Management Review Quarterly (2024) 74:1249–1281
https://doi.org/10.1007/s11301-023-00333-9

Service productivity: a systematic review of a dispersed research area

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Received: 23 July 2022 / Accepted: 11 February 2023 / Published online: 1 March 2023

Abstract

The service productivity literature has grown remarkably over the last two decades and has gathered substantial knowledge. However, with the gradual acceleration of knowledge production about service productivity, the collective evidence becomes more fragmented and interdisciplinary. The purpose of this literature review is to systematically identify and analyze 190 publications focusing on service productivity to link previously dispersed studies as a next step in theory development. By clustering existing service productivity research into macroeconomic, mesoeconomic, and microeconomic dimensions, our review reveals that much progress has been made in advancing the open-ended theory of optimal service productivity. Reviewing key insights from the existing literature, we show that the majority of service productivity research adopts a one-sided industrial perspective that primarily focuses on firm productivity. Although valuable, these studies most often leave out consumers' time and effort, neglecting the value of consumer-generated input. Thus, the present research offers a new conceptualization of service productivity by emphasizing it as an open and customer-inclusive process that transcends the service producer–customer divide. Finally, we contribute a set of propositions. Within these propositions, we identify beneficial conditions and means for firms to improve service productivity. In sum, the article provides policymakers, researchers, and practitioners with valuable guidance for developing means to generate positive effects in a service economy that lacks productivity.

Keywords Service productivity · Service efficiency · Service effectiveness · Service excellence · Systematic literature review

JEL Classification M100

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1 Introduction

Over the past two decades, service productivity has received increased scholarly attention as a key determinant of the economic growth of developed economies (Anderson et al. 1997; Grönroos and Ojasalo 2004; Parasuraman 2002; Rust and Huang 2012). The growing focus on service productivity aiming to effectively transform input resources into value for customers has created timely and important opportunities for scholars (Ostrom et al. 2021). Fully understanding these opportunities has motivated the present article to evaluate the existing conceptual (e.g., Wirtz and Zeithaml 2018) and empirical literature (e.g., Aspara et al. 2018) examining service productivity in an increasingly digitalized service economy.

As standards of living rise in developed economies, citizens demand more personal services such as education and healthcare, fueling the growth of the personal service sector (Barrett et al. 2015). Moreover, the proliferation of technologies and the rise of (global) inter-organizational networks generate more complexity between firms, triggering the demand for professional and business services to reallocate firm operations and remain competitive. Fundamental to these intersecting trends is the rapid development of new technology (Huang and Rust 2021; Wirtz et al. 2018). However, with the emerging growth of the service economy and the decline of the manufacturing industry, new challenges arise. Consequently, most resources are transferred from highly productive manufacturing sectors to less productive service sectors. Furthermore, the rise of technology-infused services creates significant challenges for measuring (digital) value creation. Nevertheless, although technological advancements progress and services become more pivotal to economic growth, service productivity is declining in many developed countries (OECD 2021; Schweikl and Obermaier 2020), highlighting the need for further research to address these puzzlingly low service productivity levels (Andreassen 2021).

While much progress has been made in advancing the open-ended theories of optimal service productivity (e.g., Anderson et al. 1997; Brynjolfsson 1993), the more recent literature (e.g., Jung et al. 2021; Yoon 2020) has gone beyond the traditional one-sided industrial perspective focusing only on the productivity of internal firm processes. Thus, incorporating the value of customers' input during service coproduction and the value of consumer-generated data (e.g., Ofulue and Benyoucef 2022) in service provision has become critical for policymakers and scholars to see and measure value creation and capture it through new lenses given the importance of productivity in today's economy.

Grounded in a service-dominant logic (Vargo and Lusch 2004), this systematic literature review goes beyond the traditional productivity theory to consider the firms' "service productivity as the efficiency with which the firm converts service input resources into customer-valued service outputs in its current service" (Aspara et al. 2018, p. 251). Consequently, the present article defines service productivity as "a function both of internal efficiency and cost-effective use of production resources and of external efficiency and customer perceived quality" (Grönroos and Ojasalo 2004, p. 522).

Based on the Grönroos and Ojasalo service productivity definition, the goal of this article is to aggregate and conceptualize the current literature on service productivity. In that sense, this systematic literature review differs from previous reviews and conceptual studies that have been published on related service productivity topics (e.g., Grönroos and Ojasalo 2004; Maroto and Rubalcaba 2008; Maroto-Sánchez 2012; Parasuraman 2002) by developing an overarching conceptual foundation that is general enough so that researchers, practitioners, and policy makers can profit from it. Building on this conceptual foundation, which links the microeconomic perspective (firm level) with the mesoeconomic (industry level) and macroeconomic perspective (society level), we contribute a set of new propositions in which we identify how service productivity can be improved and accurately measured. In sum, we try to answer the following research questions:

(i) What causes the puzzling low service productivity levels that have been found by several economic analyses?
(ii) What means allow to improve service productivity?

Furthermore, this review also aims to bring together and synthesize the latest research from the service and marketing disciplines to allow the service productivity research stream to move forward with greater clarity. We integrate the dispersed empirical and conceptual landscape of service productivity to examine the current academic knowledge base and create a more cohesive foundation. In total, 190 articles were identified, structured, and analyzed. We clarify the industry and functional specifics of service productivity by separating the literature into macroeconomic (i.e., service economy-level), mesoeconomic (i.e., industry-level), and microeconomic (i.e., firm-level) dimensions to better understand whether studies conducted in different contexts report different results, draw conclusions, and point out areas for further research.

We make several contributions to research and practice. From a theoretical perspective, our literature review suggests that the theory of optimal service productivity was initially developed inductively by combining evidence from numerous empirical studies (e.g., Rust et al. 2002; Rust and Huang 2012), leading to an open-ended theory from which more research can be conducted. Synthesizing the existing literature, our results show that the current research cannot fully explain what causes the low levels of service productivity reported by several economic analyses (OECD 2021) because the underlying studies are mainly based on traditional industrial approaches designed by social economists who primarily focus on firm productivity, leaving out consumers' time and effort during service coproduction (Parasuraman 2002).

Although valuable, we find that this one-sided view neglects the important impact of free technology on service productivity (Brynjolfsson et al. 2019). We therefore argue that the existing literature in the service productivity research field is limited to fully estimating the impact of customers' input on productivity in a digital service economy because welfare gains enabled from technology companies have not been accurately registered given that no direct transaction has occurred. The present review integrates the existing literature into an organizing

framework and calls for more research covering the full spectrum of (digital) value creation by estimating not only the value of output (firm productivity) but also the value of input (customer productivity and satisfaction). This new organizing framework is needed to link the dispersed service productivity literature and develop a more cohesive understanding, which will allow the research stream to move forward with greater clarity. Furthermore, we contribute a set of propositions. Within these propositions, we identify beneficial conditions and means for firms to improve service productivity.

Ultimately, this systematic literature review synthesizes and compares the collective evidence regarding service productivity to inform research as well as provide a basis for identifying apt practical approaches and shedding new light on the low levels of service productivity from a practical perspective.

2 Evolution of the service productivity literature

Literature on service productivity developed as services became more critical for the economy, and productivity concepts incorporated the central customer-provider interaction as a determinant of productivity (Chase 1978). Over time, some scholars have somewhat generalized by describing service productivity as a dynamic function of a firm's internal efficiency and external effectiveness (Grönroos and Ojasalo 2004). According to them, this is because unlike in manufacturing, service companies cannot increase productivity solely by improving operations since service productivity also depends on changing consumer behavior, which complexifies its enhancement (Chase 1978; Gummesson 1998). Finally, once services were broadly perceived as a new business logic (Vargo and Lusch 2004, 2008), the concept of productivity became indispensable in the service literature (Maroto and Rubalcaba 2008).

Numerous theoretical publications on service productivity revolve around the importance of interdisciplinary research designs for capturing the logic of the concept (Benkenstein et al. 2017). Therefore, scholars have applied different approaches to contribute to the open-ended theory of optimal service productivity, using innovation (Aspara et al. 2018), market and customer orientation (Gomes et al. 2014), and technology (Mithas et al. 2020) viewpoints. Thus, a substantial body of literature on the firm level has already provided great examples of how service productivity can be improved.

Despite the praiseworthy theoretical developments showing the trade-offs between service efficiency and service quality (Baumol and Bowen 1966; Rust and Huang 2012), little research has been conducted to develop a framework that is general enough to serve as a basis for policymakers to design and implement measures that affect not merely one company or industry but the entire service economy. Therefore, the present research takes on this challenge by clustering the existing service productivity research into macroeconomic, mesoeconomic, and microeconomic dimensions to provide additional insights and important directions for future studies.

3 Method

3.1 Methodology

We conducted a systematic literature review to identify all relevant empirical evidence regarding service productivity by minimizing the authors' individual biases. As shown in Fig. 1, the literature review followed a strict research protocol, ensuring maximum transparency about the steps taken (Kraus et al. 2022a, b). We used the Scopus and the EBSCO Business Source Ultimate databases for keyword searches since both are widely acknowledged as leading sources for comprehensive literature reviews (Burnham 2006). We performed searches in two different databases to maximize the likelihood of identifying all relevant studies (Linder et al. 2015). The applied search method focuses on approaching the service productivity concept from the three perspectives (i.e., a cost perspective, a quality perspective, or a dual perspective on cost and quality) defined in the service productivity model of Grönroos and Ojasalo (2004), which has received the most attention from researchers as measured by total citations. First, "*service productivity*" and "*service performance*" were both used as search terms because the productivity and performance concepts have been used interchangeably in important service research articles (Grönroos and Ojasalo 2004). Second, the search terms "*service effectiveness*" and "*service excellence*" were included to reflect the quality aspect of the productivity concept. Third, "*service efficiency*" and "*cost-effective service*" were added to reflect the cost aspect of the concept. The relevant articles were selected if the search terms appeared in the title, abstract, or author-supplied keywords, from 2000 onwards. The year was chosen because the majority of articles advancing the theory of service productivity were initially published around the same time as Grönroos and Ojasalo's (2004) service productivity model. Books, business periodicals, and conference proceedings

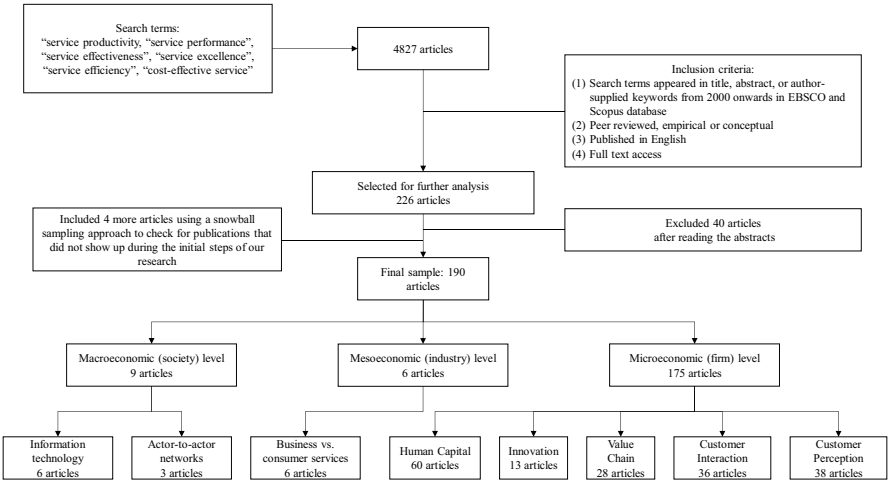

Fig. 1 An overview of the systematic literature review

were excluded as we solely focused on peer-reviewed articles that meet our search criteria (Tranfield et al. 2003). Additionally, we adopted a snowball sampling approach to check for publications that did not show up during the initial steps of our search (see Fig. 1).

In line with other historical reviews within service research (Carlborg et al. 2014), we specifically focused on journals in the service management, general marketing, business-to-business marketing, and innovation fields to capture all the characteristics of service productivity discussed in the most relevant research communities (refer to Table 1 for a list of all included journals). Furthermore, we relied on the journals' implicit quality rating to ensure the highest quality of the evidence (Tranfield et al. 2003). The database searches and application of our inclusion criteria as filters (see Fig. 1) led to the identification of a total of 226 articles. We read all abstracts and excluded 40 articles after a second reading because they were not connected to service productivity. Finally, 190 articles were left for analysis and synthesis. The research protocol is outlined in Fig. 1.

3.2 Categorization of the literature

The categorization of the articles followed a structured process (Gioia et al. 2013). We first condensed the individual articles' information to define *first-order concepts*, which mainly allowed us to synthesize the articles' content in

Table 1 Research by journal

Nr	Journal	Nr. of articles per journal	% of articles for all journals
1	Service industries journal	34	18
2	Journal of service research	27	14
3	Journal of services marketing	25	13
4	Managing service quality	20	11
5	Journal of business research	18	9
6	European journal of marketing	12	6
7	Industrial marketing management	11	6
8	Journal of service management	11	6
9	Journal of the academy of marketing science	8	4
10	Journal of marketing	5	3
11	Journal of business and industrial marketing	4	2
12	International journal of research in marketing	3	2
13	Marketing science	3	2
14	Journal of product innovation management	2	1
15	Journal of retailing	2	1
16	Journal of service management research	2	1
17	Technovation	3	2
Total		190	100

an abstract manner. Second, we further combined articles into *second-order themes* based on their links and interactions to allow for a less granular categorization of the articles. For example, articles referring to the *first-order concepts* "leadership" and "corporate culture", were combined within the "human capital" *second-order theme*. Third, we further abstracted the information of the *second-order themes* to derive the final three *aggregate dimensions*, which allow us to grasp the full nature of the research field and derive the necessary theoretical insights. Here, we separated the articles into the three final aggregate dimensions, distinguishing between articles that focus on the firm (i.e., microeconomic perspective), specific industries (i.e., mesoeconomic perspective), and the entire service economy (i.e., macroeconomic perspective). After coding the articles, the authors compared their coding, and intercoder reliability of 90% was achieved, with differences of opinion quickly resolved.

In line with the approach adopted by Yalley and Sekhon (2014), the three aggregate dimensions aimed at increasing transparency regarding the specifics of service productivity to better understand whether studies conducted in different contexts report different or similar results (Davis et al. 2014). Each of the dimensions analyzed represents similar academic views about service productivity or a set of equivalent means of service productivity maximization. Figures 1 and 3 show the structure of the 190 articles reviewed. Additionally, Web Appendix 1 provides the list of the articles included, their coding, and their contribution to the service productivity literature.

4 Results

4.1 Number of publications about service productivity

Overall, service productivity studies have grown in number over the last two decades. Table 1 presents the journals ranked according to the number of published papers. The 190 articles appeared in 17 journals, and 10 journals published more than five papers, indicating some fragmentation in the literature. As exceptions, *Service Industries Journal*, *Journal of Services Marketing*, *Journal of Service Research*, *Managing Service Quality*, and *Journal of Business Research* published more than 15 articles. Furthermore, as Fig. 2 shows, the service productivity literature gradually grew over the last two decades.

Our results essentially suggest that service productivity has three meta-theoretical foundations—macroeconomic, mesoeconomic, and microeconomic aggregate dimensions—that are relevant for covering the concept of service productivity from a holistic viewpoint (see Maroto and Rubalcaba 2008; Maroto-Sánchez 2012, who also adopted a very broad perspective to capture the characteristics of service productivity). We argue that the service productivity literature has explored those foundations, albeit with varying intensity and in different contexts. In the following paragraphs, we discuss each foundation in detail. The overall categorization of the literature is presented in Fig. 3.

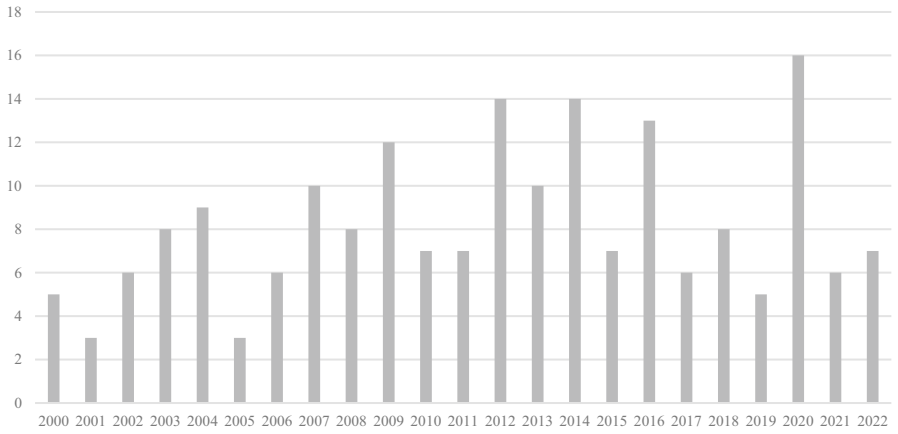

Fig. 2 Number of articles published on service productivity per year

4.2 Macroeconomic aggregate dimension

Nine of the 190 analyzed articles (i.e., 5%) adopted a macroeconomic perspective, referring to the effects of technology-driven ecosystems on service productivity. With the expanded role of information technology and the emergence of a service-dominant logic (Lusch and Nambisan 2015; Vargo and Lusch 2008), service productivity has developed into an overarching concept over the last two decades. In particular, with the emergence of service ecosystems (Chandler et al. 2019), enterprises' perceptions of productivity concepts have undergone radical changes. Thus, the service productivity literature has shifted from a more efficiency-oriented, firm-level logic to a more systemic logic (Vargo and Lusch 2004, 2008) focusing on value cocreation that transcends the provider-customer divide. The emergence of these service ecosystems is mainly driven by a combination of fundamentally changing customer behaviors and expectations as well as rapid technological advancements (Maroto-Sánchez 2012).

In keeping with this view, the macroeconomic aggregate dimension is divided into two second-order themes: *information technology* and *actor-to-actor networks*. The former embodies the still very limited academic interest in technological changes and their impact on productivity. Surprisingly, this systematic literature review suggests that *information technology* appears to remain a new and rising macroeconomic phenomenon for service scholars as regards enhancing productivity. In fact, even though information technology fundamentally changes the nature of customer interaction (Rust and Huang 2014) and electronic services play a pivotal role in determining the trade-off between service efficiency and personalization (Rust and Chung 2006), the service productivity literature focusing on information technology is still scarce.

In sum, the nature of service productivity changes as technology advances and information technology becomes increasingly important as company's use it to improve service productivity through personalization and automation.

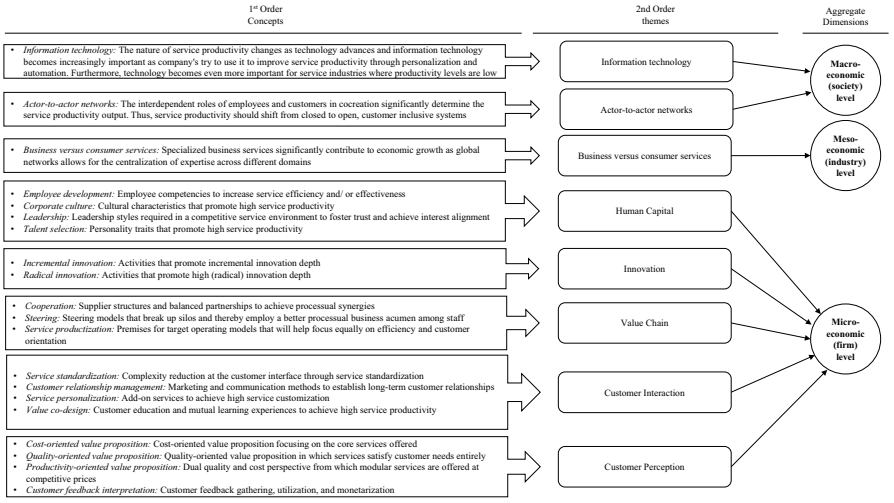

Fig. 3 Research dimensions to cluster existing research

Furthermore, technology becomes even more important for service industries where productivity levels are low.

Proposition 1 The more the information technology advances, (a) the more likely it is that service productivity improves (i.e., mainly through internal efficiency) for standardized (transactional) services, (b) the more likely it is that service productivity improves (mainly through personalization) when services are data-rich, (c) the less likely it is that service productivity can be measured accurately (due to the advent of free digital services where no transaction has taken place).

The *actor-to-actor networks* second-order theme, which closely adheres to the service-dominant logic (Vargo and Lusch 2004, 2008, 2017) and the open-systems perspective (Gomes et al. 2014), builds on a conceptualization of service productivity that transcends the service provider and customer divides. Thus, service productivity is not seen as an internal, efficiency-oriented concept but rather as a dual concept that focuses simultaneously on revenues (mainly driven by customer-perceived quality) and cost. To account for such a dual perspective, scholars have determined that the co-creation of value is key in service (Parasuraman et al. 1985). However, our review reveals that most studies focusing on service productivity still leave out the issue of how to identify the time and effort invested by customers in co-creation/production and, therefore, miss an important quantification of the value of customers' input during service coproduction. To conclude, the interdependent roles of employees and customers in cocreation significantly determine the service productivity output. Thus, service productivity should shift from closed to open, customer inclusive systems.

Proposition 2 The more actor-to-actor networks are interconnected, the more likely it is that service productivity improves as firms take a synergistic perspective and shift from the company-oriented perspective to a dual company-customer oriented perspective.

4.3 Mesoeconomic aggregate dimension

Six of the 190 articles analyzed (i.e., 3%) refer to the second aggregate dimension, the *mesoeconomic aggregate dimension*, which takes into account differences between business-to-business and business-to-consumer service industries. Researchers consider multi-criteria (Djellal and Gallouj 2013) and integrated (Javalgi et al. 2005) perspectives accounting for productivity metrics that reflect the heterogeneous requirements of (global) business models. The review of the literature highlights the importance and rise of business services as a driving factor of value creation in many developed (service) industries (Wirtz et al. 2015). Due to the interrelationship of business services with other service sectors, scholars stress the critical role of business service in developed economies. Consequently, we argue that policymakers must consider the important role of business services and, particularly, their indirect effects as intermediate inputs when making decisions that affect the entire service economy (Maroto and Rubalcaba 2008). Furthermore, specialized business services significantly contribute to economic growth as global networks allows for the centralization of expertise across different domains.

Proposition 3 The more the share of business services advances, the more likely is a shift from product-centric to service-centric business models, requiring service firms to transform from a one-sided (internal efficiency focused) manufacturing productivity strategy to a two-sided (internal efficiency and external effectiveness focused) strategy to improve service productivity.

4.4 Microeconomic aggregate dimension

Out of the 190 analyzed articles, 175 (i.e., 92%) refer to the *microeconomic aggregate dimension*, which is divided into five second-order themes, each representing a specific determinant of service productivity. The service productivity determinants that relate to the internal marketing perspective of a firm are *human capital, innovation,* and the *value chain*. The determinants associated with the external marketing perspective are *customer interaction* and *customer perception*. The following three sections will elaborate on the determinants relating to the internal marketing perspective.

4.4.1 Human capital as an internal marketing service productivity determinant

The first second-order theme, *human capital*, investigates which competencies and corporate culture allow for a productive service business model. The *human capital* second-order theme is split into four first-order concepts: *employee development*,

corporate culture, *leadership*, and *talent selection*. *Employee development* comprises publications that focus on developing various employee skills and competencies, such as resilience and confidence (Yoon 2020), ambidexterity (Hodgkinson et al. 2014; Phyra Sok et al. 2018), self-efficacy (Hammerschmidt et al. 2012; Lee et al. 2017), cultural sensitivity (Stauss 2016), and technological competence (Ku 2014). Additionally, the associated publications specify that employees' intrinsic job motivation (e.g., focus on their purpose) rather than extrinsic job motivation (e.g., compensation) is pivotal for companies pursuing high service quality (Chan and Wan 2012; Suhartanto et al. 2018). Taken together, the results pertaining to the *employee development* first-order concept suggest that the human resources department is a critical driver of the differential advantage of service firms because it has the biggest impact on the necessary employee skills and competencies (Harris and Fleming 2005; Wirtz and Jerger 2016). Moreover, the authors of the articles associated with this first-order concept affirm that employee training programs must improve not only required in-role behaviors but also extra-role behaviors to sustainably improve service productivity (Sawyerr et al. 2009).

Proposition 4a The more human capital firms build through developing employee skills and competencies such as (i) resilience and confidence, (ii) ambidexterity, (iii) self-efficacy, (iv) cultural sensitivity as well as (v) technological competence, the more likely they are to improve service productivity.

The next first-order concept connected to the *human capital* theme is *corporate culture,* which is found in articles acknowledging service firms' cultural diversity and how a service-oriented corporate culture can be instilled, even in manufacturing firms that engage in servitization (Lexutt 2020). The findings of studies using this first-order concept describe a favorable corporate culture where feedback (Lechermeier et al. 2020), job autonomy (Qi et al. 2020), shared vision (Melton and Hartline 2013), and social bonds between employees (Wägar 2007) are pronounced. Furthermore, the associated authors conclude that the individual employee becomes less important and cooperative linkages between teams must be fostered through cross-functional activities (Yuan et al. 2018).

Proposition 4b The more human capital firms build through (i) giving open feedback, (ii) providing job autonomy, (iii) and fostering social bonds between employees, the more likely they are to improve service productivity.

Leadership, the third first-order concept relating to the *human capital* second-order theme, encompasses articles examining interest alignment between management and staff (Schepers et al. 2016). The findings of several of these studies suggest that management ought to be authentic (Luu 2020), attenuative (Wilson and Frimpong 2004), and collegial (Ellinger 2000) to foster quality exchanges between managers and (frontline) service employees. Moreover, the literature points out that reciprocity in goals and expectations between management and staff is key to service productivity (Chan and Lam 2011).

Proposition 4c The more human capital firms build through promoting leadership styles that foster trust and achieve interest alignment, the more likely they are to improve service productivity.

The last first-order concept in the *human capital* second-order theme is *talent selection,* which appears in articles focusing on the analysis of personality traits that promote high service productivity. The literature points out that high agreeableness (Medler-Liraz 2020), emotion recognition (Doucet et al. 2016), adaptiveness (Prentice and King 2013), self-respect (Jian et al. 2012), general mental ability (Tews et al. 2010), and emotional intelligence (Tsai 2009) are amongst the most prominent personality traits in the propensity for high service productivity. Additionally, staff must not only be trained to identify those traits but also foster attraction-selection-attrition—that is, human resources should only hire employees who share the values of the company to ensure the consolidation of organizational culture over time (Dobni et al. 2000).

Proposition 4d The more human capital firms build through identifying personality traits such as (i) agreeableness, (ii) emotion recognition, (iii) adaptiveness, (iv) self-respect, (v) general-mental ability, (vi) emotional intelligence, the more likely they are to improve service productivity.

In sum, this review shows that the authors employing the concept of *human capital* discuss the role of people and the multiple personality aspects that determine service productivity. In doing so, they make significant contributions to the literature by showing how to improve service productivity through enhanced employee productivity.

4.4.2 Innovation as an internal marketing service productivity determinant

The next second-order theme, *innovation*, provides further information to understand the relationship between service innovation and service productivity, whereby the development of innovative services is seen as a key source of differentiation and competitive advantage (Storey and Hull 2010). The theme is divided into two first-order concepts: *incremental innovation* and *radical innovation*.

Incremental innovation pertains to articles that primarily perceive the innovation process as a byproduct of close customer interaction (Carbonell and Rodríguez Escudero 2015; Santos-Vijande et al. 2016). There is a consensus in the literature that customer involvement and rapid information processing are essential to increasing innovation speed, which makes it possible to tailor services to changing customer needs and further enhance service productivity (Carbonell et al. 2009; Lievens and Moenaert 2000).

Proposition 5a The more firms can increase the innovation speed, the more likely they are to improve service productivity.

Radical innovation concerns articles focusing on firms that operate more like product firms, actively engage in research and development and display the necessary innovation mindset (Nakata and Hwang 2020). Therefore, these firms cannot rely exclusively on paying close attention to customer needs but must shift to interfunctional coordination to spur radical innovation (Cheng and Krumwiede 2012).

Proposition 5b The more firms can link multiple (radical) innovation configurations, the more likely they are to improve service productivity.

In short, the authors that refer to *innovation* discuss its impact on service productivity. Initial observations suggest a link between service innovation and service productivity; however, general literature about the intersection between service innovation and service productivity has yet to be developed.

4.4.3 The value chain as an internal marketing service productivity determinant

The third second-order theme relating to the firm-level aggregate dimension is the *value chain*. The depth of service, service locations and processes, IT infrastructure, and form of organization are examined within this theme, which is divided into three first-order concepts: *cooperation*, *steering*, and *service productization*.

The articles relating to *cooperation* primarily contain information about the supplier structure and external partners necessary to enhance service productivity. They also focus on the increasing importance of the digitization-driven ecosystem perspective, which provides a logical structure for capturing market opportunities that transform the traditional service value chain into integrated network economies. The authors associated with the concept agree that active collaboration and the development of a mutual brand image are important in competitive service markets where positive synergies can be achieved (Abdul Rahman et al. 2014; Allred and Money 2010; Heirati et al. 2016; Wiertz et al. 2004).

Proposition 6a The more firms balance their partnerships to achieve processual synergies (e.g., through outsourcing to partners that provide better service quality at lower costs due to economies of scale), the more likely they are to improve service productivity.

The next first-order concept is *steering,* which encompasses articles that focus on the triangulation of employee satisfaction, customer satisfaction, and operational excellence using balanced scorecard–type programs (Ehbauer and Gresel 2013; Solnet and Kandampully 2008). The authors primarily focus on performance-management systems that enable the implementation of a productivity-driven strategy via activity-based cost-accounting principles (Min et al. 2009).

Proposition 6b The more firms apply steering models that break up silos (e.g., by using management techniques such as Total Quality Management or the Balanced Score Card) the more likely they are to improve service productivity.

The final first-order concept is *service productization*. While manufacturing firms start to augment their products with services to meet new customer demands (i.e., servitization), service firms do the opposite and mainly productize their services using automation to increase their gross margins as their revenues grow (Sawhney 2016). When service firms automatize high-volume, low-skill tasks and, thus, offer more product-like and cost-efficient services, they pursue a strategy that requires a more (internal) process-oriented than (external) customer-oriented perspective. Initial observations indicate that articles focusing on high levels of service-productivity mainly examine measures associated with the *service productization* concept (Harkonen et al. 2017), even though the term itself is never mentioned directly. Since *service productization* focuses on making services more repeatable and comprehensible (Harkonen et al. 2015) by establishing the structures necessary to control processes and outcomes (Harkonen et al. 2017), the current literature supports the assumption that managers in cost-oriented service firms are well-advised to consider an overarching technology and a productization-oriented approach to streamline the service value chain (Daghfous and Barkhi 2009; Smith et al. 2009; Khong and Richardson 2003). The findings of these studies indicate, in our view, that *service productization* in a broader sense also encompasses service blueprinting (Fließ and Kleinaltenkamp 2004) and lean principles (Carlborg et al. 2013) as both aim at increasing transparency and systematization. These results suggest that *service productization* represents an essential theoretical basis for improving service productivity in cost-oriented service firms. Furthermore, the authors exploring this first-order concept point out that establishing small cross-functional teams is vital for breaking up organizational silos and, thereby, fostering better business acumen among staff, which includes the propensity for high productivity (Menguc et al. 2016; Rodríguez et al. 2018).

Proposition 6c The more firms productize their services, the more likely they are to improve service productivity.

To conclude, this review shows that the authors addressing the *value chain* second-order theme discuss the role of processual and organizational systematization and their impact on service productivity and have made important contributions to further advance the field. The next two sections will elaborate on the two external marketing determinants of service productivity, *customer interaction* and *customer perception*.

4.4.4 Customer interaction as an external marketing service productivity determinant

The second-order theme of *customer interaction* analyzes how service companies interact with the customer to achieve high service productivity. The theme covers all business model decisions that influence direct customer contact at the customer interface. This also includes the sales channels, the form of customer retention, and the design of customer service. The related publications reveal four

first-order concepts: *service standardization*, *customer relationship management*, *service personalization*, and *value co-creation.*

Service standardization is associated with publications focusing on cost-oriented firms that attempt to reduce complexity during customer interaction mainly through self-service and the application of technology in the front and back office of core services (Belanche et al. 2020; Collier and Barnes 2015; Schepers et al. 2011). Furthermore, the authors addressing this concept agree that a high level of service standardization is necessary to increase service efficiency and reduce costs.

Proposition 7a The more cost-oriented firms reduce complexity at the customer interface through service standardization, the more likely they are to improve service productivity.

Customer relationship management relates to publications that emphasize the importance of long-term relationships with customers (Taylor et al. 2020; Wan et al. 2016). The relevant authors appear to agree that long-term relationships help to increase the quality of the relationship between customer and provider as well as positive word-of-mouth marketing (Ng et al. 2011). Additionally, customers who expect the relationship to continue over an extended period have lower service recovery expectations, which enables companies to sustainably increase service productivity (Hess et al. 2003).

Proposition 7b The more quality-oriented firms use marketing and communication methods to establish long-term customer relationships, the more likely they are to improve service productivity.

Service personalization is found in publications that point out that "the little things," that is, commonly perceived trivialities and personal touch, significantly impact the service experience and service quality (Johnston 2004; Verhulst et al. 2019) and, therefore, provide opportunities to improve service productivity.

Proposition 7c The more cost and quality-oriented firms use add-on services to achieve high service customization, the more likely they are to improve service productivity.

Value co-creation pertains to publications showing that customer interaction is not a one-way service provider–customer transaction but rather requires service providers and customers to be willing to learn from each other throughout the lifecycle of a service (Janeschek et al. 2013). A lifecycle perspective requires service firms to commit adequate resources during the entire customer journey (Sekhon et al. 2016), which enables them to better understand customer pain points and carefully adapt the service offering. Furthermore, research shows that employees must be closely linked, almost "hardwired," with customer satisfaction throughout the journey (Schlesinger 2003).

Proposition 7d The more cost and quality-oriented firms educate customers and foster mutual learning experiences, the more likely they are to improve service productivity.

To conclude, the authors exploring the *customer interaction* second-order theme discuss the optimal design of the customer interface to increase service productivity and, thereby, make important contributions to the understanding of how the provider-customer relationship impacts service productivity.

4.4.5 Customer perception as an external marketing service productivity determinant

Customer perception primarily focuses on the value proposition of the service offering. In addition, this second-order theme includes the positioning of the company (e.g., quality vs. productivity vs. low-cost provider) and the brand's design as a carrier of the positioning. The theme comprises four first-order concepts: *cost-oriented value proposition*, *quality-oriented value proposition*, *productivity-oriented value proposition*, and *customer feedback interpretation*.

Cost-oriented value proposition is connected to articles that focus on the constituents of a cost-effective service offering. The associated authors contend that developing an efficiency-oriented value proposition requires a strong focus on the core services offered, with limited attention to detail (Grace and O'Cass 2004; Min 2010; Tripp and Drea 2002). Furthermore, recent research on cost-oriented service firms has shown that actively reducing customers' expectations of service quality from the beginning has a significant positive effect on service performance (Danatzis et al. 2020).

Proposition 8a The more cost-oriented firms focus on the core services offered, the more likely they are to improve service productivity.

Quality-oriented value proposition encompasses publications that have identified high levels of customer satisfaction as the most important determinant of service quality (Yap and Sweeney 2007). These include studies focusing on marginal utility analysis (Bacon 2012) or customer delight (Finn 2012). Others point out the importance of the personal service experience (Gouthier et al. 2012) in increasing service quality.

Proposition 8b The more quality-oriented firms focus on satisfying customer needs entirely, the more likely they are to improve service productivity.

Productivity-oriented value proposition appears in publications that provide a dual perspective on balancing the quality and cost aspects of the service productivity concept. Current research related to this first-order concept notes that finding the optimal balance between quality and cost requires services to have a modular service architecture, which allows for high differentiation even if the services are offered to

a wide array of customers (Liu et al. 2016). However, the complexity induced by service modularization demands that service companies only target specific (online and offline) customer segments with highly trained personnel capable of handling a diverse service portfolio (Mentzer et al. 2004). The existing research also notes the importance of market orientation as a critical determinant of a productivity-oriented value proposition (Abbu and Gopalakrishna 2019).

Proposition 8c The more cost and quality-oriented firms focus on offering modular services, the more likely they are to improve service productivity.

Customer feedback interpretation covers publications suggesting that the customer is the best judge of service quality (Fodness and Murray 2007) and should thus determine the service design. However, several customer specificities must be taken into consideration when interpreting customer feedback, such as question order (DeMoranville and Bienstock 2003), customers' personality orientations and emotional states (Gountas and Gountas 2007; Strydom et al. 2020), gender (Snipes et al. 2006), and culture (Ueltschy et al. 2007). In addition, service performance evaluation requires comprehensive techniques that reflect subconscious customer intentions (Burton et al. 2003).

Proposition 8d The more quality-oriented firms incorporate customer feedback, the more likely they are to improve service productivity.

In conclusion, this review shows that the authors associated with the *customer perception* second-order theme discuss different marketing measures and service design configurations and their effect on service productivity, significantly developing the research stream.

5 Discussion

5.1 Integrated view on service productivity

Since service productivity has developed into a complex and interconnected concept, we combined the *macroeconomic*, *mesoeconomic*, and *microeconomic* perspectives on service productivity to cluster the existing research within an overarching and integrated research framework to conceptualize and link our propositions (shown in Fig. 4). Therefore, we connected the different research dimensions since they cannot be considered by themselves. Rather, their interdependencies need to be considered.

By comparing the macroeconomic, mesoeconomic, and microeconomic environment we enhance our knowledge about the interlinkages between them. These links directed us to develop the integrative framework on the effects on service productivity. As shown in Fig. 4, regarding the macroeconomic and mesoeconomic level, we claim that service productivity can improve if companies are able to successfully

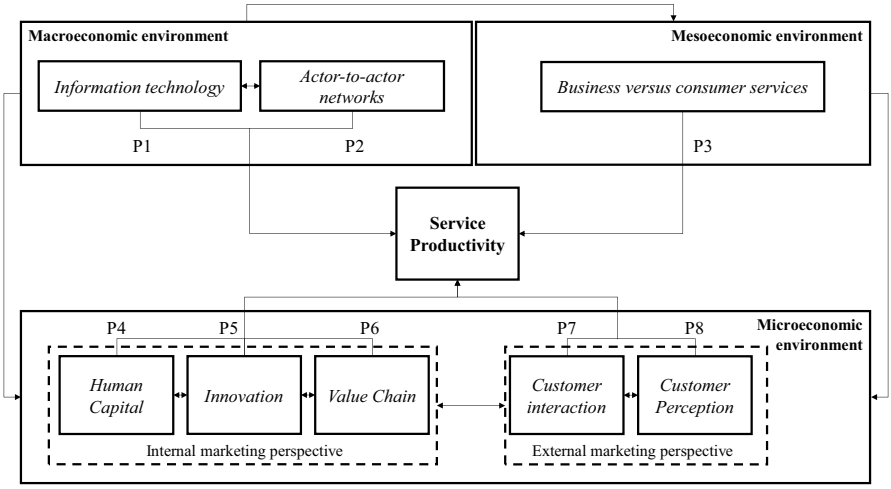

Fig. 4 An integrated framework of macroeconomic, mesoeconomic, and microeconomic effects on service productivity

disseminate new technological trends (Proposition 1) or innovate their business models in such a way that they can benefit from new actor-to-actor service networks (Proposition 2). Furthermore, the more the share of business services advances, the more likely is a shift from product-centric to service-centric business models, requiring service firms to transform from a manufacturing productivity strategy to a two-sided customer inclusive strategy to improve service productivity (Proposition 3). For all three propositions to fully develop, we argue that they must be closely connected. Hence, policy makers must develop an infrastructure that links all three propositions. To do so, they must strengthen firms' digital infrastructure by providing sufficient capital funds (especially in less developed countries). Second, they should actively support startups to help them during their scale-up period. And third, they should foster an entrepreneurial culture within society. Take the newly developed digital service act (European Commission 2022), which is an apt example connecting the three propositions. The digital service act represents an EU regulation that can open opportunities for firms to offer digital services across countries throughout the single market with a high level of protection for all users, regardless of where in the EU they live. This regulation will help firms to improve their service productivity levels due to higher legal certainty, harmonization of regulations and simpler founding and expansion within Europe. Since economies transform form manufacturing to service economies, such policy measures can increase global service productivity levels by promoting innovation and facilitating the expansion of global actor-to-actor networks between incumbent firms, SMEs, and start-ups.

Finally, the microeconomic aggregate dimension is divided into second-order themes that relate to the determinants associated with the internal marketing perspective of a firm (i.e., Proposition 4, 5, and 6) and the determinants associated with the external marketing perspective (i.e., Proposition 7 and 8). While the service-profit chain (SPC) (Hogreve et al. 2017, 2022) is the most prominent research

framework, Total Quality Management and Six Sigma are the most known systemic management approaches that have already established a strong link between both perspectives. Given the interrelationship between the internal and external marketing perspective, opportunities to create mutual benefits between the two are often intertwined (see Fig. 4). Take Google for example, which continuously achieves top rankings in customer service while being cost-efficient at the same time (Wirtz and Zeithaml 2018), showing that successful firms must be able to combine service quality and cost to achieve high service productivity.

In sum, we contribute to service productivity literature by connecting the macroeconomic, mesoeconomic, and microeconomic perspectives within a cohesive framework. Such a combination has not been developed before. On the one hand, this framework helps researchers to bridge the gap between different research streams and specify interdependencies. On the other hand, this framework provides guidance for policy makers (Propositions 1, 2, and 3) and practitioners (Propositions 4–8) to identify new means for service productivity enhancement and combine different perspectives to achieve important political and organizational synergies.

5.2 Future research directions

Systematic literature reviews are of considerable importance for providing a more cohesive knowledge base to the academic and practical community in fragmented research areas (Klarin 2019). Therefore, we conducted this replicable review to discover overall structural patterns that help to grasp critical considerations of the current body of service productivity literature, which, in our view, requires a more solid foundation. Hence, we formulated new research avenues to stimulate further research. Additionally, we developed specific research questions for each proposition to actively guide future service productivity research (Table 2).

The analysis of the literature review (Fig. 3) revealed that researchers primarily focus on eight different research avenues (i.e., 2nd order themes). The first two research areas relate to the macroeconomic perspective (i.e., information technology and actor-to-actor networks). From this perspective, our systematic literature review showed that a hitherto limited number of studies has addressed service productivity from a perspective that captures important macroeconomic trends such as the rise of information technology and actor-to-actor networks. In contrast, we find that most research focusing on service productivity aims at empirically analyzing the latter's impact at the firm level (see Figs. 1 and 3), focusing exclusively on firm productivity. However, we argue that a (broader) customer-inclusive actor-to-actor perspective, in which internal efficiency and external customer-perceived quality are equally considered, is important to cover the entirety of the service productivity concept (Grönroos and Ojasalo 2004; Parasuraman 2002). Thus, future service productivity research should focus on fully estimating the value of customers' input during service coproduction. Furthermore, longitudinal studies that include a dynamic discussion of service productivity over time, where firms change their productivity levels with changing consumer demand, are particularly valuable for advancing the field.

Table 2 Agenda for future research

Propositions	Potential future research questions
1. Macroeconomic (society) level—information technology The more the information technology advances… (i) The more likely it is that service productivity improves for standardized (transactional) services, (ii) The more likely it is that service productivity improves when services are data-rich, (iii) The less likely it is that service productivity can be measured accurately (due to the advent of free digital services where no transaction has taken place)	What impact has the metaverse on service productivity? How can the quest for sustainability be combined with strategies for high service productivity? How do multilevel service designs change as technology advances? What roles play digital services in managing the efficiency customization trade-off? Under what conditions become product firms service-centric given the existing technological advancement? Do firms optimize their service productivity when they proactively incorporate IT into their services, operations, and strategy? What technologies augment FLEs effectively?
2. Macroeconomic (society) level – actor-to-actor networks The more actor-to-actor networks are interconnected, the more likely it is that service productivity improves as firms take a synergistic perspective and shift from the company-oriented perspective to a dual company-customer oriented perspective	When measuring service productivity for strategic purposes, what approach accounts for opposing or reinforcing productivity metrics? How can firms develop a mutual brand image with partners across different societies/ countries?
3. Mesoeconomic (industry) level The more the share of business services advances, the more likely is a shift product-centric to service-centric business models requiring service firms to transform from a one-sided (internal efficiency focused) manufacturing productivity strategy to a two-sided (internal efficiency and external effectiveness focused) strategy to improve service productivity	What means are necessary to move from traditional manufacturing methods to hybrid/ two-sided service productivity methods? What means are necessary to re-engineer organizations' business processes from a product-centric to service-centric business models? What must be rethought and redesigned to achieve significant improvements in (B2B/ B2C) business performance? Is there a dark side of B2B supplier collaboration?
4. Microeconomic(firm) level—Human Capital The more human capital firms build through… (a) Developing employee skills and competencies such as (i) resilience and confidence, (ii) ambidexterity, (iii) self-efficacy, (iv) cultural sensitivity and (v) technological competence (b) Giving open feedback, (ii) providing job autonomy, (iii) and fostering social bonds between employees (c) Promoting leadership styles that foster trust and achieve interest alignment (d) Identifying personality traits such as (i) agreeableness, (ii) emotion recognition, (iii) adaptiveness, (iv) self-respect, (v) general-mental ability, (vi) emotional intelligence …the more likely they are to improve service productivity	What means must be considered to implement a stringent productivity-oriented selection and recruitment process? Which rewards enable consistent service excellence? How can firms consistently foster organizational values? How can work redesign programs and trainings ensure that they focus on all the different personality dimensions? Should organizations focus on employee engagement as much as much as they focus on customers? How can managers find ways to release their job stress and negative feelings to avoid abuse of subordinates? How can firms reassure employees' sense of self-worth and self-definition? How can firms delegate more power to employees and ensure that interests are aligned? How can managers find a balance between feedback culture and micro-management?

Table 2 (continued)

Propositions	Potential future research questions
5. Microeconomic (firm) level—Innovation The more firms… (a) Increase the innovation speed (b) Link multiple (radical) innovation configurations …the more likely they are to improve service productivity	How can firms improve information processing capacity? What types of customers should be involved in the service innovation process? How can firms check whether the mindset of the employees is ready for (radical) service innovation?
6. Microeconomic (firm) level—Value Chain The more firms… (a) Balance their partnerships to achieve processual synergies (e.g., through intelligent outsourcing) (b) Apply steering models that break up silos (e.g., by using management techniques such as Total Quality Management or the Balanced Score Card) (c) Productize their services …the more likely they are to improve service productivity	How can firms optimize internal and external information exchange? How should firms be organized above/ beneath the line of order penetration? What means for coordinating and planning help to design organizational structure and plan the cost structure? What modern accounting principles (e.g., using activity-based costing) allow for a productive service business model?
7. Microeconomic (firm) level—Customer interaction The more… (a) Cost-oriented firms reduce complexity at the customer interface (b) Quality-oriented firms use marketing and communication methods to establish long-term customer relationships (c) Cost and quality-oriented firms use add-on services to achieve high service customization (d) cost and quality-oriented firms educate customers and foster mutual learning experiences …the more likely they are to improve service productivity	How can services be customized to achieve high service productivity and meet customers' expectations during service interaction? How do service guarantees affect the overall service productivity during customer interaction? What scales must be used for a broader examination of the service experience? How can firms create socially supportive service environments that are beneficial for customers and for organizational profitability?
8. Microeconomic (firm) level—Customer perception The more… (a) Cost-oriented firms focus on the core services (b) Quality-oriented firms focus on satisfying customer needs entirely (c) Cost and quality-oriented firms focus on offering modular services (d) Quality-oriented firms incorporate customer feedback …the more likely they are to improve service productivity	How can culture be considered when interpreting customer satisfaction ratings? How canpersonality orientations and emotional states be considered for customer's evaluation of service satisfaction? Should measures of actual performance be modeled in addition to measures of perceived performance? How can customer delight be monitored as much as customer satisfaction? How can the delivered service standard be tracked for different service aspects/ attributes?

Moreover, we find that on a macroeconomic level, the rise of technology-infused services creates tough challenges for measuring value creation in a digitalized service economy. Consequently, a unique element of service productivity in a digital era is free software of high value to customers and the value of consumer-generated data as input in the provision of services to customers (Brynjolfsson et al. 2019). Due to measurement challenges related to the advent of free digital services, we propose that future service productivity research should focus on measuring the value of digital consumer input to capture "real" value creation in a digital service economy. In other words, future research must find new ways to measure the welfare gains of technological companies even though no transaction has taken place and no direct value is registered. Additionally, future research should investigate the impact of new policies (such as tax systems, regulations, capital funds) on global service productivity.

The third research area (business versus consumer services) focuses on the *mesoeconomic, industry-level* perspective. Our review shows that the rise of business services impacts service economies that are built on networks of specialized service firms offering business resources as a service. Even though the service sector is very heterogeneous, our systematic review reveals that analyses of individual sector productivity have not garnered much scholarly attention since only 3% of the analyzed articles refer to the mesoeconomic aggregate dimension (see Fig. 1 and Web Appendix 1). Consequently, in our view, there is still space for further research to analyze, for example, how the rise of the sourcing and outsourcing of business services affects industries' and companies' service productivity (Ehret and Wirtz 2015).

Finally, the remaining five research areas (i.e., human capital, innovation, value chain, customer interaction, customer perception) relate to the the *microeconomic, firm level*. We find that research on service productivity has significantly advanced knowledge within the field over the last two decades, given that 92% of the analyzed articles focus on firm-level productivity. However, except in the manufacturing literature, *innovation* as a means of productivity enhancement has not received similar scholarly attention even though current service research emphasizes that scholars should bridge the gap between the service innovation and service productivity research streams (Aspara et al. 2018). Within the innovation research field, we suggest that future service research should develop a better understanding of the interrelationship between service innovation (e.g., Eckert and Hüsig 2022) and service productivity to close the gap between the two research streams because previous research has mainly investigated them in isolation, neglecting the dependencies between the two (Hofmeister et al. 2022). Combining them will therefore help to better understand whether service productivity indicators are able to define successful service innovation (Gustafsson et al. 2020; Schneider et al. 2022).

From the articles examining the firm level, we also learn that many companies place trust in digital innovation capabilities to find the right balance between service productivity and customer satisfaction through automation (Marinova et al. 2017). However, research shows that keeping this promise is challenging because digital innovation still fails to provide the expected productivity benefits (Aspara et al. 2018). Like Chandler et al. 2019, we affirm that innovation in a digital service context should be a high priority for service research to help practitioners in service

firms better understand how they can make the best use of the rather vague current service innovation concepts (Jaakkola et al. 2017). Based on the insights of our review and akin to Schweikl and Obermaier (2020) we also call for further research that investigates the nature of potential time lags between service innovation investments and their productivity outcome.

Within the *value chain* research field, the existing firm-level research has shown that service and manufacturing firms tend to become similar as they mature, and they both start to offer bundles of products and services, that is, *product-service systems* (Li et al. 2020). While manufacturing-related servitization research has already explored the challenges associated with transitioning from products to services (Kohtamäki et al. 2020), the same is not true for services. Therefore, we call on future research to emphasize how service productization can help service companies to overcome service productivity barriers when they move from offering pure services to integrated product-service systems.

Finally, our review shows that most firm-level studies used surveys as research method. Although valuable, this method limits the findings as researchers mainly focus on cross-sectional perspectives (Kolotylo-Kulkarni et al. 2021). First, we propose that future research uses experiments to further explain the behavioral service productivity aspects, such as beneficial extra-role behaviors (i.e., the human capital side). Second, more qualitative methods (e.g., multiple case studies) are needed to explain the multifaceted nature of service productivity. Qualitative research will especially help to explain the complex interdependencies between different propositions discussed in this article.

5.3 Implications for policymakers and practitioners

First, our systematic literature review shows that only a few studies have focused on a *macroeconomic perspective* when analyzing service productivity. Since we adopt a bottom-up approach to categorizing the literature, proceeding from the firm (micro economy) to the industry (meso economy) to the society (macro economy), we developed a framework (see Figs. 3 and 4) that is general enough for policymakers to use for comprehensive decision making. Thus, we combined the currently fragmented service productivity literature to show that information technology and actor-to-actor networks are important determinants of service productivity on a macroeconomic level. This is critical for policymakers who must develop and implement policy measures that generate positive effects not for one company or industry but for the entire economy.

Second, on a mesoeconomic level, we find that the service systems perspective (Chandler and Lusch 2015) offers great guidance to managers in different service industries regarding how to improve service productivity. We observe that by taking a systems perspective to conceptualize the means of enhancing service productivity (Gomes et al. 2014), managers can more accurately define a "new value creation configuration" (Jaakkola and Alexander 2014, p. 249) that makes it possible to combine industry-level specifics with strategies for high service productivity. For example, Gomes et al. (2014) report, in their cross-sectional study of Portuguese

service organizations, that many service organizations suffer from "strategic confusion" (Gomes et al. 2014, p. 990) that is, the firms do not have clearly articulated and distinctive strategic orientations. However, without strategically aligned service systems that account for industry specifics (e.g., levels of customer coproduction or intangibility), service productivity suffers. Therefore, we advise (global) service managers who operate in different service industries to define and develop service systems that can link the industry strategy with service productivity.

Third, on a microeconomic level, this review reveals that the extant research shows that by trying to meet short-term earnings expectations, service managers are often tempted to apply efficiency-oriented manufacturing productivity models as they can help to reduce costs swiftly. However, product-based productivity measures are especially pernicious because they seem promising for increasing profit but are mainly a service productivity illusion as corporate culture suffers (e.g., Menguc et al. 2017; Yuan et al. 2018), service quality decreases (e.g., Finn 2012; Gouthier et al. 2012; Yap & Sweeney 2007), customers leave (e.g., Brady and Cronin 2001; Mentzer et al. 2004; Olsen et al. 2014), and long-term profits decline (e.g., Rust and Huang 2012, 2014). Since service costs and revenues are closely intertwined, the theory of optimal service productivity shows that service managers can be misled in assuming that they can improve each aspect separately. As a result, most decision makers are torn between a reasonable long-term customer orientation and shareholder-induced interim cost-effectiveness, which keeps them in a position of persistent instability where they must avoid a downward shift in productivity. Consequently, service providers need guidance and metrics that allow them to cover many functions and business units and link service creation and delivery to the firm's financial performance (Ostrom et al. 2010). The categorization of the literature developed here provides a comprehensive overview of service productivity means in the entire service business model and, therefore, helps to identify suitable practical recommendations when competitive pressures demand rapid or strategic change.

Furthermore, we show that the service productivity research stream is linked to the service innovation research stream in that the positive effect of service innovation on service productivity very much depends on the type of innovation (e.g., Kraus et al. 2022a, b). If, for instance, a company innovates by internalizing activities that were previously performed by the customer (e.g., to reduce the role stress of frontline employees), such innovation does not necessarily increase productivity (which might not even be the objective if other outcomes were the focus of the innovation). Nevertheless, many companies often have clear productivity targets for their innovations (e.g., they frequently use business cases to define the innovation budget) but struggle to introduce new and productive services successfully to the market. Our review showed that by making conscious choices about the types of customers to involve (e.g., lead users vs. new users) (Carbonell et al. 2012), incorporating front-line service employees (Santos-Vijande et al. 2016), and developing social cohesion (Shaner et al. 2016), the productivity of new services can be significantly improved. Combining these findings will help service managers to boost service innovation success (see also Aspara et al. (2018), who explicitly studied the service productivity–service innovation dilemma).

Finally, on the firm level, we especially encourage service firms that offer complex product-service systems to productize their service offering. That is, services should be configured, branded, and priced more like products to differentiate and sell them more effectively (Wirtz et al. 2021). Our review reveals that service productization can be achieved by applying lean principles (Carlborg et al. 2013) and service blueprinting (Fließ & Kleinaltenkamp 2004), defining clear organizational values (Chenet et al. 2000), incorporating new technology (Daghfous and Barkhi 2009), and conducting service process re-engineering (Khong and Richardson 2003). All these means will help managers as key productization approaches for managing services' complexity and, therefore, improving their productivity.

6 Limitations and conclusion

Like any other study, this structured literature review has limitations. One concerns the journal selection. By focusing on 22 journals in the service management, general marketing, business-to-business marketing, and innovation fields, we limit ourselves to the most important journals and associated research communities contributing to the service productivity literature. Additionally, other historical analyses within service research have used similar selection criteria (Carlborg et al. 2014; Furrer et al. 2020). Thus, we applied equivalent limitations to achieve comparability with other literature reviews, even though this has entailed leaving out certain studies. Moreover, the keyword selection determined our sample size and content. Since service productivity is a diverse research field, our initial keyword selection could not cover the entirety of available studies, even though the literature review follows a thorough and comprehensive structural (Snyder 2019) and methodological approach (Gioia et al. 2013; Tranfield et al. 2003).

To conclude, this systematic literature review sought to advance the knowledge about service productivity. It reveals that research on service productivity is fragmented, which hinders future interdisciplinary academic exchange. We synthesized the existing literature to make three main contributions. First, the present review offers a modified perspective on service productivity that accounts for recent academic and practice advancements on the macroeconomic, mesoeconomic, and microeconomic levels. Second, we built a bridge between macroeconomic issues of service productivity and current studies on the microeconomic level by introducing a categorization that creates a more cohesive foundation for the further development of the open-ended theory of optimal service productivity. Third, we outline a research agenda to guide and stimulate future studies of service productivity in a digital era. We hope that these three contributions can help policymakers, scholars, and practitioners to advance their understanding of the service productivity concept.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s11301-023-00333-9.

Funding Open Access funding enabled and organized by Projekt DEAL.

Data availability The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

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