



Research in business service purchasing: current status and directions for the future

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Abstract

This paper provides a systematic literature review and a future research agenda on the topic of purchasing of business services (BuSe). BuSe purchasing has increasingly gained in importance during the past years. It has established itself as a relevant sub-discipline in purchasing and supply management. This “state of research” paper identifies the main authors, relevant topics and practical implications as well as upcoming developments. For this purpose, 118 publications were collected and analyzed. While early research on BuSe purchasing was strongly influenced by the American marketing literature, more recent papers are also published by European authors and institutions coming from the core of the purchasing and supply management discipline. In general, the literature lacks in theoretical foundation and longitudinal methods while assuming high generalizability. Based on the analyses and additional discussions within the research team, directions for future research are identified at a political, economic, social and technological (PEST) level. The following trends for service purchasing were elaborated: (1) “Glocalisation” and near-shoring, (2) sustainability and corporate social responsibility (CSR), (3) internal and external collaboration, (4) value-driven contract and payment systems, (5) hybrid products and servitization, and (6) big data analytics, artificial intelligence and process automation.

Keywords Systematic literature review · Buying · Procurement · Sourcing · Machine learning · Blockchain · Performance based contracting · Digitalization · Industry 4.0

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1 Introduction

“Services generate more than two-thirds of global gross domestic product (GDP), attract over three-quarters of foreign direct investment (FDI) in advanced economies, employ the most workers, and create most new jobs globally” (Nordås et al. 2017, p. 9). Following this statement, the global economy can be regarded as service driven. In this context, firms are not only the producers of services, but also their consumers. This is due to increased levels of specialization which implies that companies outsource their non-core functions and create less value-added services themselves. Additionally, servitization and digitalization of business processes transform traditional product-based firms to service providers. The share of externally sourced business services (BuSe) has increased over the last decades and is estimated to account for at least 20–30% of total spend (Hänsel and Hofmann 2017). In the study at hand we define BuSe as services, which are delivered by firms or organizations and bought by other firms or organizations, which makes BuSe distinct from organizations concerned with consumer services (Holschbach 2013; Axelsson and Wynstra 2002; van der Valk and Rozemeijer 2009).

Despite this significance, knowledge about purchasing of BuSe in practice and academia is still limited (Bals et al. 2009; Ellram and Tate 2015; Roth et al. 2004). This may be due to the continued focus on purchasing of goods. In addition, purchasing of BuSe is considered more difficult than purchasing of goods by practitioners (Fitzsimmons et al. 1998a; Stock and Zinszer 1987; van der Valk and Rozemeijer 2009). Grönroos (2009, p. 357) argues that this may result from the fact that producers of services are “value co-creators jointly with their customers”. Axelsson and Wynstra (2002) stress that the inherent characteristics of services make certain steps of the purchasing process for BuSe more difficult, important or just plain different (see also Wynstra et al. 2018). This was already noted by Wittreich (1966, p. 153), who remarked that the rich literature written in the area of goods purchasing is not applicable for buying services due to the different characteristics of services. Van der Valk (2008, p. 301) summarizes that existing knowledge in the field of purchasing has mostly been aimed at buying goods and applying it to services is “inadequate”. Additionally, the existing research in BuSe purchasing is spread over various research areas and lacks clarity in terminology and concepts.

Thus, the state of the knowledge does not match the importance of the subject. In order to collect and recap the current state of knowledge, this paper provides a systematic review of the existing literature in the area of service purchasing. As Boote and Beile (2005, p. 3) explain “a researcher cannot perform significant research without first understanding the literature in the field”. A previous literature review on this topic was published by Nordin and Agndal (2008, p. 1). The authors’ goal was to “review, analyze and categorize empirical research” on purchasing of BuSe in the private sector. Their publication provides a first broad overview of the literature on BuSe. However, it lacks in transparency and reproducibility as the authors do not reveal how the keywords were devised and what combinations of keywords were used in the search.

Furthermore, their collected body of literature is more than 10 years old now, which in itself justifies a new analysis of the current status of research (Short 2009).

Despite the advances in research on purchasing of BuSe in the last decade, there is still much room for improvements. Shifting the focus from backward- to forward-looking, an agenda for potential future research is still missing. Such an agenda can be developed on basis of the criticism on the current status of research, which serves as a “a firm foundation for advancing knowledge” in the particular field (Webster and Watson 2002, p. xiii). Thus, future research in BuSe purchasing should not be restricted on theoretical and methodological issues only but should also focus on new developments and relevant content in practice.

Our review tries to answer three research questions, which are guided by three ideas. First, we want to better understand what the current state in this field i.e. what topics, authors and networks make up the research of BuSe. Second, we aim at finding theoretical and methodological gaps in the existing literature to assess the strengths and potential weaknesses of the research field. Third, we would like to identify in which direction the service purchasing research field should go i.e. what new topics should be addressed by future research:

- *RQ1* What is the current state of research on business service purchasing?
- *RQ2* What are theoretical and methodological gaps in the field of business service purchasing?
- *RQ3* What are topics that need to be addressed in the future by business service purchasing?

As the first two research questions deal with the status quo of research in the area of purchasing of BuSe, they will be answered using the method of a systematic literature review. The third research question, by contrast, is related to future topics of BuSe purchasing which may not yet be reflected in the literature. Therefore, the literature review in combination with external studies were used as a basis for further discussion within the research team.

In the literature, only studies can be found which either include conceptual paper or draw on empirical paper, as in the case of Nordin and Agndal (2008), for example. Therefore, both conceptual and empirical papers were consulted to enhance the quality of the research. Furthermore, our review does not exclude any business sectors, industries or countries. In order to limit the scope, only scientific publications in English at a certain quality level were taken into consideration.

The paper is organized as follows: The next section further explains the method of our review. The third and the fourth section analyze the body of literature on bibliometric and content aspects. Based on the previous analysis, a future agenda along the PEST levels is developed in Sect. 5. The paper ends with a conclusion in Sect. 6.

2 Method

This paper provides a systematic review of the literature on BuSe purchasing. Systematic in this context means a “structured approach to identifying, evaluation and synthesizing research”, while also providing a “reproducible process” for future research (vom Brocke et al. 2015, pp. 9–10). Additionally, the overarching idea is to counteract “bias by making explicit the values and assumptions” that went into the review process (Tranfield and Denyer 2003, p. 208). To achieve this, we clarify how the body of literature was collected. The procedure applied is informed by the publications of vom Brocke et al. (2015), Tranfield and Denyer (2003) and expanded by ideas from Provost and Fawcett (2013). It was conducted in June 2018.

2.1 Keyword definition

In a first step, we aimed at identifying keywords which cover the field of BuSe purchasing comprehensively and represent the content of most papers in this field. This paper refers to BuSe as services, which are delivered by firms or organizations and bought by other firms or organizations (Axelsson and Wynstra 2002). Examples for BuSe are marketing, information technology, facility management or consultancy services (van der Valk and Rozemeijer 2009). In order to achieve this, an initial set of literature, which was deemed relevant in the field of BuSe purchasing, was screened by the researchers. The screening was based on a set of literature, which spread over different forms of publications (papers, books and conference papers), established and upcoming authors and new and old articles. The collection included six publications by Day and Barksdale (1994), Axelsson and Wynstra (2002), Agndal et al. (2007), Van Weele (2005), van der Valk (2008) and Hänsel and Hofmann (2016).

It became clear that there is a plethora of words used to express similar concepts. Axelsson and Wynstra (2002, p. 19), for example, use “purchasing, procurement and buying interchangeably [...] for reasons of variety”. Van der Valk (2008, p. 301) mainly uses “procurement”, Agndal et al. (2007, p. 188) focus on the term “sourcing” and Hänsel and Hofmann (2016, p. 2) speak of “purchasing”. Additionally, the authors often did not state if their publications are focused either on the B2B or the B2C sector. Therefore, we excluded both terms from our list of initial keywords.

To help find the appropriate keywords a simple “bag of words” approach was used from the data mining literature. The approach “[...] treats every word in a document as a potentially important keyword” (Provost and Fawcett 2013, p. 250). Then, the frequency of a word in the document is counted. The approach was refined by calculating, additionally to the frequency, the inverse document frequency (IDF) for each potential keyword. The IDF returns how special a term in a corpus of literature is. A corpus of literature is defined as a multitude of documents.

$$(IDF)(term) = 1 + \log \left[\frac{\text{Total number of documents}}{\text{Number of documents containing (term)}} \right]$$

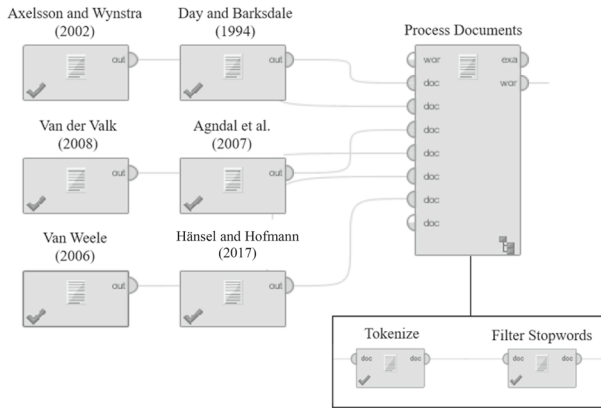


Fig. 1 Bag of words approach build in Rapidminer

Table 1 Bag of words-approach top-20 keywords

Keywords	Rank	Keywords	Rank	Keywords	Rank	Keywords	Rank
Sourcing	1	Process	6	Criteria	11	Purchase	16
Evaluation	2	Research	7	Customers	12	Industrial	17
Buying	3	Interaction	8	Quality	13	Involved	18
Company	4	Customer	9	Firm	14	Supply	19
Supplier	5	Performance	10	Processes	15	Requirements	20

In our case the six documents from the initial set of literature were fully imported into *Rapidminer*¹ to identify the terms² which are most relevant for these six documents. The “Filter Stopwords”-operator was used to exclude the most common English words (for example, ‘and’, ‘or’, ‘is’ etc.) so that only specific words of these documents were counted (Fig. 1).

In the resulting list the absolute frequency of a keyword was divided by the *IDF*. Thus, words were favored which not only appeared frequently but also in multiple documents of the corpus. This resulted in the following terms (Table 1):

The terms were not yet “stemmed”, so terms such as customer and customers appeared both in the list. Also very general words like company were still included. This first selection of terms was elaborated by using them as search items in the database *Web of Science* and chosen or excluded based on the papers found. *Web of Science* was selected due to its interdisciplinary nature. In this way, the horizon of papers and topics relevant for the service purchasing literature was kept broad.

¹ Rapidminer is a data science platform which offers—among others—functions for data mining.

² In Rapidminer to process a text each phrase is broken up in its elements (words, symbols), which are called Tokens. This is operationalized in the program with the “Tokenize”-operator. For further information see Verma et al. (2014).

Table 2 Keywords used for the systematic literature review

Three groups of keywords
(service* procure*) OR (service* buy*) OR (service* source*) OR (service* purchase*)
(buy* sell*) AND (service*)
(consumer service* quality) OR (service* marketing value)

Table 3 Overview of the databases and settings used

Database	Search in	Language
ABI/INFORM COLLECTION (ProQuest)	Title	English
ECONLIT (EBSCO)	All (Title, Abstract, Text)	English
SCIENCEDIRECT (Elsevier)	Title	English
WEB OF SCIENCE (Thomson Reuters)	Title	English

Combined with a backward search of the papers already read, additional keywords were retrieved from the literature on service quality based on Parasuraman et al. (1985) and their SERVQUAL-model. A backward search refers to “reviewing the references of the articles” already found (Webster and Watson 2002, p. 16). Van der Valk (2008), for example, makes frequent links to Grönroos (1984), who provides insights on the nature of services in the marketing context. This resulted in three groups of keywords listed in Table 2, which were linked with Boolean operators (i.e. AND, OR). If there were variations for certain keywords the asterisk [*] was inserted to attain all variants, i.e. to stem the keywords (e.g. for the keywords buying, buyer, buyers and buying the term buy* was used).

2.2 Identification of databases

The goal of the next process step was to identify the databases, which retrieve the relevant publications on BuSe purchasing by means of using the keywords. The service purchasing literature is a sub-category of the business administration literature. Additionally, databases from literature reviews in similar fields were included, for example, from the previous review by Nordin and Agndal (2008) or the review by Müller and Stölzle (2016) on the topic of supply chain management. The four databases ultimately chosen were *ProQuest*, *EBSCO*, *ScienceDirect* and *Web of Science*.

Next, the settings in each of the databases were tested and defined. First, depending on the options of the specific database, the search was limited to peer-reviewed journals and publications in English. This resulted in a very high number of hits. For example, more than 69,000 results were returned for the keyword group (buy* sell*) AND (service*) in *ProQuest*. This led to the decision to limit the keyword search to the titles of the publication in three of four databases (see Table 3).

Table 4 Overview of the generated hits in the respective databases

Databases	Hits	Relevant ^a
ABI/INFORM COLLECTION (ProQuest)	345	36
ECONLIT (EBSCO)	312	7
SCIEDIRECT (Elsevier)	189	51
WEB OF SCIENCE (Thomson Reuters)	383	24
Total	1229	118

^aNo duplicates, focus on B2B and ranked journals in VHB and/or CABS

2.3 Data extraction

Our search settings resulted in 1229 hits, which had to be reduced to a more manageable number of papers. As the same keywords were used in different databases, the result contained 420 duplicates. These duplicates were eliminated which ended in 809 unique papers, which were further considered. After having read the abstract of these 809 articles, those related to B2C or papers wrongly classified by the databases (for example, wrong subject area, language, subject matter) were excluded from further examination.

In order to further narrow down the extensive literature and to ensure the quality of the articles reviewed, we followed an approach suggested by vom Brocke et al. (2015). As a rough proxy for quality, we only considered papers from journals that were listed either by the German Academic Association for Business Research (VHB)³ or the Chartered Association of Business Schools (CABS).⁴ This reduced the number of papers to 118, which were then part of further analysis (Table 4).

3 Bibliometric analysis

After having identified the 118 publications, they were bibliometrically analyzed. Bibliometric in this context refers to a “method [that] employs a quantitative approach for the description [...] of published research” (Zupic and Čater 2015, p. 430). The idea is to reveal and describe the general structure of the body of literature without going into detail about the topic at hand. Therefore, the body of literature is aggregated and analyzed with data mining tools (aggregation, author, co-authorship and co-citation analysis) to gain “insights into the field’s structure [and] social networks” (Zupic and Čater 2015, p. 430). The more advanced analyses (co-citation analysis) used a software called *VOSviewer*.⁵ It enables researchers to grasp the most relevant journals, institutions and networks in the BuSe purchasing literature

³ Full list from 2011: <http://vhbonline.org/vhb4you/jourqual/vhb-jourqual-archiv/vhb-jourqual-21-2011/jq21/>.

⁴ Full list from 2015: <https://chartereddabs.org/academic-journal-guide-2015-view/>.

⁵ *VOSviewer* is a free visualization-tool for bibliometric networks (www.vosviewer.com). For an exact explanation of the inner workings of the program consult Van Eck and Waltman (2010).

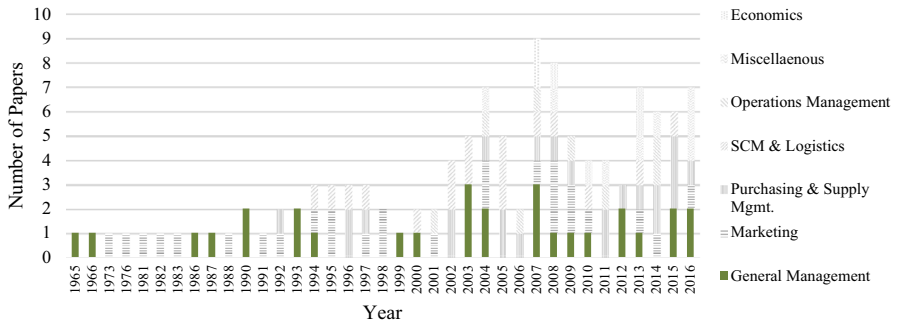


Fig. 2 Articles per journal groups over time

Table 5 Authors per geographic region and average year of associated publications

	North America	Europe	Asia and Oceania
Percentage and number of authors per geographic regions	36% (95)	57% (149)	7% (18)
Percentage and number of authors per geographic region since 2008	15% (19)	70% (87)	15% (18)
Average year of associated publications	1998	2008	2012

(Fahimnia et al. 2015). This software requires that papers are available in a certain digital format. This condition was only fulfilled by 85 of the 118 papers retrieved. Thus, those analyses were based on a limited corpus. The simpler analyses included the full list of 118 publications, which were manually analyzed regarding the listed authors, the associated institutions and the journal of publication and citations.

The results seen in Fig. 2 show that the literature on purchasing of BuSe has developed from a minor topic in the marketing and general marketing literature to an emancipated research subfield from 1965 to 2016. Most articles in this area were published in the *Journal of Purchasing and Supply Management* whereas *Industrial Marketing Management* was the journal of choice for older publications. Since 2010, purchasing of BuSe became a more prevalent issue in journals related to economic or political affairs (see, for example, Bardsley and Burfurd 2013; Jamalzadeh et al. 2008). This potential surge in interest is also reflected in the sheer number of papers as 73% (86 papers) of the corpus were published from 2000 onwards. The growth in the number of publications can be partially explained by the general rise of the number of scientific articles published. This is estimated to amount to 3% per year (Jinha 2010, p. 262). The growth rate of the number of papers in our corpus of literature, however, exceeds this trend by a wide margin of 19%. It therefore seems that there is a heightened interest in the subject matter. Geographically, a shift in terms of number of publications from American to European universities can be observed (Table 5).

In particular, North European universities such as Stockholm School of Economics, Erasmus University or Lappeenranta University of Technology hold a significant

share of publications. The associated researchers have predominantly a background in supply chain management and purchasing, although marketing-oriented researchers are present as well.

Until the 1990s exactly half of the publications in the corpus were published in the area of marketing. This started to change during the turn of the millennium with a “general increase in interest towards purchasing organizations” (Schneider and Wallenburg 2013, p. 145). During this period, an emancipation of purchasing as a separate function with its own publications, for example, the *European Journal of Purchasing and Supply Management* could be observed (cf. Bryntse 1996). This was also accompanied by an increasing interest for purchasing in research areas such as logistics, SCM or operations management (see Fig. 2). In the 2000s, publications emerged in a higher quantity, while being spread over a myriad of research branches. During this time publications under the classification “economics” and “miscellaneous” appeared as well. An example for the latter is the publication of Jamalzadeh et al. (2008), which looks at the “procurement of ancillary services” in the context of energy policy.

All in all, the bibliometric analysis suggests that the business service purchasing literature emerged from and is still dependent on the marketing literature.

In order to find the literature which is central to the academic discussion on BuSe purchasing, a co-citation analysis was conducted. The analysis calculates the “frequency with which two units are cited together”. The assumption is that the “more two items are cited together, the more likely it is that their content is related” (Zupic and Čater 2015, p. 431). This allowed us to model a “co-citation network”, which helps in assessing a “field’s cumulative tradition and reference disciplines” concerning authors and individual papers (Pasadeos et al. 1998, p. 55). The threshold for individual articles to be listed in the co-citation analysis was that they are at least nine times co-cited with another publication in one of the papers. Nine co-citations maximized the number of co-citations, while maintain a big enough number of articles.⁶ This reduced the total of 3227 references found in the limited⁷ corpus to 15 articles, which throughout are the most commonly co-cited (listed in “Appendix”). Figure 3 visualizes the 15 articles and places them in a spatial relation, i.e. the closer two articles are the more often they were cited together. The analysis of the most co-cited publications supports the previous findings about the importance of the marketing literature but paints a more nuanced picture. While marketing scholars such as Parasuraman et al. (1985) und Håkansson (1982) are prominently positioned, the most important publications identified in the co-citations analysis for the topic of BuSe stem from the area of service purchasing itself. Especially, the publications by Axelsson and Wynstra (2002) and Wynstra et al. (2006) play a crucial role as they were cited 30 times throughout the limited corpus and thus laid important foundations for almost all subsequent articles, specifically, regarding service classification.

⁶ 8 co-citations resulted in 18 articles, while 10 co-citation reduced the number of articles to 8.

⁷ Only 85 articles out the 118 were available on *Web of Science* digitally and could therefore be included in the co-citation analysis in VosViewer.

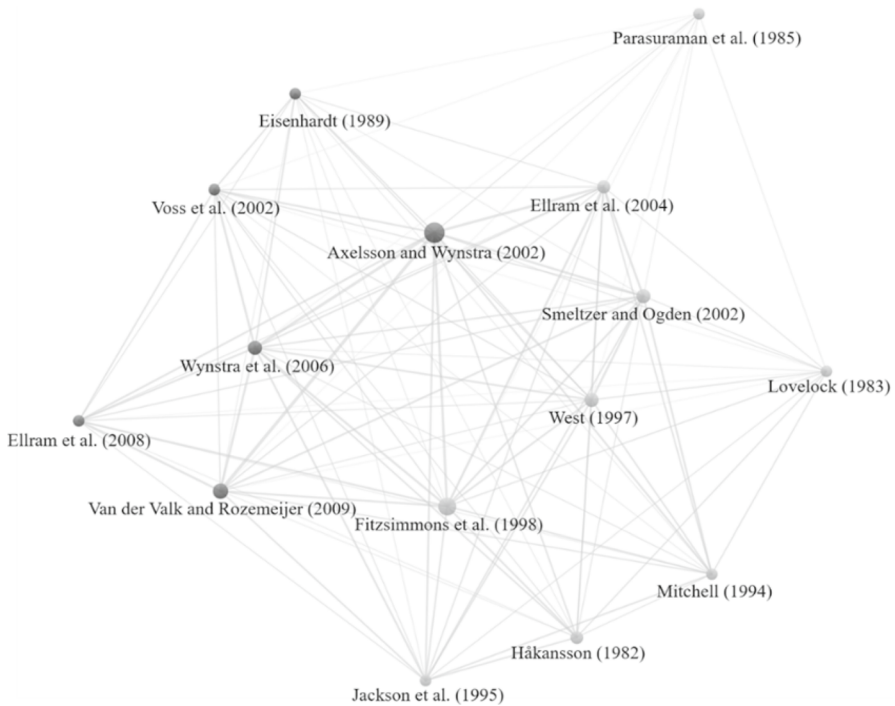


Fig. 3 Visualization of the 15 most co-cited publications in the limited corpus

The co-citation analysis also reveals a theoretical debate about the rationale of the purchasing function in general. Many authors try to understand the parties involved in the purchasing process on account of different interests using the agency theory (Eisenhardt 1989), whereas others regard purchasing as a function for cost optimization in terms of transactions based on Williamson (1975). As Voss et al. (2002) show, this debate is far from being concluded. This analysis also reveals the challenge between establishing general frameworks or models and acknowledging the interactive, relational nature of service exchanges as described, for example, by Grönroos (2000) and Håkansson (1982).

4 Content analysis

The 118 papers were then further analyzed in terms of four dimensions which broadly cover the research field of business service purchasing. These four dimensions were: (a) theoretical underpinning, (b) methodological basis, (c) industry and service purchased, and (d) purchasing process for services.

The four dimensions were derived following a bottom-up coding approach, by which categories were formed while classifying. This approach was necessary because there were no “classification schemes available [...] for purchasing and supply management research” (Wynstra 2010, p. 280). This iterative process allowed for an

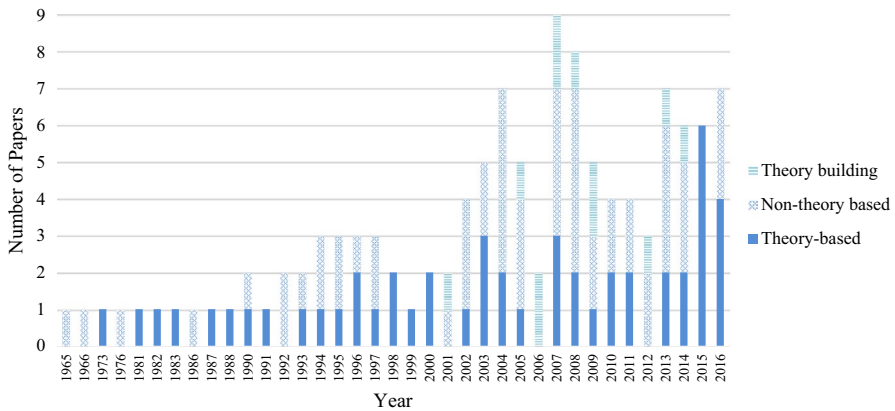


Fig. 4 Publications with a theoretical basis over time

“unbiased” consideration of literature, because the papers were not forced into ill-fitting pre-existing classes (Schneider and Wallenburg 2013, p. 145). Existing literature reviews for adjacent research fields helped in formulating and building categories (for example, Müller and Stölzle 2016; Wynstra 2010; Nordin and Agndal 2008; Seuring 2003). The categories initially obtained were iteratively assessed and re-applied during the process in order to attain accurate results (Carter and Ellram 2003).

First, the dimension “theoretical underpinning” was examined by checking whether the publications were based on a theory. Each of the 118 publications was scanned for references to a theory, which resulted in 50 publications (42%), depicted in Fig. 4.

The analysis unveiled a shift in the theoretical characteristics of the literature. While more than half (57%) of the publications written before the year 2000 were based on a clearly stated theory, this was only true for 37% of articles published from the year 2000 onwards. Over the whole period, the theories mostly applied are transaction cost theory by Williamson and agency theory by Eisenhardt. A list of the mentioned theories can be found in the “Appendix”. From 2000 onward, a substantial number of theory-related articles deal with theory building and apply an approach based in grounded theory (cf. Benjamin et al. 2014; Cox et al. 2007; Gligor and Holcomb 2013; Schiele 2005; van der Valk 2008; Wynstra et al. 2006). Additionally, this literature does not focus on testing theories but instead on typologies of service interactions (cf. van der Valk and Wynstra 2014) or service characteristics (cf. Werr and Perner 2007) to construct frameworks. This is in line with the observations by Nordin and Agndal (2008) in the empirical service sourcing literature. They note that publications in the BuSe purchasing field are “typically inclined towards descriptions of practices without any explicit linkages to theoretical perspectives at a higher level of abstraction” (Nordin and Agndal 2008, p. 33).

This development could also be a sign of an increasing emancipation of the topic of purchasing in general and of BuSe purchasing in particular. The foundation of specialized journals such as the *Journal of Purchasing and Supply Management* went together with more articles dedicated to empirically-driven theory building. This is consistent with the “evaluation of a discipline”-framework from Harland

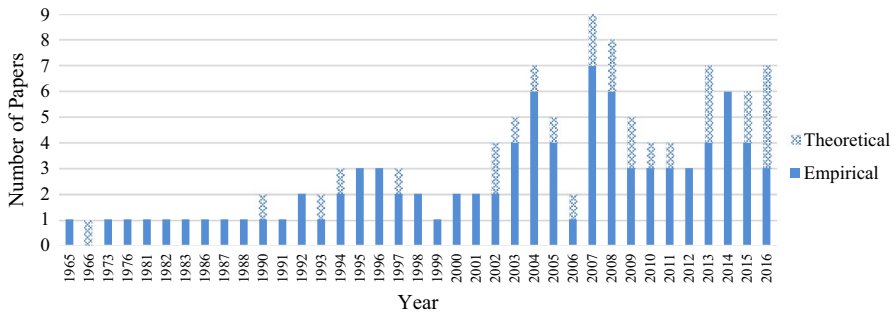


Fig. 5 Number of paper either empirical or theoretical over time

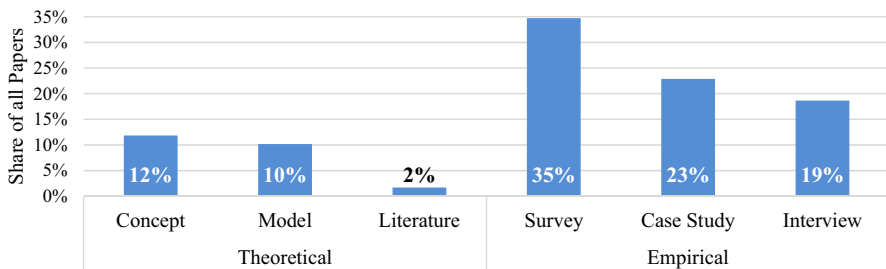


Fig. 6 Methodological foundation of all papers written

et al. (2006, p. 734), exemplifying the transition from a debate about content to the establishment of an emergent new discipline.

Second, the methodological basis of the corpus was analyzed. First, the publications were very broadly categorized as either being empirical (i.e. dependent on empirical findings) or theoretical (i.e. dependent on pre-existing models, theories or concepts). This revealed that 90 (76%) articles of the corpus can be classified as using an empirical foundation (see Fig. 5).

In the empirical publications' surveys, case studies, interviews or combinations of these were mostly employed. Examples for a combination are Hawkins et al. (2015) or Perner et al. (2014), who used an initial set of interviews to conduct a survey afterwards.

Publications with a theoretical foundation were also classified in three categories. These papers either drew heavily from pre-existing concepts, quantitative models or reviewed literature. The results from this analysis are presented in Fig. 6.

41 articles (35%) were based on survey-data while those publications mostly base their research on primary survey data. Only rarely secondary survey data were used for an article (see, for example, Dobrzykowski et al. 2012). Another pattern, which manifested in all empirically based publications, was their cross-sectional perspective. The information these papers use relate to one specific point in time and is then generalized. An exception was the paper by Ojansivu et al. (2013), in which case study data that spanned more than a decade, was used to reveal the “underlying dynamics of the post-project stage that plays out over

Table 6 Matrix of papers written in the categories of service industry and service type

	Industry of the buying company						Total
	Other	Public sector	Manufacturing	Logistics	Mix	General	
Type of BuSe							
Other	2	7	1		8	7	27
Food-related	3						3
Financial					3	1	4
Health-related	1	2			1		4
Consulting	2				2		4
IS/IT	1		1	1	2		5
Facility	2	3		1			6
Logistics	5	1	2		11	1	20
Mix		2	2	12	5		21
General	5		3	1	9	8	26
Total	21	15	9	15	41	17	118

time”. Furthermore, the comparably low amount of publications that reviewed literature is remarkable. The only publications found that mainly focus on a literature review in a specific topic are Holmlund et al. (2016), Fulconis et al. (2016) and the initially found paper by Nordin and Agndal (2008).

The body of literature in the BuSe purchasing is mostly based on an empirical basis, which matches with the assessment of research being focused on practical implications in the previous section. Surveys are the most widely used tools of researchers in this field to collect their data, while comprehensive literature reviews are practically non-existent.

Third, it was analyzed in which industry the buying firm is active and what type of service is in focus. Considering this perspective was mostly motivated by the writings of Smeltzer and Ogden (2002, p. 69), who proposed that “purchasing services varies across organizations”. Geisler and Hoang (1992) found out that there are both differences in the definition of “need” across companies when buying IT services as well as in the subsequent buying process. Wynstra et al. (2006) stress that varying buyer–seller interactions are “related to different types of services” (p. 476).

Table 6 shows results of the analysis during which each paper was classified in a matrix for both service type and service industry. Nine types of externally sourced BuSe could be identified with each of them being mentioned in at least three publications. A substantial amount of papers focused on BuSe which did not form a service category of its own and were therefore assigned to the category “Other”. The category “General” represents cases where the BuSe was not specified or examined from a general perspective. The category “Mix” is related to publications which dealt with several BuSe simultaneously.

The type of BuSe explicitly stated most frequently was “logistics services” with 21 papers (18%). These publications investigate aspects of services provided by a logistics provider to a buying company (see, for example, Caplice and Sheffi 2003;

Fulconis et al. 2016; Holter et al. 2008; Jothi Basu et al. 2015; Martin et al. 1988; Sheffi 2004; Zhang et al. 2013) and mainly focus on the relationship between the buyer and the seller (for example, Fulconis et al. (2016); Gligor and Holcomb (2013); Jothi Basu et al. (2015); Zhang et al. (2013)). Spina et al. (2013, p. 20) state that this may be part of a general trend in the purchasing literature as there seems to be a shift of the “unit of analysis [...] from the buyer perspective to the supply network one”, which is supposedly related to the trend of “outsourcing and globalization”. “Facility” services receive moderate attention and are often researched from a public sector perspective (Ancarani and Capaldo 2005; Benjamin et al. 2014; Guercini and Ranfagni 2015). Both the category “General” and “Mix” contain more than a third of articles (39%) and the topics often revolve around the improvement of quality, processes or definitions of service buying (Hawkins et al. 2015; Holschbach and Hofmann 2011; van der Valk and Rozemeijer 2009; Wynstra et al. 2006). The five remaining categories encompass too little publications for generalizations to be made. The full categorization again can be found in the “Appendix”.

Furthermore, the analysis shows that authors in the area of purchasing of BuSe seem to aim at generalizing their findings without accounting for the industry the firm belongs to. Therefore, in 41 of the 118 cases they chose buying companies from a mix of sectors. This is somewhat surprising as the purchasing of services varies greatly amongst different industries (Smeltzer and Ogden 2002, p. 69). By contrast, the public sector is often specifically addressed (13% of publications) because its purchasing processes and rationale differ from the private industry (Hansson and Holmgren 2011; Hawkins et al. 2015).

In addition, there seems to be a tendency towards generalizing findings to all types of services. Again, publications with mixed service types or an unspecified service item represent 40% (47 papers) of the corpus. Interestingly, logistics is frequently addressed both as service and industry and further explored in more recent literature whereas those publications mainly focus on the relationships management between the buyer and the seller (see, for example, Fulconis et al. (2016); Gligor and Holcomb (2013); Jothi Basu et al. (2015); Zhang et al. (2013)). This seems to follow a trend in the purchasing literature as Spina et al. (2013, p. 20) discovered a shift of the “unit of analysis [...] from the buyer perspective to the supply network one”.

Fourth, the literature was examined regarding the underlying purchasing process for BuSe. As van der Valk and Rozemeijer (2009) pointed out the purchasing process for BuSe is different than that for goods and should thus be defined in publications about the topic. The presumed differences between goods and services have prompted many authors to propose a specific purchasing process for services. Based on a comprehensive list of such processes by Holschbach (2013) a generic process model for purchasing of BuSe was created. Then, the 118 remaining publications were analyzed and wherever possible assigned to one of the process phases based on their thematic focus. The process model consisted of five different process phases (preparation, search, contracting, monitoring, and collaboration) as well as a category representing the whole or vaguely described purchasing processes. Furthermore, a category for the service buying department was introduced which mainly contains publications dealing with the rationale and the general function of the service buyer and/or the purchasing organization.

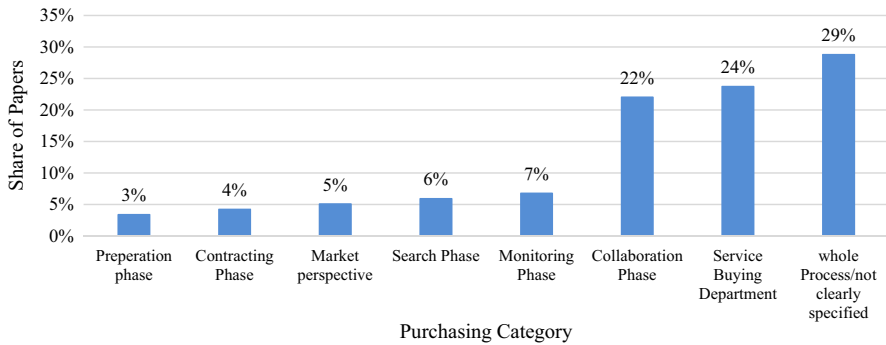


Fig. 7 Percentage of papers written, in which service purchasing process perspective

As Fig. 7 shows, most publications (29%) dealt with the purchasing process for BuSe as a whole or did not clearly specify which phase of the purchasing process was under investigation. Some of the general processes are tailored to just one service type (for example, Holter et al. 2008). Other articles focus on a very basic buying process because services definitions are considered to be subject to dynamic change (for example, Gelderman et al. 2015), while others claim to have established a more general process model (for example, van der Valk and Rozemeijer 2009).

Publications, which could be assigned to the service department category (24%) mainly deal with the rationale and the general function of the service buyer and/or the purchasing organization. A special focus seems to be on the network of the buyer based on personal relationships (for example, Lian and Laing 2007) and word-of-mouth effects (e.g. Money 2000). Another recurring topic is the question of a meaningful involvement of the purchasing department in the purchasing process introduced by Stuart (1991) and by Schiele and McCue (2006).

Furthermore, quite a significant share of publications (22%) are concerned with the collaboration phase in the purchasing process. This may not be surprising considering the ongoing debate which questions differences between goods and services. Propagating a service-dominant logic, Vargo and Lusch (2004) consider all exchanges of goods and services as similar dynamic and continuous resource transactions between buyer and seller—thus relying heavily on the collaboration of these two parties. The service purchasing literature partially adopted this viewpoint and found a middle ground determined by the publications by Lindberg and Nordin (2008) and van der Valk and Rozemeijer (2009). Both stress the dynamics of interaction but do not refute all differences between goods and services. Thus, they claim a middle position between the goods- and service-dominant logic.

Only 25% of the publications deal with the remaining five phases of the purchasing process for BuSe. Articles dealing with the monitoring phase predominantly focus on the assessment of service quality from the perspective of the buying company (see, for example, Hawkins et al. 2015; Holschbach and Hofmann 2011; Large and König 2009; Stanley and Wisner 2002, additionally cf. Holschbach 2013) whereas papers examining the preparation phase mostly focus on make-or-buy decisions (cf. Espino-Rodríguez et al. 2008; Newton 1965; van Mossel and van der Valk 2008;

Zimmermann et al. 2016). Furthermore, it is noteworthy that nearly all publications take a business-to-business perspective, i.e. they investigate how companies purchase BuSe from external service providers. Only three articles in the corpus examine how internal customers buy services from other organizational units within the same company (cf. Cox et al. 2005; Fredendall et al. 2005; Large and König 2009).

5 Directions for the future

Over the course of the bibliometric and content analysis the most important authors and topics were identified and presented. Although required, these retrospective analytical activities are not sufficient to build an agenda for future research. Therefore, the analytical results were further discussed within the research group of the authors complemented with insights of recent (consultancy) studies. This discussion resulted in the identification of six content-related research trends, which are expected to have a major influence on business service purchasing and are important for both researchers and practitioners alike. The trends are structured along the dimensions of the PEST-analysis, which is often used to analyse an “industry sector within a particular business environment” (Peng and Nunes 2007). Due to a political, economic, social and technological level, the PEST framework can help to assess position, potential and direction for a business sector (Gupta 2013):

- Political-level trends are determined by the general changes in the political climate, which influence how firms have to behave. Firms might have to adapt and adjust their strategies to these trends in order to cope with competition in the future.
- Economic-level trends influence and shape how firms purchase services, interact and generally conduct business with each other. This level is especially concerned with the “economic effects on suppliers” (Gupta 2013, p. 35).
- The social-level trend is concerned with the changes of “tastes and habits” of customers which influence the service items offered and the composition of the products (Gupta 2013, p. 39).
- The trends on the technological level are highly influential on “products, processes, and distribution channels” of businesses through their broad impact on the way business is conducted (Gupta 2013, p. 35). Recently, these trends are largely dominated by the industry 4.0 approach (Hofmann and Rüsçh 2017; Nicoletti 2018).

The identified trends along the PEST-dimensions are depicted in Table 7. We now reflect these trends against the background of BuSe purchasing, noting that the list is not exhaustive and there might be further relevant developments to be considered in future research.

5.1 Globalisation and near-shoring

The first trend goes back to a discussion which was initiated in the 1980s by Levitt (1983). He argued that firms should globalize, i.e. favor a global over a local strategy,

Table 7 Six trends to consider in business service purchasing along the PEST-levels

Level	Trend	Study (source)
(P)olitical	“Glocalisation” and near-shoring	Miebach Consulting (2017)
	Sustainability and corporate social responsibility (CSR)	Darnall et al. (2017), Hoejmose and Adrien-Kirby (2012)
(E)conomic	Internal and external collaboration	Hofmann et al. (2016), Oxford Economics (2015)
	Value-driven contract and payment systems	Hofmann et al. (2016), Selviaridis and Norman (2014)
(S)ocial	Hybrid products and servitization	Bustinza et al. (2013), Marciniak (2014)
(T)echnological	Big data analytics, artificial intelligence and process automation	Oxford Economics (2015), Stank et al. (2011)

to exploit benefits of standardization. Critical academics like Boddewyn et al. (1986) reacted by stressing the importance of local strategies. Firms seemed to mostly follow a globalization approach, which meant reducing vertical integration through outsourcing or relocating production in low-cost countries. This strategic choice became prevalent during the 1990s and 2000s (Miebach Consulting 2017). Globalization was observed with rising skepticism by many national states and societies which led to what many call a new wave of protectionism from the mid-2000s to today (Mordecai 2005; Williams and Denning 2009). The current trend towards protectionism combined with advanced production techniques and a demand for faster delivery times may result into higher levels of “glocalisation” and near- and even on-shoring. “Glocalisation” is a portmanteau of global and local and “represents the interlocking duality of globalization versus localization in cultural change and formation” (Wu 2008, p. 69). This trends manifests in globally active firms relocation their production near to or even back into their—local—sales market with the help of technology.

With regard to purchasing of BuSe the development may open up an array of options in terms of finding the right balance of “glocalization”. More specific, it is about surpassing a simple labor cost perspective and finding the right value-contributing factors. Specifically, Kotabe and Murray (2004) suggested different sourcing strategies for core and non-core service activities. This aspect should be further explored from a “glocal” perspective. The decision whether an externally sourced service is core or non-core is a critical one which must be made individually. It is also essential which factors are included in a decision on off-, near-, or on-shoring. Additionally, culture is an often-overlooked aspect when investigating purchasing of BuSe. In most cases, it is assumed to be universal (Gligor and Holcomb 2013; Perner et al. 2014). Considering today’s potential surge in protectionism it should receive more attention by practitioners and academics alike.

5.2 Sustainability and corporate social responsibility (CSR)

A second trend is closely related to developments such as “population growth, shifting consumption patterns, uncertain growth projections, and increased disruption risks”

(Quarshie et al. 2016, p. 93). These result in a so called “VUCA”-world as described by van Tulder (2017).⁸ Companies in such an environment have to adapt their long-term strategy to societal, environmental and market demands. This may grant them legitimacy which is often described as a license to operate (van Tulder 2017). The urge to obtain a license to operate made many companies seek sustainability and corporate social responsibility (CSR). In the literature the roots of this trend can be traced back to the Brundtland Report of the Brundtland Commission (1987) and the triple bottom line by Elkington (2002),⁹ while again being invigorated by the UN through the sustainable development goals for 2030 (United Nations 2015).

In the business purchasing literature the topic has received limited attention so far except by publications focusing on the reduction of carbon emissions in the logistics service literature (Jothi Basu et al. 2015). When looking at the literature on buying BuSe, this development seems to be neglected so far which was already noted by Holmlund et al. (2016). On a larger scale, the connection to the concept of a circular economy as described by Murray et al. (2017) could bring an additional perspective in the business service purchasing literature and may help firms position themselves adequately. Finally, we suggest to further explore how service purchasing can contribute to sustainability issues not only by focusing on environmental aspects but also by stressing social issues (e.g. compliance of the service supplier with working safety regulations or other labor standards).

5.3 Internal and external collaboration

The next trend stems from the competitive landscape in business-to-business markets which demands efficiency, flexibility and outstanding service offerings. Firms reacted to this challenge by offering comprehensive value chains or recently even complete eco-systems to their customers instead of single products or services (Schröter et al. 2005). In this way, collaboration with other companies became more important. This development already started in the 2000s as noted by Horvath (2001, p. 207), who proclaimed that competitive advantage does not mean anymore to “erect technical barriers to rivals” but to transform business processes in a network. The imperative of efficiency on the network-layer naturally trickled down to the individual firm, which had to improve its internal collaboration. In some aspects, this proved to be more difficult than the external collaboration with suppliers (Sabath and Whipple 2004, p. 1). Consequently, internal collaboration was declared one of the five pillars of supply chain excellence by Stank et al. (2011). This general trend has intensified in recent years because the pressure for efficiency has increased due to an more and more technology-driven business environment (Oxford Economics 2015).

In the business purchasing literature the collaboration between buyer and supplier does not seem to be adequately addressed yet (van der Valk and Wynstra 2014). This is mainly due to the challenges and dynamics of defining the service attributes by buyer and service provider during the collaboration phase. Therefore, research

⁸ VUCA stand for Volatile, Uncertain, Complex and Ambiguous (van Tulder 2017, p. V).

⁹ The triple bottom line aims to measure the financial, social, and environmental performance of a company over time.

by Gelderman et al. (2015) on the dynamics of service definition of ICT (information and communication technology) services should be expanded. This entails the exploration of differences between services or interaction modes. Cox et al. (2005) and Fredendall et al. (2005) established the topic of internal collaboration as a research area to consider, while Large and König (2009) focused on the subtopic of monitoring internal service quality. Another question which so far did not receive much attention is how digitalization (for example, big data analytics, machine learning or blockchain technology) might change the narrative and dynamics of those internal and external service interactions.

5.4 Value-driven contract and payment systems

The following trend is closely tied to firms offering value to a buyer through an extended firm network. As Melnyk et al. (2010, p. 33) noted a new paradigm is forming, in which the formerly “strategically decoupled and price driven” supply chains are becoming closely strategically integrated and “value driven”. The collaborative nature demanded by such business relationships results in high transaction cost, high risk and moral hazards among the parties involved (Randall et al. 2010). These changes have to be considered in contractual agreements and different interests have to be aligned in order to provide the best possible service offering. This strategy is known as performance-based contracting (PBC), performance contracting, performance based logistics (in the military context) or by “power by the hour” in the airline industry (Selviaridis and Wynstra 2015). PBC ties contractual payments to the desired performance and thus shifts most of the risk to the service provider (Kim et al. 2007).

In the business services purchasing literature analyzed in this corpus the topic of performance-based contracts did not receive much attention, yet. More recent publications (not included in the corpus) by authors such as van der Valk, Sumo and van Weele have started to address this gap in the literature. The main focus of those is how PBC can foster innovation in business relationships concerned with IT outsourcing (for example, Sumo et al. 2016a, b). Future research should expand their findings in light of the specific service aspects and thus widen the comparably narrow perspective. Furthermore, Sumo et al. (2016a) strongly suggested diving into the “collaboration’s history” and its effects on the contractual agreement. Another interesting effect of PBC is the shift of risk to the supplier which should be explored in more depth regarding its relationship to service items and firms involved. One last promising research area is how the performance can be adequately defined during the service purchasing process. Related to this, Gelderman et al. (2015, p. 225) pointed out that frequent and dynamic changes of service definitions during the purchasing process may challenge “over-optimistic confidence” in PBC.

5.5 Hybrid products and servitization

Vandermerwe and Rada (1988, p. 314) first introduced the notion of “servitization”. They predicted that the service would influence classical manufacturing firms,

which would extend their product portfolio with combinations of tangible products and services. They identified the trend to be mainly “customer demand-driven” and prevailing in all industries (Vandermerwe and Rada 1988, p. 314). As Lightfoot et al. (2013, p. 1413) explains products subsumed under this trend “tend to be delivered using customer centric strategies in order to provide ‘desired outcomes’ for the customer”. The two authors proclaimed: “services are no longer a separate category for managers to consider, but rather an all-pervasive part of their strategic mission and corporate planning”. As Priya Datta and Roy (2011) explain, services have become a critical part of competitive advantage. Additionally, several studies have shown that servitization is a source of increased profits (Eggert et al. 2014) and customer retention (Gaiardelli et al. 2014). The trend manifests today in so called “hybrid products”, where both product and service elements have been integrated in offerings.

Servitization has fostered new service-centered literature mostly by following the service-dominant logic by Vargo and Lusch (2004). By contrast, most publications in the literature on BuSe purchasing are focused on “conventional” services without specifically addressing hybrid products. Product-service hybrids offer interesting areas to explore, however. For example, the question how ownership can change while consuming construction services may be an interesting area of research (cf. Caldwell et al. (2009). Another valuable question to answer may be how the hybrid service approach positions itself between the product and service purchasing model.

5.6 Big data analytics, artificial intelligence and process automation

The technological change in the last years is one of the most prevalent and highly publicized topics. Companies like Amazon, Uber or Airbnb are epitomes of how digitalization and the use of big data, machine learning and artificial intelligence (AI) shaped and changed markets. Since the 1990s, the internet has spurred the development of new business models to an extent which Fleisch et al. (2015, p. 1) caused to proclaim that “the separation between physical and digital industries is now consigned to the past”. This change was mainly driven by the growth in digital data produced by firms from the 2000s onwards as well as the astonishing developments in processing speed which allowed to analyze these data and optimize and adapt whole business models (Marz and Warren 2015; Russom 2011). Along with industry 4.0 developments (Hofmann and Rüschi 2017), it is expected that supply management will develop towards “procurement 4.0” (Nicoletti 2018). According to the consultancy company “Strategy&”, procurement 4.0 encompasses the following areas: (1) New procurement value proposition, (2) digital category and service procurement, (3) digital supply chain and supplier management, (4) innovative procurement data utilization, (5) digital processes and tools, and (6) digital organization and capabilities,¹⁰ all of them also affecting business service purchasing.

In the service literature Ostrom et al. (2015) identified the usage of big data as one of the key research topics, while finding the widest gap between state of knowledge

¹⁰ <https://www.strategyand.pwc.com/report/procurement-4-digital-revolution>.

and expected importance in this area. This research also identified seven different research subtopics, from which three can be directly applied to the BuSe purchasing literature. First, the question of which information in service purchasing contexts needs to be collected should be further explored. Second, it would be interesting to investigate how collected data can be used by machine learning algorithms and AI in order to select the best service bundle and the “right” provider during the purchasing process for BuSe. Third, it is still to be clarified how these data and methods can be used for service innovation in an established collaborative business relationship (Ostrom et al. (2015)). Fourth, it is of interest to elaborate how machine learning and AI could be applied (1) to prevent service ordering and processing errors or (2) to deepen the ex-post as well as ex-ante performance of service providers. Service innovation can particularly be regarded a crucial topic as “large companies rarely put as much sustained effort and management attention into transforming services as they do with products” (D’Emidio et al. 2015, p. 1). The question to answer is, for example, how service innovation can be institutionalized and become a source of competitive advantage. Finally, it would be of interest to examine how the usage of blockchain technology (BCT) and smart contracts will foster the digitalization of the (service) purchasing function.

6 Concluding remarks

The purchasing of services undoubtedly plays an important role for each company in a service economy. As Ellram and Tate (2015, p. 64) emphasize, services “contribute both as source of cost and as a source of performance improvement” to the success of today’s firms. This “state of research” paper has presented a structured literature review of the business service purchasing literature. The paper analyzed 118 publications in the area of purchasing of BuSe to answer three main research questions.

6.1 Research results

RQ1: Current state of research on business service purchasing The analysis clearly unveiled a shift in the literature over the 51 years in scope. The literature on BuSe purchasing somewhat mimics the development of the general purchasing literature. More specifically, it follows the way from “buying, via procurement to supply management” as described by Axelsson and Wynstra (2002, p. 15). Research on purchasing of BuSe developed from a minor topic in management and marketing publications via the more mature contributions in purchasing journals to today’s articles in which the topic is reflected from various perspectives such as policy making and economics. The most important network of authors and researchers in this area has formed in Northern Europe around the Stockholm School of Economics, the Erasmus University and the Eindhoven University of Technology with authors such as Axelsson, Sumo, van der Valk, van Weele, and Wynstra.

RQ2: Theoretical and methodological gaps in the field of business service purchasing The second research question is related to research gaps. The biggest gap, which was uncovered through the content analysis was the comparably meagre theoretical foundation. Most recent literature omits a clear stated theory or pursues theory building. This gap should be further filled in order to clarify the rationale for the purchasing function and its operation. The second gap is methodological in nature and could, if properly researched, help to better understand business service purchasing. Most research is cross-sectional in nature, based on a snapshot (i.e. onetime interviews or surveys) and uses this data to generalize. Research should hence be conducted with a longitudinal perspective to confirm the empirical research and control for case specific variables. The third gap is about the differences between service types and/or sectors. Although Hänsel and Hofmann (2016, p. 9) declared that the difference between service types is a necessary variable to consider for the development of a service evaluation tool, most literature does not differentiate between different types of services. It is noteworthy that often a mixed approach is chosen which makes replication studies difficult. Other gaps that should be addressed are the differences between indirect and direct services, the internal purchasing process perspective. Finally, authors should focus more on separate purchasing process steps (e.g. preparation, search, contracting, monitoring, collaboration).

RQ3: Topics that need to be addressed in the future by business service purchasing? The third research question was aimed at uncovering the most important topics to pursue for the future of the business service purchasing literature. Specifically, six trends along the PEST-framework were highlighted as potential perspectives for future research. The common denominator is that business service procurement has become a strategic aspect of gaining competitive advantage in today's service economy. The strategic role means that questions of value contributions are of prime interest and should thus be researched. Business service purchasing is confronted with questions of value contribution—whether it is about finding the decision factors for the right “glocal” balance, about how to contribute to CSR goals or about the way service definitions change in a company network. The topic of applying big data analytics, machine learning and AI in the service purchasing field as well as the digitization of the (service) purchasing function itself holds comparably large potential for new insights due to the complete lack of literature. Questions to answer are tied to what, where and how data will be collected and analyzed in order to optimize and automatize the business service buying process (including the selection of the best service offering bundle and the evaluation of the service providers). Furthermore, it is of interest where and how new technical developments—like the usage of blockchain technology—will change behavior and activities in BuSe purchasing.

6.2 Managerial implications

We believe that it is of paramount importance for managers to recognize the strategic importance of service purchasing. The role of purchasing professionals will likely become a highly skilled and cross-functional one as the complexity of service

bundles and service provider networks increases. Furthermore, questions of purchasing governance and of structured as well as automated service purchasing processes will become more prevalent. This process of professionalization of service purchasing should be realized together with the development of a digitization strategy, i.e. purchasing processes have to be created and implemented with digital means in mind. The objective is to make comparably fuzzy service exchanges as transparent as possible in order to guarantee high quality, recognize optimization potential and enable service innovation through predictive analytics, machine learning and AI. More strategically, the view on service purchasing has to shift from cost reduction to value contribution. For example, this could be taken into account in the contracting phase, where bids of suppliers should be assessed based on factors such as alignment with the sourcing strategy, their digital maturity degree and/or their sustainability compliance. Furthermore, service contracts should be designed using a performance-based logic. This could assure proper alignment of interests through a risk and reward design. Overall, the development should lead to a stronger collaboration with providers in which strategies like data sharing are used to improve and deepen service ecosystems. Management needs to find the balance between allowing each firm enough autonomy for innovation and the realization of performance goals.

6.3 Limitations

The paper is limited by several factors linked to the method of the review and practical aspects such as time. The premise of the whole work is that the 118 papers in the corpus are an accurate representation of the BuSe purchasing literature. Regarding this, three aspects need to be noted. First, the sample collection is strongly tied to the initial reading of selected publications and puts great trust in the reliability of the databases used. Second, the process of filtering the initial corpus of 1229 publications to 118 was based on reading and thus is error-prone in approach. Third, the restraint to English-speaking, scientific and CABS/VHB rated articles left out publications with a more practical perspective. Another limitation may be rooted in the analysis itself. First, it has to be stressed that the analysis was conducted in a bottom-up coding approach to allow for an accurate classification. This means that the classifications are tied to the judgement of the researchers and thus are prone to bias. Second, the co-citation analysis and the cited literature-analysis was based on a reduced corpus, which only consisted of 72% of the original papers, due to data availability issues. Third, the scope of the analysis was intentionally kept wide which limited the specificity in which topics could be discussed and again forced the researchers to highlight topics they deemed important. Future literature-based research should improve the use of data mining tools and better connect qualitative assessments with quantitative tools. Specifically, such tools could help to clarify terms and single out unfitting publications in the early stages of the research and the filtering process. At the same time they could help in managing a larger number of articles. Additionally, future research should focus more on specific aspects of the service purchasing literature mentioned in this paper.

Appendix

Appendix 1: Alphabetical list of the 118 papers in the corpus

Agndal, H., Axelsson, B., Lindberg, N., & Nordin, F. (2007). Trends in Service Sourcing Practices. *Journal of Business Market Management*, 1(3), 187–208.

Alexander, K. (1993). Sourcing the facilities service. *Facilities*, 11(5), 24.

Alexandersson, G.H., Staffan. (2007). High and Low Bids in Tenders: Strategic Pricing and Other Bidding Behaviour in Public Tenders of Passenger Railway Services. *Annals of Public and Cooperative Economics*, 78(2), 161–194.

Ancarani, A., & Capaldo, G. (2005). Supporting decision-making process in facilities management services procurement: A methodological approach. *Journal of Purchasing and Supply Management*, 11(5–6), 232–241.

Andersson, D., & Norrman, A. (2002). Procurement of logistics services—a minutes work or a multi-year project? *European Journal of Purchasing & Supply Management*, 8(1), 3–14.

Anthon, S.B., Peter; Thorsen, Bo Jellesmark. (2007). A Bureaucrat's Procurement Strategy: Budget Constraints and Rationing. *Annals of Public and Cooperative Economics*, 78(2), 221–244.

Bardsley, P.B., Ingrid. (2013). Auctioning Contracts for Environmental Services. *Australian Journal of Agricultural and Resource Economics*, 57(2), 253–272.

Barragan, S., Cappellino, C., Dempsey, N., & Rothenberg, S. (2003). A framework for sourcing product development services. *Supply Chain Management: An International Journal*, 8(3), 271–280.

Benjamin, O., Nisim, S., & Segev, G. (2014). Corporate Social Responsibility as Shaped by Managers' Role Dissonance: Cleaning Services Procurement in Israel. *Journal of Business Ethics*, 130(1), 209–221.

Bienstock, C.C. (2002). Understanding buyer information acquisition for the purchase of logistics services. *International Journal of Physical Distribution & Logistics Management*, 32(8), 636–648.

Bowman, D., & Lele-Pingle, S. (1997). Buyer behavior in business-to-business services: The case of foreign exchange. *International Journal of Research in Marketing*, 14(5), 499–508.

Bryntse, K. (1996). The purchasing of public services exploring the purchasing function in a service context. *European Journal of Purchasing & Supply Management*, 2(4), 193–201.

Caloghirou, Y., Proterogerou, A., & Panagiotopoulos, P. (2016). Public procurement for innovation: A novel eGovernment services scheme in Greek local authorities. *Technological Forecasting and Social Change*, 103, 1–10.

Caplice, C.S., Yossi. (2003). Optimization-Based Procurement for Transport Services. *Journal of Business Logistics*, 24(2), 109–128.

Cooper, M.B., Dröge, C., & Daugherty, P.J. (1991). How buyers and operations personnel evaluate service. *Industrial Marketing Management*, 20(1), 81–85.

Cox, A., Chicksand, D., Ireland, P., & Davies, T. (2005). Sourcing Indirect Spend: A Survey of Current Internal and External Strategies for Non-Revenue-Generating Goods and Services. *Journal of Supply Chain Management*, 41(2), 39–51.

Cox, A., Croom, S., Chicksand, D., & Yang, T. (2007). The proactive alignment of sourcing with marketing and branding strategies: a food service case. *Supply Chain Management: An International Journal*, 12(5), 321–333.

Daugherty, P.J.S., Theodore P.; Rogers, Dale S. (1996). Third-party logistics service providers: Purchasers' perceptions. *International Journal of Purchasing and Materials Management*, 32(2), 23.

Day, E.B., Hiram C., Jr. (1994). Organizational purchasing of professional services: The process of selecting providers. *The Journal of Business & Industrial Marketing*, 9(3), 44.

de Boer, L.H., Elsebeth; Pop-Sitar, Corina. (2003). Purchasing as an organizational design problem: The case of non-product-related items and services. *Management Decision*, 41(9), 911–922.

De Toni, A.N., Guido; Tonchia, Stefano. (1994). Service dimensions in the buyer–supplier relationship: A case study. *International Journal of Physical Distribution & Logistics Management*, 24(8), 4.

Degraeve, Z., Labro, E., & Roodhooft, F. (2004). Total cost of ownership purchasing of a service: The case of airline selection at Alcatel Bell. *European Journal of Operational Research*, 156(1), 23–40.

Dobrzykowski, D.D., Hong, P., Hong, P.C., & Soon Park, J. (2012). Building procurement capability for firm performance: a service-dominant logic view. *Benchmarking: An International Journal*, 19(4/5), 567–584.

Doran, D., Thomas, P., & Caldwell, N. (2005). Examining buyer-supplier relationships within a service sector context. *Supply Chain Management: An International Journal*, 10(4), 272–277.

Ellram, L., & Tate, W.L. (2015). Redefining supply management's contribution in services sourcing. *Journal of Purchasing and Supply Management*, 21(1), 64–78.

Espino-Rodríguez, T.F., Lai, P.C., & Baum, T. (2008). Asset specificity in make or buy decisions for service operations. *International Journal of Service Industry Management*, 19(1), 111–133.

Esteve-González, P. (2016). Moral hazard in repeated procurement of services. *International Journal of Industrial Organization*, 48, 244–269.

Evans, K.R.F., Howard D.; Foster, Jerry. (1990). Purchasing Motor Carrier Service: An Investigation of the Criteria Used by Small Manufacturing Firms. *Journal of Small Business Management*, 28(1), 39.

Everaert, P., Sarens, G., & Rommel, J. (2007). Sourcing strategy of Belgian SMEs: empirical evidence for the accounting services. *Production Planning & Control*, 18(8), 716–725.

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Appendix 2: Extended list of most co-cited literature in the corpus

Publication	Cluster [*]	Contribution to the business service purchasing literature
Axelsson and Wynstra (2002)	1	Comprehensive book that defines the characteristics of various services in the context of organizational networks and the purchasing function
Eisenhardt (1989)	1	Academic article, which assesses the agency theory and how it can be used for organizational researchers to explain processes like a make-or-buy decision
Ellram et al. (2008)	1	Academic article, which applies a transaction cost theory (specifically transaction cost economics) framework for understanding the costs and risks of companies in the process of outsourcing professional services. References the works of Williamson (1975)
van der Valk and Rozemeijer (2009)	1	The article develops an eight-step process for the purchasing of business services and includes points from the service-dominant logic of Vargo and Lusch (2004). The process is an extension of the purchasing process by Van Weele (2005)
Voss et al. (2002)	1	Article on how and when to use case study research in the context of operations management, which references Eisenhardt (1989). The primary aim is to develop and test new theories
Wynstra et al. (2006)	1	Conceptual paper that establishes a classification of business services from the viewpoint of the buying company. The emphasis lies on the interaction process between buyers and suppliers after purchasing. Expands on the work of Jackson et al. (1995)

Publication	Cluster [*]	Contribution to the business service purchasing literature
Ellram et al. (2004)	2	Article highlights the relevance of service purchasing for a company, with the intent of developing a supply chain framework fitting for services. Assesses and combines the manufacturing models of the <i>Global Supply Chain Forum Framework</i> , <i>SCOR</i> and <i>HewlettPackard's Supply Chain Management Model</i>
Fitzsimmons et al. (1998b)	2	Article develops a taxonomy for business service purchasing with two dimensions (importance of service and focus of the service). For each of the six resulting classifications implications for managers are explored. Expands with a focus on the business process the works of Lovelock (1983)
Håkansson (1982)	2	Book that proposes that the purchasing function is essentially the management of buyer–seller relationships. Combines Interorganizational theory and the New Institutional Economic theory to an interaction model
Jackson et al. (1995)	2	Empirical article, which collects the different challenges an organizational buyer in the marketing of goods and services faces. The differences are described on six latent dimensions. Agrees with Lovelock (1983) and puts certain findings of Parasuraman et al. (1985) in question
Lovelock (1983)	2	Conceptual article that develops five interlinked classifications schemes for the marketing of services. The goal was to help managers better understand their business and to transcend the narrow industry thinking
Mitchell (1994)	2	Article that develops an eight-step decision process for the purchasing of consultancy services. The focus is to highlight the difficulties and risks associated with the management of consultancy services
Parasuraman et al. (1985)	2	Exploratory article that develops the <i>SERVQUAL</i> -model to measure the quality of consumer services
Smeltzer and Ogden (2002)	2	Empirical article that explores the exact differences between services and goods on 15 process steps based on the purchasing of goods. There is a call for more research in the area of business services from the buyer's perspective. Picks up points both from Lovelock (1983) and Mitchell (1994)
West (1997)	2	This article focuses on the purchasing of advertising services from the provider perspective and names intangibility as the biggest challenge. Advocates for a strong purchasing position
Cox (1996)	Added [**]	Article tries to provide a theoretical clarification of the optimal role for procurement within business management based on the transaction theory of Williamson (1975). Argues that a strategic approach to procurement has to be adopted for successful firms

Publication	Cluster [*]	Contribution to the business service purchasing literature
Williamson (1975)	Added [**]	Proposes transactions as the basic unit of analysis for understanding firms and markets. Joins economics, organizational theory and aspect of contract law. Firms become through this view a nexus of contracts
Grönroos (2000)	Added [**]	General marketing book, which establishes that services exchanges are interactive processes, where both the seller and the buyer parties are involved in production and consumption of the product

[*] Clustered according to co-citation analysis in VosViewer

[**] Added through an author co-citation analysis

Appendix 3: Short explanation of theories with at least two related publications

Theory	Mentions	Use in context of business service purchasing
Transaction cost theory	11	The service purchasing firm and the seller have an inter-organizational relationship, which is based “on opportunism and bounded rationality”. The core goal for both parties in this exchange is to minimize costs (Rossignoli and Ricciardi 2015, p. 7). Based on the writings of Williamson (1975)
Agency theory	5	The service purchasing firm and the seller have an inter-organizational relationship, which is based “on opportunism and bounded rationality”. The core goal for both parties in this exchange is align the “behaviors or outcomes of the other parties to expectations” (Rossignoli and Ricciardi 2015, p. 7). Based on the writings of Eisenhardt (1989)
Auction theory	5	In the auction process of a service buying firm a game theory optimization approach is taken. The buyer firm optimizes the total expenditures in this process (Sheffi 2004, p. 247). First applied by Vickrey (1961)
Service marketing theory	4	Fuzzy theory that concerns itself with understanding the “generic features of the professional service” to lay the groundwork for an optimal marketing process (Gummesson 1978). Authors to consider are Grönroos (1982), Gummesson (1978) and Chase and Erikson (1988). Today closely linked to the service-dominant logic of Vargo and Lusch (2004)
Organizational buying theory	4	Theory that sees the B2B purchasing as a “decision-making process carried out by individuals, in interaction with other people, in the context of a formal organization” (Webster Jr. and Wind 1972, p. 12). Started with the writings of Webster Jr. and Wind (1972), which today encompasses a myriad of topics like word of mouth effects e.g. West (1997)

Theory	Mentions	Use in context of business service purchasing
Contingency theory	2	Theory states that there is no one-size-fits all for service procurement organizations, and companies have to align their strategy with the specific environment (Murray et al. 2009, p. 93). Originally from the leadership literature from Fiedler (1964)
Contract theory	2	High-level theory, which is mainly concerned with the contract and the main interest are incentives for the parties involved. Incorporates “moral hazard problem”-aspects and is closely related to the transaction theory and agent theory (Esteve-González 2016, p. 247)
Qualification theory	2	Theory that rejects the notion that exchanged services can have a “stable” definition. Services have a temporally constellation of characteristics to allow trading (Selviaridis et al. 2011, p. 75). Manly proposed in the service purchasing context by Selviaridis et al. (2011) based on the writings of Gadrey (2000)
Social exchange theory	2	Theory used to understand the behavior of sales persons, which “reciprocate or imitate” the conduct of the buyer. This is based on the writings of Adams (1965) with the basic idea that “individuals engage in reciprocal behaviors and support those who provide benefits” (Jones et al. 2003, p. 326)

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