis, R. (1994). Narrative form and normative force: Baconian story-telling in popular science. *Social Studies of Science*, 24(3), 419–461.
- Czarniawska, B. (2011). Narrating organization studies. *Narrative Inquiry*, 21(2), 337–344.
- Dahlstrom, M. F. (2010). The role of causality in information acceptance in narratives: An example from science communication. *Communication Research*. <http://dx.doi.org/10.1177/0093650210362683>.
- Davies, A., Brady, T., & Hobday, M. (2007). Organizing for solutions: Systems seller vs. systems integrator. *Industrial Marketing Management*, 36(2), 183–193. <http://dx.doi.org/10.1016/j.indmarman.2006.04.009>.
- de Waard, A. (2010). From Proteins to Fairytales: Directions in Semantic Publishing. *Intelligent Systems, IEEE*, 25(2), 83–88. <http://dx.doi.org/10.1109/MIS.2010.49>.
- Deetz, S. (1996). Describing differences in approaches to organization science: Rethinking burrell and morgan and their legacy. *Organization Science*, 7(2), 191–207. <http://dx.doi.org/10.2307/2634981>.
- Denyer, D., & Tranfield, D. (2006). Using qualitative research synthesis to build an actionable knowledge base. *Management Decision*, 44(2), 213–227. <http://dx.doi.org/10.1108/00251740610650201>.
- Eco, U. (1994). *The limits of interpretation*. 869. Bloomington: Indiana University Press.
- Erdvardsson, B., Holmlund, M., & Strandvik, T. (2008). Initiation of business relationships in service-dominant settings. *Industrial Marketing Management*, 37(3), 339–350. <http://dx.doi.org/10.1016/j.indmarman.2007.07.009>.
- Eggert, A., Hogreve, J., Ulaga, W., & Muenkhoff, E. (2011). Industrial services, product innovations, and firm profitability: A multiple-group latent growth curve analysis. *Industrial Marketing Management*, 40(5), 661–670.
- Fang, E., Palmatier, R. W., & Steenkamp, J.-B. E. M. (2008). Effect of service transition strategies on firm value. *Journal of Marketing*, 72(5), 1–14.
- Feldman, M. S., Sköddberg, K., Brown, R. N., & Homer, D. (2004). Making sense of stories: A rhetorical approach to narrative analysis. *Journal of Public Administration Research & Theory*, 14(2), 147–170. <http://dx.doi.org/10.1093/jopart/muh010>.
- Ferreira, F. N. H., Proença, J. F., Spencer, R., & Cova, B. (2013). The transition from products to solutions: External business model fit and dynamics. *Industrial Marketing Management*, 42(7), 1093–1101. <http://dx.doi.org/10.1016/j.indmarman.2013.07.010>.
- Finne, M., Brax, S., & Holmström, J. (2013). Reversed servitization paths: A case analysis of two manufacturers. *Service Business*, 7(4), 513–537. <http://dx.doi.org/10.1007/s11628-013-0182-1>.
- Fischer, T., Gebauer, H., Gregory, M., Ren, G., & Fleisch, E. (2010). Exploitation or exploration in service business development? Insights from a dynamic capabilities perspective. *Journal of Service Management*, 21(5), 591–624.
- Fournier, V., & Grey, C. (2000). At the critical moment: Conditions and prospects for critical management studies. *Human Relations*, 53(1), 7–32.
- Gadde, L.-E. (2014). Distribution network dynamics and the consequences for intermediaries. *Industrial Marketing Management*, 43(4), 622–629. <http://dx.doi.org/10.1016/j.indmarman.2014.02.005>.
- Galbraith, J. R. (2002). Organizing to deliver solutions. *Organizational Dynamics*, 31(1), 194–207.

- Gebauer, H., & Friedli, T. (2005). Behavioral implications of the transition process from products to services. *The Journal of Business & Industrial Marketing*, 20(2/3), 70–78.
- Gebauer, H., Fleisch, E., & Friedli, T. (2005). Overcoming the service paradox in manufacturing companies. *European Management Journal*, 23(1), 14–26. <http://dx.doi.org/10.1016/j.emj.2004.12.006>.
- Gebauer, H., Ren, G.-J., Valtakoski, A., & Reynoso, J. (2012). Service-driven manufacturing. *Journal of Service Management*, 23(1), 120–136. <http://dx.doi.org/10.1108/09564231211209005>.
- Genette, G. (1980). *Narrative discourse: An essay in method*. New York: Cornell University Press.
- Gooding, D. (1990). *Experiment and the making of meaning: Human Agency in Scientific Observation*. Berlin.
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., Kyriakidou, O., & Peacock, R. (2005). Storylines of research in diffusion of innovation: A meta-narrative approach to systematic review. *Social Science & Medicine*, 61(2), 417–430. <http://dx.doi.org/10.1016/j.socscimed.2004.12.001>.
- Gremyr, I., Löfberg, N., & Witell, L. (2010). Service innovations in manufacturing firms. *Managing Service Quality*, 20(2), 161–175.
- Grönroos, C. (1994). From marketing mix to relationship marketing: Towards a paradigm shift in marketing. *Management Decision*, 32(2), 4–20.
- Grönroos, C., & Helle, P. (2010). Adopting a service logic in manufacturing: Conceptual foundation and metrics for mutual value creation. *Journal of Service Management*, 21(5), 564–590. <http://dx.doi.org/10.1108/09564231011079057>.
- Gross, A. G. (1990). *The rhetoric of science*. Cambridge: Harvard University Press.
- Gross, A. G., Harmon, J. E., & Reidy, M. S. (2002). *Communicating science: The scientific article from the 17th century to the present*. Oxford: Oxford University Press.
- Grubic, T. (2014). Servitization and remote monitoring technology. *Journal of Manufacturing Technology Management*, 25(1), 100–124. <http://dx.doi.org/10.1108/JMTM-05-2012-0056>.
- Guba, E. S., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). Thousand Oaks, Ca: Sage.
- Harvey, C., Kelly, A., Morris, H., & Rowlinson, M. (2010). The Association of Business Schools. *Academic Journal Quality Guide, Version 4*.
- Holmes, F. L. (1989). Argument and Narrative in Scientific Writing. In Dear (Ed.), *The Literary Structure of Scientific Argument* (Vol. 164–181). Philadelphia: University of Pennsylvania Press.
- Jahn, M. (2005). Narratology: A guide to the theory of narrative. *English Department, University of Cologne*, 28.
- Johansson, P., & Olhager, J. (2004). Industrial service profiling: Matching service offerings and processes. *International Journal of Production Economics*, 89(3), 309–320. [http://dx.doi.org/10.1016/S0925-5273\(03\)00028-8](http://dx.doi.org/10.1016/S0925-5273(03)00028-8).
- Johnstone, S., Dainty, A., & Wilkinson, A. (2009). Integrating products and services through life: An aerospace experience. *International Journal of Operations & Production Management*, 29(5), 520–538. <http://dx.doi.org/10.1108/01443570910953612>.
- Karmarkar, U. (2004). Will you survive the service revolution? *Harvard Business Review* (June), 101–107.
- Kastalli, I. V., Van Looy, B., & Neely, A. (2013). Steering manufacturing firms towards service business model innovation. *California Management Review*, 56, 100–123.
- Kindström, D., Kowalkowski, C., & Sandberg, E. (2013). Enabling service innovation: A dynamic capabilities approach. *Journal of Business Research*, 66(8), 1063–1073. <http://dx.doi.org/10.1016/j.jbusres.2012.03.003>.
- Knorr-Cetina, K. D. (1981). *The manufacture of knowledge: An essay on the constructivist and contextual nature of science*. Oxford: Pergamon Press.
- Kohtamäki, M., Partanen, J., Parida, V., & Wincent, J. (2013). Non-linear relationship between industrial service offering and sales growth: The moderating role of network capabilities. *Industrial Marketing Management*, 42(8), 1374–1385. <http://dx.doi.org/10.1016/j.indmarman.2013.07.018>.
- Kowalkowski, C., Kindström, D., Alejandro, T. B., Brege, S., & Biggemann, S. (2012). Service infusion as agile incrementalism in action. *Journal of Business Research*, 65(6), 765–772. <http://dx.doi.org/10.1016/j.jbusres.2010.12.014>.
- Kowalkowski, C., Windahl, C., Kindström, D., & Gebauer, H. (2015). What service transition? Rethinking established assumptions about manufacturers' service-led growth strategies. *Industrial Marketing Management*, 45, 59–69. <http://dx.doi.org/10.1016/j.indmarman.2015.02.016>.
- Kowalkowski, C., Witell, L., & Gustafsson, A. (2013). Any way goes: Identifying value constellations for service infusion in SMEs. *Industrial Marketing Management*, 42(1), 18–30. <http://dx.doi.org/10.1016/j.indmarman.2012.11.004>.
- Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago: University of Chicago Press.
- Kumar, N. (2006). Strategies to fight low-cost rivals. *Harvard Business Review*, 84(12), 104–112.
- Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Cambridge, MA: Harvard university press.
- Latour, B., & Woolgar, S. (1986). *Laboratory life: The construction of scientific facts*. Princeton University press.
- Lay, G., Copani, G., Jäger, A., & Biege, S. (2010). The relevance of service in European manufacturing industries. *Journal of Service Management*, 21(5), 715–726. <http://dx.doi.org/10.1108/09564231011092908>.
- Lightfoot, H. W., Baines, T., & Smart, P. (2013). The servitization of manufacturing: a systematic literature review of interdependent trends. *International Journal of Operations & Production Management*, 33(11/12), 1408–1434. <http://dx.doi.org/10.1108/IJOPM-07-2010-0196>.
- Lindberg, N., & Nordin, F. (2008). From products to services and back again: Towards a new service procurement logic. *Industrial Marketing Management*, 37(3), 292–300. <http://dx.doi.org/10.1016/j.indmarman.2007.07.006>.
- Lovelock, C. H., & Gummesson, E. (2004). Whither services marketing? In search of a new paradigm and fresh perspectives. *Journal of Service Research*, 7(1), 20–41. <http://dx.doi.org/10.1177/1094670504266131>.
- Lowe, S., & Hwang, K.-S. (2012). A NICE agenda for IMP research. *Industrial Marketing Management*, 41(4), 706–714. <http://dx.doi.org/10.1016/j.indmarman.2011.08.001>.
- MacCormac, E. R. (1976). *Metaphor and myth in science and religion*. Duke University press.
- Makkonen, H., Aarikka-Stenroos, L., & Olkkonen, R. (2012). Narrative approach in business network process research – Implications for theory and methodology. *Industrial Marketing Management*, 41(2), 287–299. <http://dx.doi.org/10.1016/j.indmarman.2012.01.012>.
- Malleret, V. (2006). Value creation through service offers. *European Management Journal*, 24(1), 106–116. <http://dx.doi.org/10.1016/j.emj.2005.12.012>.
- Martin, C. R., Jr., & Horne, D. A. (1992). Restructuring towards a service orientation: The strategic challenges. *Journal of Service Management*, 3(1), 25.
- Martinez, V., Bastl, M., Kingston, J., & Evans, S. (2010). Challenges in transforming manufacturing organisations into product-service providers. *Journal of Manufacturing Technology Management*, 21(4), 449–469. <http://dx.doi.org/10.1108/17410381011046571>.
- Mathieu, V. (2001). Product services: from a service supporting the product to a service supporting the client. *Journal of Business & Industrial Marketing*, 16(1), 39–58. <http://dx.doi.org/10.1108/08858620110364873>.
- Matthyssens, P., & Vandenbempt, K. (2008). Moving from basic offerings to value-added solutions: Strategies, barriers and alignment. *Industrial Marketing Management*, 37(3), 316–328. <http://dx.doi.org/10.1016/j.indmarman.2007.07.008>.
- Mauthner, N. S., & Doucet, A. (2003). Reflexive accounts and accounts of reflexivity in qualitative data analysis. *Sociology*, 37(3), 413–431. <http://dx.doi.org/10.1177/00380385030373002>.
- Mauthner, N. S., & Doucet, A. (2008). Knowledge once divided can be hard to put together again: An epistemological critique of collaborative and team-based research practices. *Sociology*, 42(5), 971–985. <http://dx.doi.org/10.1177/0038038508094574>.
- Meindl, J. R., & Ehrlich, S. B. (1987). The romance of leadership and the evaluation of organizational performance. *The Academy of Management Journal*, 30(1), 91–109.
- Möller, K. (2013). Theory map of business marketing: Relationships and networks perspectives. *Industrial Marketing Management*, 42(3), 324–335. <http://dx.doi.org/10.1016/j.indmarman.2013.02.009>.
- Myers, G. (1990). *Writing biology: Texts in the social construction of scientific knowledge*. Madison: University of Wisconsin Press.
- Neely, A. (2008). Exploring the financial consequences of the servitization of manufacturing. *Operations Management Research*, 1(2), 103–118. <http://dx.doi.org/10.1007/s12063-009-0015-5>.
- Neu, W. A., & Brown, S. W. (2005). Forming successful business-to-business Services in Goods-Dominant Firms. *Journal of Service Research*, 8(1).
- Ng, I. C. L., & Nudurupati, S. S. (2010). Outcome-based service contracts in the defence industry – Mitigating the challenges. *Journal of Service Management*, 21(5), 656–674. <http://dx.doi.org/10.1108/09564231011079084>.
- Oliva, R., & Kallenberg, R. (2003). Managing the transition from products to services. *International Journal of Service Industry Management*, 14(2), 160–172. <http://dx.doi.org/10.1108/09564230310474138>.
- Ostrom, A. L., Bitner, M. J., Brown, S. W., Burkhardt, K. A., Goul, M., Smith-Daniels, V., ... Rabinovich, E. (2010). Moving forward and making a difference: Research priorities for the science of service. *Journal of Service Research*, 13(1), 4–36. <http://dx.doi.org/10.1177/1094670509357611>.
- Parker, M. (2002). *Against management: Organisation in the Age of Managerialism*. Cambridge: Polity.
- Pawar, K. S., Beltagui, A., & Riedel, J. C. K. H. (2009). The PSO triangle: designing product, service and organisation to create value. *International Journal of Operations & Production Management*, 29(5), 468–493. <http://dx.doi.org/10.1108/01443570910953595>.
- Pentland, B. T. (1999). Building process theory with narrative: From description to explanation. *Academy of Management Review*, 24(4), 711–724.
- Penttinen, E., & Palmer, J. (2007). Improving firm positioning through enhanced offerings and buyer-seller relationships. *Industrial Marketing Management*, 36(5), 552–564. <http://dx.doi.org/10.1016/j.indmarman.2006.02.005>.
- Peters, L. D., Pressey, A. D., Vanharanta, M., & Johnston, W. J. (2013). Constructivism and critical realism as alternative approaches to the study of business networks: Convergences and divergences in theory and in research practice. *Industrial Marketing Management*, 42(3), 336–346. <http://dx.doi.org/10.1016/j.indmarman.2013.02.003>.
- Prelli, L. J. (1989). *A rhetoric of science: Inventing scientific discourse*. Columbia, SC: University of South Carolina Press.
- Quinn, J. B., & Paquette, P. C. (1990). Technology in services: Creating organizational revolutions. *Sloan Management Review (Winter)*, 67–78.
- Quinn, J. B., Doorley, T. L., & Paquette, P. C. (1990). Beyond products: Services-based strategy. *Harvard Business Review*, 68(2), 58–67.
- Raddats, C., & Burton, J. (2011). Strategy and structure configurations for services within product-centric businesses. *Journal of Service Management*, 22(4), 522–539. <http://dx.doi.org/10.1108/09564231111155105>.
- Reim, W., Sjödin, D. R., Parida, V., & Persson, A. (2014). Functional product business models: A review of the literature and identification of operational tactical practices. *Procedia CIRP*, 22(0), 157–162. <http://dx.doi.org/10.1016/j.procir.2014.07.022>.
- Rhodes, C., & Brown, A. D. (2005). Narrative, organizations and research. *International Journal of Management Reviews*, 7(3), 167–188. <http://dx.doi.org/10.1111/j.1468-2370.2005.00112.x>.
- Riessman, C. K. (2002). Accidental cases: Extending the concept of positioning in narrative studies. *Narrative Inquiry*, 12(1), 37–42. <http://dx.doi.org/10.1075/ni.12.1.07rie>.
- Riessman, C. K. (2005). *1 narrative analysis*.
- Rosenzweig, P. (2007). Misunderstanding the nature of company performance: The halo effect and other business delusions. *California Management Review*, 49(4), 6–20.

- Rothenberg, S. (2007). Sustainability through servicing. *MIT Sloan Management Review*, 48(2), 83–89.
- Rouse, J. (1990). The narrative reconstruction of science. *Inquiry*, 33(2), 179–196. <http://dx.doi.org/10.1080/00201749008602217>.
- Said, E. W. (1978). *Orientalism: Western representations of the orient*. London: Routledge and Kegan Paul.
- Salonen, A. (2011). Service transition strategies of industrial manufacturers. *Industrial Marketing Management*, 40(5), 683–690. <http://dx.doi.org/10.1016/j.indmarman.2011.05.005>.
- Sheehan, R. J., & Rode, S. (1999). On scientific narrative: Stories of light by Newton and Einstein. *Journal of Business and Technical Communication*, 13(3), 336–358. <http://dx.doi.org/10.1177/105065199901300306>.
- Shepherd, C., & Ahmed, P. K. (2000). From product innovation to solutions innovation: A new paradigm for competitive advantage. *European Journal of Innovation Management*, 3(2), 100–106. <http://dx.doi.org/10.1108/14601060010322293>.
- Shepherd, C., & Challenger, R. (2013). Revisiting paradigm(s) in management research: A rhetorical analysis of the paradigm wars. *International Journal of Management Reviews*, 15(2), 225–244. <http://dx.doi.org/10.1111/ijmr.12004>.
- Silverman, D. (2010). *Qualitative research*. Sage.
- Spring, M., & Araujo, L. (2013). Beyond the service factory: Service innovation in manufacturing supply networks. *Industrial Marketing Management*, 42(1), 59–70. <http://dx.doi.org/10.1016/j.indmarman.2012.11.006>.
- Steinmetz, G. (2004). Odious comparisons: Incommensurability, the case study, and “small n’s” in sociology. *Sociological Theory*, 22(3), 371–400. <http://dx.doi.org/10.1111/j.0735-2751.2004.00225.x>.
- Storbacka, K., Windahl, C., Nenonen, S., & Salonen, A. (2013). Solution business models: Transformation along four continua. *Industrial Marketing Management*, 42(5), 705–716. <http://dx.doi.org/10.1016/j.indmarman.2013.05.008>.
- Suddaby, R., & Greenwood, R. (2005). Rhetorical strategies of legitimacy. *Administrative Science Quarterly*, 50, 35–67.
- Tadajewski, M. (2008). Incommensurable paradigms, cognitive bias and the politics of marketing theory. *Marketing Theory*, 8(3), 273–297. <http://dx.doi.org/10.1177/1470593108093557>.
- Tadajewski, M. (2014). Paradigm debates and marketing theory, thought and practice. *Journal of Historical Research in Marketing*, 6(3), 303.
- Tan, A. R., Matzen, D., McAloone, T. C., & Evans, S. (2010). Strategies for designing and developing services for manufacturing firms. *CIRP Journal of Manufacturing Science and Technology*, 3(2), 90–97. <http://dx.doi.org/10.1016/j.cirpj.2010.01.001>.
- Tatli, A., & Özbilgin, M. F. (2012). An emic approach to intersectional study of diversity at work: A Bourdieuan framing. *International Journal of Management Reviews*, 14(2), 180–200. <http://dx.doi.org/10.1111/j.1468-2370.2011.00326.x>.
- Thompson, P., & McHugh, D. (1995). *Work organisations: A critical introduction*. Basingstoke: MacMillan Business.
- Todorov, T. (1969). *Grammaire du Décaméron*. 3, The Hague: Mouton.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, 14, 207–222. <http://dx.doi.org/10.1111/1467-8551.00375>.
- Tronvoll, B., Brown, S. W., Gremler, D. D., & Edvardsson, B. (2011). Paradigms in service research. *Journal of Service Management*, 22(5), 560–585. <http://dx.doi.org/10.1108/09564231111174951>.
- Truby, J. (2007). *The anatomy of story: 22 steps to becoming a master storyteller*. New York: Faber and Faber, Inc.
- Tukker, A., & Tischner, U. (2006). Product-services as a research field: Past, present and future. Reflections from a decade of research. *Journal of Cleaner Production*, 14(17), 1552–1556. <http://dx.doi.org/10.1016/j.jclepro.2006.01.022>.
- Tuli, K. R., Kohli, A. K., & Bharadwaj, S. G. (2007). Rethinking customer solutions: From product bundles to relational processes. *Journal of Marketing*, 71(3), 1–17. <http://dx.doi.org/10.1509/jmkg.71.3.1>.
- Turunen, T. (2013). Organizing service operations in manufacturing. (Doctor of Science (Tech.)), Aalto University, School of Science, Espoo. Retrieved from <http://lib.tkk.fi/Diss/2013/isbn9789526049625/isbn9789526049625.pdf>
- Turunen, T., & Toivonen, M. (2011). Organizing customer-oriented service business in manufacturing. *Operations Management Research*, 4(1–2), 7484. <http://dx.doi.org/10.1007/s12063-011-0047-5>.
- Ulaga, W., & Reinartz, W. J. (2011). Hybrid offerings: How manufacturing firms combine goods and services successfully. *Journal of Marketing*, 75(6), 5–23. <http://dx.doi.org/10.1509/jmkg.75.6.5>.
- Van Dijk, T. (2004). Text and context of parliamentary debates. In P. Bayley (Ed.), *Cross-cultural perspectives on parliamentary discourse*. Amsterdam: Benjamins.
- Van Leeuwen, T. (2007). Legitimation in discourse and communication. *Discourse & Communication*, 1(1), 91–112. <http://dx.doi.org/10.1177/1750481307071986>.
- van Leeuwen, T., & Wodak, R. (1999). Legitimizing immigration control: A discourse-historical analysis. *Discourse Studies*, 1(1), 83–118. <http://dx.doi.org/10.1177/1461445699001001005>.
- Vandermerwe, S., & Rada, J. (1988). Servitization of business: Adding value by adding services. *European Management Journal*, 6(4), 314–324.
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1–17. <http://dx.doi.org/10.1509/jmkg.68.1.1.24036>.
- Vargo, S. L., & Lusch, R. F. (2008). From goods to service(s): Divergences and convergences of logics. *Industrial Marketing Management*, 37(3), 254–259. <http://dx.doi.org/10.1016/j.indmarman.2007.07.004>.
- Velamuri, V. K., Neyer, A. K., & Möslin, K. M. (2011). Hybrid value creation: A systematic review of an evolving research area. *Journal für Betriebswirtschaft*, 61(1), 3–35. <http://dx.doi.org/10.1007/s11301-011-0070-5>.
- Verene, D. P. (1993). Metaphysical narration, science, and symbolic form. *The Review of Metaphysics*, 47(1), 115–132. <http://dx.doi.org/10.2307/20129455>.
- Vickers, D. (2008). Beyond the hegemonic narrative - A study of managers. *Journal of Organizational Change Management*, 21(5), 560–573. <http://dx.doi.org/10.1108/09534810810903216>.
- Washbourne, N., & Dicke, W. (2001). Dissolving organization theory? A narrative analysis of water management. *International Studies of Management & Organization*, 31(3), 91–112. <http://dx.doi.org/10.2307/40397510>.
- Welch, C., Plakoyiannaki, E., Piekkari, R., & Paavilainen-Mäntymäki, E. (2013). Legitimizing diverse uses for qualitative research: A rhetorical analysis of two management journals. *International Journal of Management Reviews*, 15(2), 245–264. <http://dx.doi.org/10.1111/ijmr.12001>.
- Windahl, C., & Lakemond, N. (2010). Integrated solutions from a service-centered perspective: Applicability and limitations in the capital goods industry. *Industrial Marketing Management*, 39(8), 1278–1290. <http://dx.doi.org/10.1016/j.indmarman.2010.03.001>.
- Wise, R., & Baumgartner, P. (1999). Go downstream: The new profit imperative in manufacturing. *Harvard Business Review*, 77(5), 133–141.
- Yin, R. K. (1994). *Case Study Research. Design and Methods (2 ed. Vol. 5)*. Thousand Oaks, CA: Sage.