

Sustainability in Service Research

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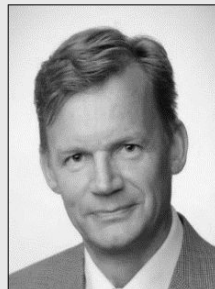
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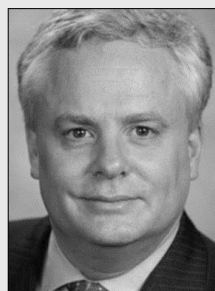
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Mapping Sustainability in Service Research – A Literature Review and Research Agenda

By Marion Büttgen, Jens Hogleve, and Felix Zechiel

Within service research, sustainability has emerged as a subject of increasing prominence in recent years, with its foundational roots tracing back to the hospitality context. To provide a comprehensive overview of the various topics of sustainability within the field of service research, we invited a group of renowned scholars from different academic fields to share their view on this emerging topic. In this Special Research Paper, we start with a systematic literature review on the topic of sustainability within the service sector, followed by individual commentaries and conceptual contributions from diverse research groups. These contributions draw upon different theoretical and conceptual perspectives, including managerial implications for service companies, as well as forward-looking recommendations for further research.

1. Introduction

Sustainability has become an indispensable global imperative, pervading diverse industries and academic disciplines. In the contemporary era, conceptualizing value without comprehending a product's or service's environmental and societal implications is untenable. Despite its significance, the sustainability of services remains underrepresented in service literature, with a few notable exceptions. These exceptions predominantly emphasize sustainable service innovations in the hospitality sector (e.g., Luu 2022; Moliner-Tena et al. 2023).

Furthermore, the heightened consumer awareness regarding the potential environmental and societal impacts of services has propelled both consumers and companies to embed sustainability into their decision-making paradigms (Hsiao et al. 2018). While sustainability research is well-established in manufacturing sectors known for resource intensiveness, it has only recently garnered substantial attention in service research, as highlighted in a recent special issue of the *Journal of Service Research* (Journal of Service Research, 2022). This increasing interest can be attributed to several factors:

- Service firms cope with the unique challenges of delineating sustainable services (as opposed to sustainable products) and strategizing their design and delivery to bolster or align with broader sustainability initiatives (Field et al. 2021).

- The nuances of consumer behavior and decision-making processes differ when considering sustainable services in contrast to sustainable products (Wunderlich et al. 2013).
- Service providers, along with their stakeholders—including customers, policymakers, and investors—hold the potential to influence an economy's and society's overarching sustainability significantly. They can achieve this by championing innovative solutions and business models that supplant the conventional product-centric, linear value chain approach, thereby fostering a circular economy (Fehrer/Vargo 2023).

Recognizing this gap, there has been an evident uptick in publications centered on sustainability in service research and the methodologies to design sustainable services in recent years (see Table 1). Consequently, this article endeavors to encapsulate the current state of sustainability research in the service domain, pinpoint pertinent research trajectories, and formulate research questions that might pave the way for subsequent studies. We aim that this article will motivate and inspire researchers to push the importance of sustainability in service contexts forward.

2. Research Methodology

For this review, we conducted a keyword search (search string: Sustaina*) through Web of Science in service-specific journals based on the SERVSIG Service Literature Alert System Methodology. These journals include the *Journal of Service Research* (JSR), *Journal of Service Management* (JoSM), *Journal of Services Marketing* (JSM), *Journal of Service Theory and Practice* (JSTP), *Service Industries Journal* (SIJ), *Cornell Hospitality Quarterly* (CHQ), and *Service Science*. This resulted in a sample of 97 articles from 2001 to 2023. In addition, we included the five OnlineFirst articles of the JSR Special Issue Sustainable Service (those that had been online-first mid-August) and two articles in the *Journal of Service Management Research* (SMR). Therefore, the final sample consists of 104 articles.

Examining the publication trajectory concerning sustainability papers reveals that the topic has only recently gained traction within the service research community (see Table 1). The inaugural article on this subject appeared in the *Service Industries Journal* in 2001, followed by three papers in 2008 (Camison 2008; Di Prajogo 2008;

Hobson and Essex 2001; Stoddard et al., 2008). Both the *Service Industries Journal* and *Cornell Hospitality Quarterly* were pioneers in disseminating early research on sustainability in service. Impressively, they continue to outpace other service journals, accounting for over half of all publications on this theme to date (as illustrated in Table 1). Many of these sustainability papers found their home in the *Cornell Hospitality Quarterly*, especially in 2014. This trend underscores the notion that the rise of sustainability in service research is intrinsically linked to the tourism sector.

In contrast, sustainability research has emerged into other business research disciplines much earlier. As early as the 1990s, journals specifically dedicated to sustainability were established, such as the *Journal of Industrial Ecology* in 1997 and the *Journal of Cleaner Production* in 1993. Additionally, the *Journal of Marketing* showcased papers delving into topics like social responsibility in organizational buying and corporate environmentalism as strategic market approaches (Drumwright 1994; Menon and Menon 1997). Notably, the *Academy of Management Review* fea-

tured Stuart Hart's seminal work on the natural resource-based view, which has since become a cornerstone in management literature (Hart 1995). In the subsequent section, we delineate five distinct research areas related to sustainability in service research. We will briefly summarize the research within these categories and provide a roadmap to further enrich sustainability research in the service domain.

Table 1: Distribution of publications in the service journals

Journal	Number of Publications	First Publication
Cornell Hospitality Quarterly	29	2008
Service Industries Journal	26	2001
Journal of Service Management	16	2012
Journal of Services Marketing	14	2017
Journal of Service Research	7	2013
Journal of Service Theory and Practice	5	2015
Service Science	5	2017
Journal of Service Management Research	2	2018

Sustainability-Related Research Categories and Topics

Research Categories*	Overarching Topics	Key Sources
Sustainable Consumer Behavior	<ul style="list-style-type: none"> ■ Enabling sustainable consumer behavior (e.g., in the circular or sharing economy) ■ Analyzing consumer behavior, e.g., consumers' attitudes, motivation, and preferences towards sustainable services (e.g., for food services or tourism) ■ Consumers' responses to sustainability practices in service 	Aksoy et al. (2022), Barber and Deale (2014), De Bruyne and Verleye (2023), Hu et al. (2010), Kim and Kim (2014) and Wunderlich et al. (2013)
Sustainable Service Strategy & Management Practices	<ul style="list-style-type: none"> ■ Developing sustainable strategies (e.g., in human resources, marketing, or pricing) and business models ■ Implementing sustainability management practices within service companies ■ Analyzing organizational drivers, barriers, and culture towards sustainability 	Andreassen et al. (2018), Enquist et al. (2015), Lariviere and Smit (2022) and Löbler (2017)
Sustainable Service (Eco)Systems	<ul style="list-style-type: none"> ■ Shaping service (eco)systems for social change, sustainability, and well-being ■ Implementing circular (service) ecosystems ■ Engaging actors in sustainable service (eco)systems ■ Exploring system dynamics (e.g., paradoxes or barriers towards sustainability) 	Alkire et al. (2023), Anzivino et al. (2023), Dodds et al. (2022), Fehrer et al. (2022), Fehrer et al. (2023), Field et al. (2021), Fisk and Alkire (2021), Koskela-Huotari et al. (2023), van Riel et al. (2019) and Verleye et al. (2023)
Sustainable Operations & Supply Chains	<ul style="list-style-type: none"> ■ Enabling sustainable service operations management (e.g., in tourism) ■ Implementing sustainability measures in service operations ■ Analyzing the impact of sustainability practices in operations on performance (e.g., financial performance) 	Segarra-Ona et al. (2012), Singal (2014) and Zhang et al. (2012)
Service Design & Innovation for Sustainability	<ul style="list-style-type: none"> ■ Guiding and designing technological and non-technological innovations for social change, sustainability, and well-being ■ Analyzing factors that influence sustainable service design and innovation processes 	Aksoy et al. (2019), Alkire et al. (2020), Gürlek and Tuna (2018) and Reynoso et al. (2015)

*The categories are sorted by the number of publications. Placed on top is the category with the highest number of publications.

3. Sustainable Consumer Behavior

Sustainable Consumer Behavior stands out as the research category with the highest number of published articles. The engagement and motivation of consumers are pivotal for the success of sustainability initiatives undertaken by service providers (e.g., Benoit et al. 2022; Calderon-Monge et al. 2020). Consequently, this domain is recognized as one of the central research areas. Notably, within tourism research, consumer behavior is instrumental in driving sustainability advancements (Han 2021). Barber and Deale (2014) evaluated the mindfulness of hotel guests to amplify their awareness and receptivity to sustainability practices. Their findings suggest that highly mindful guests exhibit greater concern for societal well-being, actively gravitating towards services that offer environmental advantages. Kim and Kim (2014) conducted an experimental study to discern the interplay between source credibility and message framing on hotel customers' behavior. Their results underscore that messages which are framed positively, coupled with source credibility, enhance participation in sustainability initiatives.

Beyond tourism research, sustainable consumer behavior plays an important role, too. The increasing interest in consumers' participation in the circular and sharing economy and collaborative consumption is noteworthy (Bruyne and Verleye 2023). Bruyne and Verleye (2023) delved into the impact of sharing business model dimensions on consumer engagement. Their discrete choice conjoint experiment sheds light on strategies to galvanize consumer participation in circular business models. Additionally, multiple promising non-circular smart services are emerging to bolster sustainability. For instance, IT-driven energy management services are crucial in augmenting environmental sustainability within the energy sector. Research in this area has researched the motivations underpinning consumers' inclination to embrace such services (Wunderlich et al. 2013).

In this special research paper, Bartsch et al. undertake an exploration of sustainability loyalty programs with the intention of promoting sustainable consumer behavior. Nevertheless, an ongoing requirement for additional research remains, especially outside tourism. Future studies might focus on a consumer perspective on smart services (e.g., in energy industries) or circular business models. Therefore, we propose the following questions:

- *How can consumers be effectively engaged and motivated to utilize smart services geared towards sustainability (e.g., energy management services) or services aligned with the circular economy (e.g., repair services, sharing platforms for fashion or electronics)?*
- *What strategies can foster consumer engagement in the sustainable utilization of digital services (e.g., streaming platforms, cloud services, or AI-driven services)?*

- *Are there service-specific rebound effects or positive and negative spillover effects of sustainable consumer behavior? How can these rebound effects and adverse spillover effects be reduced? How can positive spillover effects be initiated?*

4. Sustainable Service Strategy & Management Practices

Sustainable Service Strategy & Management Practices represent a further core research area in sustainability-related service research. This category encompasses papers that delve into various strategies, ranging from firm-centric to marketing-focused, as well as diverse sustainability management practices. For instance, Lariviere and Smit (2022) integrated the people-planet-profits (Triple P) paradigm into marketing evaluation, strategy formulation, and implementation, fostering sustainability within service enterprises. Tanova and Bayighomog (2022) cast their lens on Green Human Resource Management within the service sector. Meanwhile, Andreassen et al. (2018) explore sustainable value creation within triadic business models, offering a comprehensive roadmap that elucidates value creation for various stakeholders, including buyers, sellers, and platform entities. This category also encompasses research that investigates the drivers and barriers of sustainability strategies, as well as studies that illuminate managerial perspectives and sentiments of managers towards sustainability, especially within the tourism sector (Gazquez-Abad et al. 2015; Hobson and Essex 2001; Lopez-Gamero et al. 2011).

Furthermore, a subset of papers within this domain critically assesses the current state of service research, raising foundational questions about integrating sustainability into service strategy and management practices. Enquist et al. (2015) started a discourse on the fusion of sustainability with business logic, introducing various transcendence phenomena and associated business logics that underpin sustainable enterprises. Löbler (2017) delves into the intricate relationship between humans and nature within service marketing. Through a transdisciplinary literature review, he discerns divergent interpretations of service within biological and ecological literature, crafting a transdisciplinary framework for sustainable marketing. Batat (2021) embarks on a phenomenological journey into sustainability within the Middle East and African (MEA) region's food service industry. His findings underscore the profound influence of local and regional cultures on sustainability conceptualizations and sustainability strategy and management practices, revealing a pronounced emphasis on social sustainability within the MEA's food sector, juxtaposed against a discernible absence of ecological sustainability.

Within the marketing discipline, a chorus of scholars has voiced concerns that prevailing research might be

overlooking pressing issues pertinent to consumers, policymakers, and the broader society (Haenlein et al. 2022; Kohli and Haenlein 2021; van Heerde et al., 2021). We posit that these concerns pave the way for a fertile research landscape, beckoning further exploration to enrich the domain of *Sustainable Service Strategy and Management Practices*. Consequently, future research endeavors might encompass the following pertinent questions:

- *What objectives must be realized to adeptly formulate and execute a service strategy, ensuring that associated management practices are inherently sustainable?*
- *To what degree do current service strategies align with sustainability objectives? Is there a pressing need for service firms to develop and adopt fundamentally novel strategies?*
- *How can potential goal discrepancies and trade-offs between various sustainability dimensions be effectively reconciled within service strategy and management?*
- *What strategies can be employed to design and implement sustainable service business models, such as smart digital or circular services?*
- *How can services strategically advance the sustainability principles of efficiency, consistency, and sufficiency?*

5. Sustainable Service (Eco)Systems

The significance of a systemic perspective is undeniable in the journey towards sustainability. For instance, van Riel et al. (2019) present a compelling perspective on value paradoxes within (un)sustainable service systems. Drawing from examples within the hospitality sector, they craft a framework that reveals these paradoxes, thereby aiding the orchestration of sustainable value within service systems. Similarly, Koskela-Huotari et al. (2023) offer a conceptual framework for sustainability within service industries, shedding light on mechanisms that foster or hinder sustainable service delivery. Their case study within the realm of food retail accentuates the challenges of achieving sustainability, primarily when entrenched system mindsets act as barriers (Koskela-Huotari et al. 2023).

Another salient systemic perspective pertains to the circular economy. Verleye et al. (2023) introduce a novel approach to crafting and embracing circular business models (CBM). They underscore the potential challenges various actors pose within the service ecosystem, which could engage the shift towards a circular economy. Through an abductive analysis of CBM literature, they enumerate practices that can galvanize actors towards a circular economy ethos, emphasizing motivation, opportunity, and ability-centric practices (Verleye et al. 2023).

Moreover, this research domain strongly ties with transformative service research (TSR). Initiatives such as Serv-Collab resonate deeply with sustainability research (Fisk

et al. 2020). Multiple articles explore the nexus between well-being and services, even if they are not explicitly framed as sustainability articles (e.g., Anderson 2010; Anderson and Ostrom 2015). For instance, Dodds et al. (2022) explored sustainable retail fashion and its ramifications on well-being, pinpointing fundamental considerations for sustainable retail ecosystems. Their framework adeptly melds the well-being of key actors with varying sustainability tiers within the service ecosystem (Dodds et al. 2022). It is noteworthy that while many TSR papers might not be explicitly branded as sustainability research, they invariably intersect with sustainability themes within the service sector (Fisk et al. 2020; Fisk and Alkire 2021).

It is crucial to highlight that research within this category is relatively nascent, with a rise in publications post-2019. These research themes predominantly find a home in high-impact, service-specific journals. For instance, five out of seven sustainability articles in JSR are dedicated to this research domain. Moreover, Trischler et al. embrace a systemic viewpoint and employ a policy perspective on user innovation capacity in their part of this special research paper. However, the field asks for more in-depth exploration and understanding. In this vein, we propose the following research questions:

- *How can we navigate and resolve paradoxes and conflicts among actors within a service (eco)system?*
- *What strategies can be employed to recalibrate various actors' mindsets, preferences, and motivations within a service ecosystem towards a sustainability-centric ethos?*
- *Which approaches and incentives can expedite the sustainability transition of comprehensive service (eco)systems? Who are the potential frontrunners in spearheading such transitions?*

6. Sustainable Operations & Supply Chains

This research domain focuses on sustainable operations and supply chains, with a pronounced emphasis on the tourism sector. This category's recurrent and influential theme is the interplay between sustainability and operational performance. Zhang et al. (2012) pioneered a performance measurement framework tailored for environmental sustainability to discern its impact on operational performance. Utilizing panel data from 984 US hotels, they crafted a metric to probe this relationship, revealing a positive link between environmental sustainability and operating performance (Zhang et al. 2012). Singal (2014) delved into ESG indices and credit ratings spanning two decades (1991-2011) and discerned that tourism-centric firms predominantly invest more in operational environmental programs than their counterparts in other industries. Furthermore, the author identified a positive nexus between sustainability initiatives and financial per-

formance, attributing this to consumer endorsement of such initiatives. This dynamic fosters a virtuous cycle wherein investments in sustainability initiatives witness a consistent uptick over time (Singal 2014). In the subsequent sections of this paper, Keiningham et al. delve into the subject of sustainability measurement, which constitutes a central area within the field of service operations.

While research within this category has been anchored in the tourism sector, we contend there is a pressing need to expand the investigative lens to encompass other service contexts. Considering this, we put forth the ensuing research questions:

- *How can sustainable service operations and supply chains seamlessly integrate into novel contexts, such as retail or healthcare?*
- *What role can AI and other cutting-edge digital technologies play in propelling sustainability within service operations and supply chains?*

7. Service Design & Innovation for Sustainability

Innovation plays a vital role in enabling sustainability. Cutting-edge technological and non-technological innovation has the potential to facilitate the sustainability transition significantly. Aksoy et al. (2019) introduce a conceptual framework that provides service providers the tools to foster social innovation in service (SIS) by synergizing with actors and enablers within the ecosystem. They define SIS as the “creation of novel, scalable, and sustainable market-based service offerings that address systemic societal challenges” (Aksoy et al. 2019, p. 430). Reynoso et al. (2015) offer a fresh perspective by spotlighting social service innovation within emerging economies. While the bulk of service innovation research is rooted in mature economies, emerging economies, characterized by rapid population growth, escalating GDP, and burgeoning commodity consumption, are emerging as innovation hotbeds (Markides 2012; Reynoso et al. 2015). Reynoso et al. (2015, p. 156) advocate for an inclusive service innovation model, championing “a paradigm shift from traditional service-selling strategies to proactive approaches that engage low-income customers as active collaborators in co-creating both social and business value.” Additionally, scholarly endeavors in this domain delve into the drivers and barriers of green

innovation within the tourism sector, emphasizing, for instance, the role of a green organizational culture in fostering green innovation (Gürlek and Koseoglu 2021; Gürlek and Tuna 2018).

Despite the relatively nascent stage of this research domain, we see immense potential within this category. We are optimistic about its increasing significance in future service research. Services, such as fashion rental or repair services, can champion sustainability by reducing the production of new products. Moreover, while service researchers are renowned for their digital service research, a significant gap in literature exists in harnessing digital and smart services for sustainability. Under the banner of ‘services for sustainability,’ we propose the following research questions:

- *How can innovative digital services, especially AI-driven smart services, be harnessed to catalyze the sustainability transformation? What design principles should guide these digital services?*
- *How can non-technological innovative services, like sharing or repair services, be leveraged to champion the sustainability cause? What design ethos should underpin these services?*
- *How can innovative services be crafted to promote sustainability by minimizing resource consumption and reducing greenhouse gas emissions (services for sufficiency)?*

8. To Conclude

This review has highlighted the evolving landscape of sustainability within the service sector. Through examining sustainable consumer behavior, service strategy, systemic perspectives, and the role of innovation, we have identified both advancements and gaps in current research. While significant insights have been garnered, especially in areas like tourism, there remains ample scope for exploration in other service contexts. The research questions proposed throughout this article aim to guide future investigations, emphasizing the importance of bridging theory and practice. As sustainability becomes increasingly central to service research, scholars must continue probing, refining, and expanding our understanding in this critical domain. The following articles in this special research paper will cover some of the aspects shown here.

Sustainable Loyalty Programs – Definition, Review, and Research Agenda

By Silke Bartsch* and Tamara Lorz

1. Introduction

In 2015, the United Nations created a set of 17 Sustainable Development Goals (SDGs) to address the most pressing social, environmental, and economic problems and call for more sustainable practices (United Nations 2022, 2023). According to research that scientists at the University of Leeds supported, government and industry account for at least 75% of the greenhouse gas emission reductions required in North America and European countries to achieve the Paris Agreement's climate targets by 2030 (Bailey et al. 2022).

Owing to the service sector's tremendous importance for most countries' gross domestic product (GDP), there is no sustainable future without sustainable services (Huang et al. 2021). Therefore, service companies need to change their practices and show environmental, social, and governance (ESG) efforts to avoid an ecological breakdown. Large service providers (such as banks and insurance companies) in the European Union are already obliged by law to disclose their sustainable efforts within their business activities (e.g., through the Non-Financial Reporting Directive or the EU Taxonomy) (European Commission, 2023a, 2023b). Besides reporting sustainability-related metrics and implementing sustainable service operations and service provision (Zhang et al. 2012; Koskela-Huotari et al. 2023), marketing could also contribute meaningfully to supporting sustainable development and promoting sustainable customer behavior (SCB) (McDonagh and Prothero 2014; White et al. 2019). Therefore, marketing needs to find new ways to support customers in making sustainable decisions and behaving more sustainably.

Although research on SCB has been steadily growing over the past decade (White et al. 2020), it still lacks a comprehensive understanding of SCB's antecedents, boundary conditions, and mechanisms (Golob et al. 2019; Quoquab and Mohammad 2020; Trudel 2019). Consequently, researchers and practitioners need strategies and tools to encourage SCB further, thereby bridging the much-quoted attitude-behavior gap, i.e., the inconsistencies between individuals' attitudes and their actual behaviors (Boulstridge and Carrigan 2000; Sahelices-Pinto et al. 2021), to limit customers' and service organizations' impacts on climate change.

Loyalty programs (LPs) are effective marketing tools to shape customer behavior (Breugelmans et al. 2015; Chen et al. 2021). Even though companies are already aware of consumers' increasing awareness of sustainability and the

obligation to reduce their carbon footprint to remain competitive (Vadakkappatt, et al. 2021), many LPs still reward solely purchase behavior. They are rarely designed to incentivize and encourage SCB. Nevertheless, an increasing number of companies, such as Costa Coffee, Qantas Airways, and H&M, have recently incorporated rewards for sustainable shopping and customer behavior into their LPs (Qantas 2021; Costa Coffee 2023; H&M 2023). According to the Global Customer Loyalty Report 2023, connecting LPs to ESG is an emerging trend, with approximately 50% of companies planning to reward responsible behaviors (Kecsmar 2023; Kecsmar et al. 2023). While this trend is supported by data from Capgemini, with 65% of respondents requesting to support sustainable purposes within an LP (König-Rutt 2022), there is surprisingly little research on LPs and their effects on incentivizing SCB.

Our short paper contributes to research in a threefold way. First, we combine literature on LPs and SCB to define a sustainable loyalty program (SLP). Second, we review the existing SLP literature and reveal that commercial or public services are the most common industry contexts investigated thus far. Research further shows that technology can be an essential driver for implementing SLPs. Furthermore, we provide an overview of the variables empirically investigated through surveys or experiments, categorize them into SLP-related and customer-related variables, and cluster them according to their function (i.e., independent, moderator, mediator, or dependent variables) in the empirical models. Third, we suggest future research avenues related to the SLP design, SLP contexts, and methodologies for SLP research.

2. Groundwork: Loyalty Programs and Sustainable Customer Behavior

Originating in the airline industry, research on LPs was predominantly conducted in service industries and retailing. Owing to the characteristics of services, such as the perishability of the provider's capacity and the inseparability of service delivery from customer resources (e.g., Möller 2010), service providers need to build strong relationships with their customers. Accordingly, LPs were developed to overcome traditional transaction-focused marketing and build and maintain relationships with profitable customers (Chen et al. 2021). While some researchers question LPs' effectiveness (Bombajj et al. 2022; Meyer-Waarden et al. 2023), Belli et al.'s (2022)

meta-study effectively shows that such programs build and strengthen customers' attitudinal and behavioral loyalty. The program's success depends on various factors, such as industry characteristics (Belli et al. 2022), customers' predispositions (Chen et al. 2021), and LP design elements (Belli et al. 2022; Breugelmans et al. 2015; Kim et al. 2021), while the issuing companies can only influence the latter directly.

Based on behavioral learning theory (Skinner 1953), LPs use reward mechanisms that influence customer behavior (Henderson et al. 2011; Dorotic et al. 2012). Accordingly, an LP is "any institutionalized incentive system that attempts to enhance consumers' consumption behavior over time, which captures a broad span of types of programs" (Kim et al. 2021, p. 73). A formal membership is usually required for customers to benefit from the rewards (Dorotic et al. 2012). In turn, this membership allows companies to collect data on the members' preferences and behaviors to deepen their relationships (Dorotic et al. 2012). However, companies often do not use LPs' full potential, as many such programs still simply reward purchase behavior (Kim et al. 2021). Only a few programs have started rewarding other forms of customer behavior, such as social media engagement (Rehnen et al. 2017) or healthy behaviors (Tuzovic and Mathews 2017). Surprisingly, LPs' impact on fostering SCB has seldom been researched.

While there is a magnitude of different definitions of sustainable consumer or customer behavior, some definitions only relate to products (e.g., Costa-Pinto et al. 2014). Therefore, we follow the definition of White et al. (2019), which includes services and refers to "actions that result in decreases in adverse environmental impacts as well as decreased utilization of natural resources across the life-cycle of the product, behavior, or service. (...) consistent with a holistic approach to sustainability, improving environmental sustainability can result in social and economic advances." (p. 24).

Consequently, LPs aimed at causing a shift toward SCB need to consider one or more sustainability dimensions, incentivize a broad range of SCBs, and have less adverse environmental and social impacts than non-SCBs.

3. Definition and Review: Sustainable Loyalty Programs

We followed a domain-specific structured literature review approach to identify relevant research on LPs to promote SCB (Palmatier et al. 2018; Paul and Criado 2020). We searched the Web of Science and EBSCO Business Source Complete databases for peer-reviewed academic journal articles in English and without a time frame. We ensured the publications' quality by

only including papers ranked C or higher according to VHB-JOURQUAL3. We therefore linked the search terms "loyalty program" and "customer program" with the search terms "sustainable," "pro-environmental," "green," "social," "pro-social," or "purpose." After our initial search, our screening only yielded six journal articles on LPs to foster sustainable practices. After that, we conducted a forward and backward search, resulting in a total of 11 articles. Our review included conceptual and empirical articles to provide a holistic view of the limited research body.

3.1 Describing and Defining Sustainable Loyalty Programs

Within the identified articles, the authors use various terms to describe programs that integrate sustainability aspects aimed at supporting SCB. Although some articles use the term LP, others refer to the term program or incentive scheme. A few articles even fail to use a specific term. Regardless of the terminology used, the mentioned programs are all based on the logic of rewarding sustainability-related behaviors. Surprisingly, most of these articles focused on mechanisms that only reward specific sustainable behaviors, i.e., pro-environmental or pro-social behaviors. Only Kumar (2019), who proposed a framework for the design of cause-related loyalty programs, and Stourm et al. (2020), who called for an SLP design, used a more holistic approach that considered environmental, societal, and economic aspects. *Table 1 (Tab. 1)* shows the different terms (if given) used in the articles and the corresponding definitions or descriptions of these (loyalty) programs.

Although Stourm et al. (2020) mentioned and briefly described the term SLP, they did not provide a well-grounded definition. We establish a shared understanding of SLPs by combining the definitions of LPs (Kim et al. 2020) and SCB (Phipps et al. 2013; Geiger et al. 2018; White et al. 2019). We do so by especially considering the service context since LPs are predominantly implemented in retailing and service industries, and most of the reviewed articles conceptualize or investigate SLPs for either public or commercial services.

We, therefore, define an SLP as *any institutionalized incentive system that enhances customer behavior and simultaneously attempts to encourage customers' actions, resulting in a decrease in adverse environmental, social, and economic impacts across all phases of customer behavior to meet current and future generations' needs*. Hence, customers can still be rewarded for traditional transactions within SLPs but are encouraged through the incentive system to engage in SCB, for example, by offering higher rewards for more sustainable decisions and choices (based on specific sustainability metrics, such as carbon footprint (Huang et al. 2022)) before, during, and after the service provision.

Tab. 1: Existing definitions or descriptions used in the literature to describe loyalty programs rewarding sustainable consumer behavior

Sustainability Focus	Source	Sustainable Loyalty Program Concept	Definition or Description
Environmental	Giebelhausen et al. 2016	Voluntary green program	"A voluntary green program is any initiative that (1) has a stated goal of improving the natural environment and (2) utilizes the voluntary efforts of the sponsoring organization's customers." (p. 56)
	Bazaraa et al. 2022	Voluntary green program	Used the definition of Giebelhausen et al. (2016)
	Liu and Mattila 2016	Green loyalty program	A "special form of CSR [Corporate Social Responsibility], namely, a loyalty program that rewards customers for green behaviors." (p. 577)
	Mehdizadeh Dastjerdi et al. 2019	Environmental loyalty program	An "environmental-friendly loyalty program: the more an environmental-friendly itinerary they take, the more bonus points they earn. The bonus points can be used to get some free services (through vouchers) or public transport tickets." (p. 27)
	Huang et al. 2022	Eco-incentive scheme	An "eco-incentive scheme, in which eco-credits are awarded to consumers who recycle and reuse end-of-life products and in which they can use the eco-credits for discounts in shopping, exchange the eco-credits for museum/theatre tickets, or make donations for tree planting." (p. 1)
	Nicolau et al. 2022	No specific concept mentioned	Refers to "companies (...) providing monetary incentives to influence PEB [pro-environmental behavior] with respect to RCCs [reusable coffee cups]" (p. 2)
	Utz et al 2023	No specific concept mentioned	"By setting such sustainable rules and consumption patterns, customers qualify for additional loyalty tokens. These tokens are awarded for an increased consumption of green electricity and can be used in a variety of ways" (p. 7)
	Ting 2019	No specific concept mentioned	Refers to "incentive mechanisms as cash discounts (for accommodation, food, merchandise, and admission tickets for tourist attractions) and eco-friendly substitutes (allocating a portion of funds acquired through consumer environmentally friendly behavior to the sponsorship of green activities)." (p. 6)
Social	Hwang and Kandampully 2015	Pro-social loyalty program	"Characteristics of pro-social LPs include encouraging consumers' purchases of socially responsible products through reward schemes of the LP." (p. 344)
Holistic	Kumar 2019	Cause-related loyalty program	"LPs that can substantially accommodate societal and environmental concerns, in addition to the typical business considerations, that can lead to positive firm outcomes." (p. 752)
	Stourm et al. 2020	No specific concept mentioned, but uses the term SLP	Refers to "integrate LP data with external measures of impact on the environment and well-being. For example, LPs may reward customers for sustainable behaviors, such as the propensity to properly recycle at the local level." (p. 412)

3.2 State of Research on Sustainable Loyalty Programs

The papers identified in our review were published between 2015 and 2023. The adoption of the SDGs by the United Nations in 2015 can be considered not only as a call to action but also as a trigger for sustainability-related research (UNDP 2023). Given the increasing importance of sustainability for both consumers and businesses, it is no surprise that the number of articles covering SLPs has doubled since 2019 when compared to those in the combined previous years.

Research on SLPs was mainly published in the domains of (service) marketing and sustainability management. Other domains, such as logistics and business informatics, only discussed SLPs sporadically. Regarding the industry context, besides the three papers that did not mention a specific industry context, all the other articles investigated the use of SLPs in a service or retail context, i.e., the hospitality, mobility, education, energy, online retail, and grocery contexts. Although research on SLPs is still in its infancy, only two articles were conceptual. The remaining nine articles were empirical, employing experimental designs, surveys, case study approaches, or a Design Science Research approach backed by qualitative interviews. The data were mainly collected in Northern America and Europe, while one study was conducted in Asia and another in Africa. Since research on LPs uses different theoretical foundations and frameworks (Chen et al. 2021), the SLP articles also utilize various theoretical approaches to underpin their research, ranging, for example, from the theory of planned behavior to impure altruism theory and social comparison theory. *Table 2 (Tab. 2)* offers an overview of existing SLP-related research.

While technology infusion into service has triggered various publications, digitalization's role in LPs has been surprisingly rarely considered, leading to research calls to close this gap (Belli et al. 2022; Chen et al. 2021). However, four of the 11 articles in our literature review either outline technologies' potential for SLPs' design and implementation (Stourm et al. 2020; Utz et al. 2023) or even employ mobile application-based SLPs to conduct research (Huang et al. 2022; Mehdizadeh Dastjerdi et al. 2019). With digitalization and sustainability being two major global business trends (Yokoi 2023), we first shed light on the existing literature aligning the use of technology to design SLPs.

Interestingly, both papers utilizing mobile applications for their research investigated how technology-based SLPs could benefit a public, respectively municipal, context and used a qualitative (i.e., case study) approach. Mehdizadeh Dastjerdi et al. (2019) show that various needs and barriers influence the adoption of a mobile application designed to reduce citizens' transportation footprint. The mobile application includes the option to

collect bonus points for SCB—with the amount depending on the chosen itinerary's environment-friendliness. However, with the incentive mechanism not being operationalized as a separate variable in the adoption model but being included in the other antecedents' measurement, the isolated effect of the SLP's incentive mechanism could not be measured separately. Focusing more on the usage than on the adoption, Huang et al. (2022) show how effective a mobile SLP is in terms of supporting recycling behavior through the implementation of an eco-incentive scheme, the ability to track the collected eco-credits in an account, and intelligent recycling bins. They maintain that consumers consider such a technology-based SLP as useful and are satisfied with the mobile application since it allows them to collect eco-credits for recycled products, to spend them, for example, on shopping or museum tickets, or to donate their credits to tree planting.

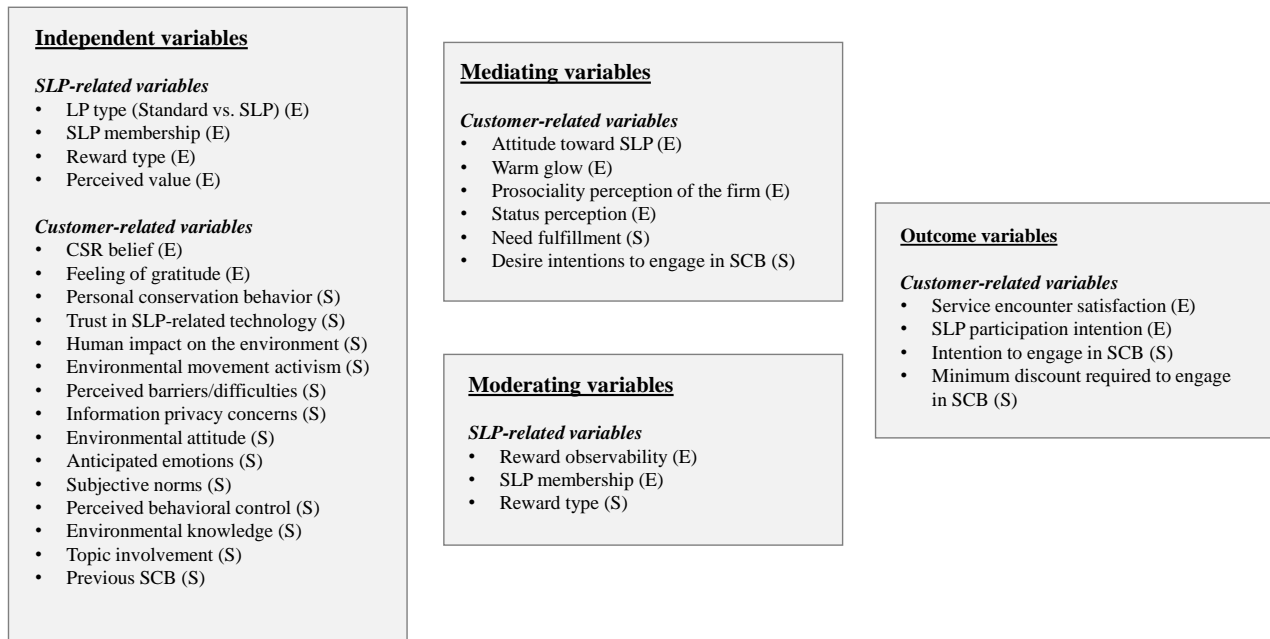
Besides these concrete cases, Stourm et al. (2020) call on researchers and managers to generally investigate how LPs could benefit consumers, companies, and society at large using big data. The authors suggest adapting technology to track and incentivize behaviors that lead to decreases in specific sustainability metrics, such as the carbon footprint (Stourm et al. 2020). However, consumers' and citizens' privacy concerns increase with increased data collected. Utz et al. (2023) suggest implementing LPs based on blockchain technology. Using a Design Science Research approach, they describe an Ethereum blockchain-based loyalty program's benefits. Besides benefiting from the secure data storage, the program could also empower customers by, for example, providing more transparency, controlling their consumption, allowing them to set their own consumption rules, and thereby qualifying for additional loyalty tokens for SCB. However, the authors did not undertake a cost-benefit calculation of the environmental effect of using energy-intensive blockchain technology for LPs.

In the following, regardless of whether or not technology is used for SLP implementation, we first focus on quantitative empirical SLP research to provide an overview of the investigated variables before we shortly address the conceptual SLP literature. Reviewing the empirical SLP literature, we identify various SLP-related and customer-related variables. While the SLP-related variables refer to the design of the program (i.e., LP type, program membership, reward type, reward visibility, and perceived value), the customer-related variables are manifold (e.g., cognitive, affective, and behavioral). In *Figure 1 (Fig. 1)*, we grouped the SLP-related and customer-related variables according to their function in the empirical models as independent, moderating, mediating, or dependent variables.

Tab. 2: Overview of papers referring to or investigating sustainable loyalty programs

Authors	SLP Concept	Industry Context	Country Context	Method	Theoretical Foundation	Results
Bazaraa et al. 2022	Voluntary green program	Education (college)	Study 1, 2, 3: Egypt	Experiment (online scenario-based)	Prosocial behavior theory, negative state relief model,	Three experiments (participation: no vs. yes; self-benefiting incentives: no vs. low vs. high; other-benefiting incentives: no vs. low vs. high) studied the effect of types and levels of incentives on warm glow and program satisfaction. The results show that high self-benefiting incentives are the best option to satisfy green programs' participants and non-participants. If this is not feasible, the second-best option is not to incentivize participation.
Giebelhausen et al. 2016	Voluntary green program	Hospitality (hotel, restaurant) and online retail	Study 1: N/A, Study 2: USA, Study 3: N/A (MTurk) Study 4: N/A	Experiment	Theory of impure altruism, focus theory of normative conduct, signaling framing work, motivated reasoning	Four experiments (participation: no vs. yes; self-benefiting incentive: no vs. yes; other-benefiting incentive; and mixed incentive: other-benefiting vs. mix of self- and other-benefiting) studied the effect of types and levels of incentives on warm glow and program satisfaction on SLP participants and non-participants. The results show that 1) warm glow mediates the relationship between participation and satisfaction; 2) incentivizing the program increases the non-participants' satisfaction but decreases the participants' satisfaction (the warm glow is minimized); 3) an other-benefiting incentive increases the participants' warm glow and satisfaction, but decreases these in the non-participants; 4) mixed incentive bundles maximize both groups' warm glow and satisfaction.
Huang et al. 2022	Eco-incentive scheme	Municipal/public	Spain	Case study and survey	Eco-accounting framework	This case study developed and tested a mobile application. The results show that the mobile application of eco-incentives helps consumers recycle products and manage their reward records efficiently.
Hwang and Kandampully 2015	Pro-social LP	Retail (grocery)	USA	Experiment	Associative network theory, cognitive hierarchy model, theory of reasoned action	The results of a single-factor experiment (companies' CSR commitment) show that consumers' CSR-driven cognition (their CSR beliefs) and reciprocal emotion (a feeling of gratitude) enhance their attitudes toward pro-social LPs and increase their participation intentions. The perceived value of pro-social LPs also improves consumers' attitudes and participation intentions.
Kumar 2019	Cause-related LP	N/A	---	Conceptual	N/A	Suggests a framework for cause-related loyalty marketing.
Liu and Mattila 2016	Green LP	Hospitality (hotel)	N/A (MTurk)	Experiment	Social comparison theory, costly signaling theory, prosocial halo effect	Results from a three-factorial experiment (program type: green vs. standard; customer type: member vs. bystander; observability of preferential treatment: low vs. high) show that bystanders (i.e., customers who do not receive rewards but observe others receiving a reward, in this case non-members) are more satisfied with green vs. normal LPs (prosocial halo effect), while members are more satisfied when their preferred treatment's observability is high rather than low (status signaling effect).

Authors	SLP Concept	Industry Context	Country Context	Method	Theoretical Foundation	Results
Mehdizadeh Dastjerdi et al. 2019	Environmental LP	Mobility (public transportation)	Denmark	Case study and survey	Existence-relatedness-growth (ERG) theory	The case study's result and the corresponding survey show that 1) there are different intentions depending on the application's perceived value; 2) there is a relationship between different environmental attitude constructs and users' needs; 3) a stronger appeal is required for individuals with a greater need to develop a social self-concept and eco-travel self-efficacy to use the system as well as those with a lower perceived privacy risk and perceived difficulties; and 4) functional and psychological factors affect people's adoption intention.
Nicolau et al. 2022	(none mentioned)	Hospitality (reusable coffee cups)	USA	Survey	N/A	The survey's results show that monetary incentives are powerful when it comes to incentivizing consumers to use reusable cups. However, consumers' environmental knowledge, involvement, and personal constraints regarding using reusable cups moderate this effect.
Stourm et al. 2020	SLP	N/A	- - -	Conceptual	N/A	A framework to refocus LPs by means of a societal lens, i.e., by addressing inequality, privacy, and sustainability issues in the LPs' design, is developed.
Ting 2019	(none mentioned)	Hospitality (hotel)	Taiwan	Survey	Theory of planned behavior	The results show that the incentive mechanisms (cash discounts and eco-friendly substitutes) moderate the relationship between desired intentions and behavioral intentions.
Utz et al. 2023	(none mentioned)	Energy (energy supplier)	Germany	Design Science Research approach (including qualitative methods)	Design theory	The results of a Design Science Research approach show that the developed LP restores trust, reduces distrust, and resolves the customer ambivalence by providing four features: improved customer agency, sufficient and verifiable information, appropriate levels of usability, and unobstructed data access.



Note: (S) Indicating that variables were investigated in a survey, (E) Indicating that variables were investigated in an experiment
 Variables were only considered if at least a bi-variate relationship between variables was empirically examined
 Variables were assigned according to their function in the empirical models and therefore can be listed multiple times

Fig. 1: Variables investigated in empirical studies on sustainable loyalty programs

Since most of the customer-related independent variables were investigated in surveys only and no causal relationships were examined, we focus on the effects of customer-related and SLP-related independent variables that were tested in experiments.

SLP-related variables and their effects. Three out of four experimental articles investigate the impact of *SLP participation or membership* (Liu and Mattila 2016; Giebelhausen et al. 2016; Bazaraa et al. 2022). Liu and Mattila (2016) showed that the service encounter satisfaction of members and bystanders (i.e., nonmembers who do not receive a reward) interacts with other SLP-related variables. While members are more satisfied when the *reward observability* of the preferential treatment is high compared to low, reward observability does not affect bystanders' satisfaction (Liu and Mattila 2016). However, bystanders show higher satisfaction depending on the *LP type* (Liu and Mattila 2016). Based on a CSR halo effect and mediated by the prosociality perception of the service provider, bystanders are more satisfied when an SLP is in place compared to a traditional LP (i.e., rewarding for transactions only, but not for SCB) (Liu and Mattila 2016). This is not true for members, as the LP type does not influence their satisfaction (Liu and Mattila 2016).

Research by Giebelhausen et al. (2016) and Bazaraa et al. (2022) demonstrates that the effect of program participation depends partly on the *reward type*, i.e., self-benefiting, other-benefiting, or a mixed bundle of self- and other-benefiting incentives, and is mediated by warm

glow. Compared to other-benefiting incentives, self-benefiting incentives, as well as the mixed bundle, have proven to increase nonparticipants' customer satisfaction, while other-benefiting incentives affect participants' satisfaction positively compared to the no-incentive condition (Giebelhausen et al. 2016; Bazaraa et al. 2022). Whereas these effects of SLP-related variables were tested for green SLPs, only one empirical SLP study focuses on the social dimension. In contrast to the other experiments that solely examined SLP-related independent or moderating variables, Hwang and Kandampully (2015) considered customer-related independent variables in addition to an SLP-related variable (i.e., *perceived value* of the prosocial LP).

Customer-related variables and their effects. Hwang and Kandampully (2015) show that emotional and cognitive CSR-driven perceptions (customer-related independent variables), as well as an SLP's perceived value (SLP-related independent variable) have a positive effect on the intention to participate in an SLP. They also prove a mediating effect of attitude toward the SLP on participation intention (Hwang and Kandampully 2015). The identified surveys on SLPs investigate the impact of a variety of customer-related variables. While Ting et al. (2019) and Nicolau et al. (2022) analyze the effect of variables, such as perceived behavioral control, anticipated emotions (positive and negative), or perceived barriers to engage in SCB, on the customers' intentions to engage in sustainable practices, Mehdizadeh Dastjerdi et al. (2019) test the effects of customer-related variables, such as pro-

environmental attitudes and behavior, on the customers' intentions to use a technology-based SLP. A comprehensive overview of all variables investigated in the empirical SLP articles is given in Figure 1.

Whereas the empirical SLP research limits the scope of an SLP to reward either pro-environmental or pro-social behaviors, the two conceptual papers in our literature review emphasize SLPs' potential to enhance SCBs by considering both pro-social and pro-environmental behaviors and call for more research on the topic (Kumar, 2019; Stourm et al., 2020). Kumar (2019) introduced a holistic SLP concept (referring to a cause-related loyalty program) to encourage pro-social and pro-environmental causes and established a conceptual framework for cause-related loyalty marketing. This framework considers LP design characteristics and their impact on customer acceptance and variables, such as societal and environmental firm actions and government-mandated policies. While both conceptual papers stress the SLPs' potential to enhance sustainable consumer behavior through the influence of customer demand (Kumar, 2019; Stourm et al., 2020), the framework by Kumar (2019) extends the customer focus by adding a business perspective. Thereby, firms' adoption intentions regarding SLPs are included as drivers of SLP-related outcomes, such as enhanced performance, behavioral change, pro-social benefits, and pro-environmental benefits.

4. Discussion and Outlook: Avenues for Future Research

Designing LPs from a societal and environmental lens is imperative if companies are to achieve economic targets, remain competitive, and simultaneously decrease consumption's adverse effects on our natural resources, climate, and well-being in the future. Although LPs have proven to be an effective tool to shape customers' attitudes and behaviors, research on SLP fostering SCB is still in its infancy. In answer to calls to specifically study SLPs (e.g., Stourm et al. 2020; Kumar 2019; Hwang and Kandampully 2015), we introduced a definition of SLP, reviewed the existing literature on the topic to identify research gaps, and will next highlight potential avenues for future research on the following three themes: SLP design, SLP context, and methodology.

Sustainable LP design is determined by the program structure, the reward content, and the reward delivery (Belli et al. 2022). Referring to the *program structure*, i.e., the program type (Kim et al. 2021), papers on SLPs have, to date, only investigated single-vendor programs. These papers focus only on other-benefiting or self-benefiting rewards or a mix of these two types. Accordingly, future research should examine other reward types, such as rewards addressing utilitarian, symbolic, or hedonic

benefits in an SLP context (Mimouni-Chaabane and Volle 2010). However, tackling the current environmental and societal problems requires a joint effort, which is why the failure to consider partnerships within SLPs is surprising. Future research should, therefore, investigate the design of a multi-vendor SLP aimed at achieving more sustainable practices and examine whether such SLPs are more effective than single-vendor ones. This is a particularly challenging project, as the cooperating companies might not adhere to the same sustainability standards and their sustainability targets might also differ, leading to varying consumer perceptions regarding a vendor's corporate sustainability. Accordingly, studying the positive or negative spill-over effects between a multi-vendor SLP's companies with different corporate sustainability ratings could be another research area. Further, by building on a service ecosystem logic, other stakeholders, such as public authorities and NGOs, could also be included to create a holistic SLP design. This might identify not only consumption-related behaviors but also a broad range of sustainable behaviors that might be rewarded in an SLP to pave the way toward more sustainable consumption and living.

This leads to the following research area related to *rewarded behavior*. While rewarding customers for making more sustainable consumption decisions within SLPs is the first goal, sustainable programs could also incentivize behaviors that are not directly transaction-related but demonstrate a broader customer engagement with sustainability. This could, for example, include investigating incentivizing actions, such as bringing one's own shopping bag or recycling or having products repaired directly at the retailer. While some companies already implemented such measures, no research confirms such practices' effectiveness. Future studies should, therefore, investigate whether additionally rewarding sustainability engagement throughout the customer journey's various phases has other beneficial effects on customers' behavioral change intentions and service providers' performance.

Moreover, there is ample room for future research on SLPs' *reward content* and the *perceived reward value* since the reviewed papers only focused on a few selected reward types and rarely considered SLP rewards' perceived value. Since many LPs provide economic rewards by awarding bonus points for transactions, SLPs could use different reward schemes to reward SCB. On the one hand, SLPs could allow consumers to collect regular bonus points, with the number of points directly based on sustainability indicators, such as the chosen service or product's carbon footprint (Huang et al. 2022). On the other hand, besides the regular bonus points, SLPs might reward SCB with specific sustainability points, which could be assigned to a separate sustainability

bonus account. Since such reward designs are already in place, we suggest that researchers investigate the different designs' effectiveness regarding behavioral change. Furthermore, it might be fruitful to investigate *reward delivery's* impact, given that SCB's long-term positive impact is not immediately visible. We, therefore, suggest investigating whether immediate rewards promote SCB more effectively than delayed rewards; this is important, as the literature on LPs is divided on this point (Belli et al. 2022).

Regarding the studied **SLP context**, the reviewed papers investigated *various service industries*. Surprisingly, the airline industry was never examined, even though it is an important context for LP research in general. However, by simply delivering their core service, consumers might perceive airlines as *grey industries* with a detrimental environmental impact. We call on researchers to investigate different industry contexts, as some might change and support corporate sustainability more easily than others. Consequently, implementing an SLP in industries struggling to transform and achieve specific sustainability targets might backfire and even lead to greenwashing allegations. Insights into how customers perceive SLPs in such industries would allow to derive important managerial implications. Besides airlines, online retail is another important industry requiring more attention, given that the global retail e-commerce sales in 2021 amounted to approximately USD 5.2 trillion, almost 19% of retail sales worldwide (Statista 2022, 2023). Nevertheless, online retail generally has a lower carbon footprint than traditional retail (Rai et al. 2023). Consequently, comparing the use of SLPs in industries with different carbon footprints could provide insights into customers' perceptions, trust, and SLPs' effectiveness regarding behavioral change. Furthermore, we suggest exploring the impact of the SLP *providers' brand positioning*. SLPs might have different effects, depending on the service provider's positioning (e.g., low-budget vs. premium services). Since sustainability will be imperative, service providers following a low-budget strategy might also jump on the sustainability bandwagon and implement an SLP to show efforts and enhance their image while solely rewarding

SCB but not changing their own practices. Hence, the service provider's positioning could affect the customers' trustworthiness perceptions of the service provider, their SLP adoption intention, and their willingness to change their behavior.

Regarding the **methodologies**, our SLP literature review revealed that quantitative research, which mainly employed experiments and surveys, dominated. The experiments conducted in the SLP papers were either online scenario-based or laboratory experiments, pointing to the need for more *field research* on SLPs. Another shortcoming of the empirical papers is the data source: The existing SLP studies only use one data source, raising issues of common method variance and bias (Podsakoff 2003). We therefore recommend undertaking data triangulation using *actual behavioral data*, such as transaction data, to verify SLPs' effectiveness. Such data should be combined with customer survey data to gain insights into both customer attitudes and behavior. Access to behavioral data through SLPs would enable researchers to analyze longitudinal data and determine whether they merely induce short-term behavioral changes or whether sustainability becomes an internalized decision criterion manifested in SCB through steady rewards.

5. Conclusion

Even though there is extensive research on loyalty programs, limited attention has been paid to how these programs contribute to adopting more sustainable practices. Our review summarizes the findings on SLPs and underpins SLPs' potential to foster SCB through reward mechanisms and influence customer satisfaction. Additionally, the review outlines the investigated variables in SLP studies according to their functions in the empirical models and identifies opportunities for future research. We encourage researchers from various disciplines, such as marketing, sustainability, and public policy, to work together to deepen and extend the existing knowledge of SLPs and their impact. This short paper shall constitute a good starting point to inspire future research on SLPs.

A Policy Perspective on Sustainability Transitions in Services: Tapping Users' Innovative Capacity for Demand-Driven Systems Change

By Jakob Trischler, Jessica Westman Trischler, Jari Kuusisto, and Peter Svensson

1. Introduction

Given services' dominant role in both business and society, driving sustainable development across service industries is a key priority for research and practice (Huang et al. 2021, Field et al. 2021). However, despite the efforts taken by governments and the increasing awareness within society, service provisioning remains, in many cases, highly unsustainable (Koskela-Huotari et al. 2023). This is problematic because the way services are provided, the values communicated via marketing activities, and the type of resources used during the service process ultimately translate into how users behave during consumption (Koskela-Huotari et al. 2023). The general consumer still prefers ownership over sharing solutions (Vermunt et al. 2019), and does not fully appreciate the value of service solutions geared towards reaching a circular economy, such as maintenance, repair, or refurbishing (Fehrer, Kemper, and Baker 2023). In fact, our everyday life, and the functioning of society more broadly, is still heavily dependent on the use of infinite resources and linear 'take-make-waste' processes (Geissdoerfer et al. 2020). The rapid pace of technological advancements does not change much of this dependency because society remains locked in established ways of thinking and doing (Schot and Steinmueller 2018).

In this paper, we spotlight the societal drivers linked to unsustainable service provisioning and discuss how users may contribute with their innovative capacity to drive sustainability transitions in services. We draw on the multi-level perspective on transition pathways (Geels and Schot 2007) to show how socio-technical systems are established and can be transformed. In addition, we integrate research on transformative innovation policy (Schot and Steinmueller 2018) to discuss the role of policy in directing innovation activities toward sustainability transitions. We problematize that while transformative innovation policies effectively drive the technological change needed for sustainability transitions, they do not facilitate the necessary conditions for changing consumer behaviour and creating demand for systems change. This leaves socio-technical systems in a vacuum and key actors in a cognitive lock-in state. Moving towards suggesting a possible solution, we argue for the formal inclusion of users, and user innovators in particular, in transformative innovation policy programs. Our argument builds on the assumption that users are closest to the underlying problem (i.e., unsustainable consumption

practices) and, on scale, have the innovative power to create demand for systems change. Specifically, we argue that tapping users' innovative capacity on scale opens up a bottom-up transition pathway, which, combined with top-down policy pressure, can set the conditions needed for sustainability transitions.

This article contributes a conceptual basis to service research that helps understand the complex interplay between policy, innovation, and sustainability transitions in services. With a focus on user innovations, the paper additionally brings to attention a widely neglected yet critical transition pathway that appears promising for breaking the societal lock-ins that are often closely linked to unsustainable service provisioning (Trischler et al. 2022). For service practitioners and policymakers, the paper provides a convincing reasoning as to why users, and more broadly, citizens, should be more strongly engaged and involved in sustainability transition programs. We hope that the present paper encourages services researchers to draw a stronger link to innovation policy when studying sustainability-related questions and further explore users' role in shaping our society's future.

2. A Multi-Level Perspective on (Un)Sustainable Service Provisioning

The service research literature has not explicitly dealt with the topic and concept of 'sustainability' until very recently (Field et al. 2021). The few studies on sustainability in service research agree that a systemic approach is required (Saviano et al. 2017); however, without guiding how such an approach could be applied. Addressing this shortcoming, Koskela-Huotari et al. (2023, 3) conceptualize sustainability in service as the ability of a focal system (e.g., a service firm, a household) "to sustain the requirements of other system(s) that contains it and upon which it therefore depends." By operationalizing their conceptualization in the context of food waste, the authors depict the complexity and hinderers that underpin a service firm's efforts to become more sustainable: outgoing from a dominating profit maximization mindset and reinforced by feedback loops, both the firm and the customer over time get locked into an unsustainable state. From a consumer behavior point of view, this finding resonates well with research on habit formation, showing that undesired consumer behaviors (e.g., drinking alcohol, smoking,

snacking, etc.) are slowly formed over time through repetition within a stable context (Wood and R nger 2016, Vermeir et al. 2020). Once established, these habits are similar to an autopilot guiding the consumer's decision-making process with limited consideration for searching for alternatives (Wood and Neal 2009). Unsustainable service provisioning can thus be explained as a result of reinforcing feedback loops, which lead to both the firm and the customer behaving in unsustainable ways, even when they do not want to act as such.

From a systemic lens, the multi-level perspective on transition pathways (Geels and Schot 2007) provides a sound theoretical framework for explaining the conditions under which sustainability transitions are (or are not) successful. Sustainability transition, in basic terms, describes the systemic transformation towards more sustainable modes of production and consumption (Markard, Raven, and Truffer 2012). The multi-level perspective explains how sustainability transitions come about and emphasizes two essential ingredients required for successful transitions: 1) making technological breakthroughs and 2) changing how society operates. While technology breakthroughs can be achieved by single actors or a small group of actors (e.g., R&D activities by firms or research institutes), the same is not the case for societal changes because not only do powerful actors often benefit from the state of the existing system, but they also perceive no need to change their behaviour because of a cognitive lock-in (Schot, Kanger, and Verbong 2016). Thus, driving societal changes requires the inclusion of various actors, spaces for learning, and collaborative efforts towards driving change (Schot and Steinmueller 2018, Diercks, Larsen, and Steward 2019). In addition, the stability of the existing socio-technical system needs to be put under pressure to open up windows for innovations to scale beyond a niche (Geels and Schot 2007).

The Diesel emissions scandal is a famous example of an existing socio-technical system being put under pressure and subsequently transformed. This scandal led to the instability of the dominant system around combustion engines and opened windows of opportunity for electric cars to penetrate the market on scale. Through demand pressures and supportive policy programs, the electrification of the car industry has spilled over to other industries. It gradually shifts these away from the strong dependency on fossilized resources. An additional example is the transformation of the fashion industry, leading to the introduction of new business models and services that reflect more sustainable and ethical practices within the industry. The increasing awareness about the severe consequences of fast fashion, both in terms of social and environmental impact, has initiated the rise of new demand for alternative business models, including slow and circular fashion. These business models include inno-

vate new services, such as production and supply chain transparency, free repair, upcycling of old garments, and offering pre-owned clothes. Such services can also be found to be gradually adopted by major industry players as a response to increasing demand and policy pressure.

3. The Role of Policy in Sustainability Transitions

Why would a dominant and profitable industry actor change its business if there is no (external) pressure to do so? It is well established that the most dominant players within a socio-technical system benefit from the status quo and thus seek to keep stability rather than change (Geels and Schot 2007). In service research, systems stability is explained by the service ecosystem and the role of institutional arrangements guiding the way value is created (Koskela-Huotari et al. 2016): Changing the fundamental way value is created requires, apart from a new value proposition, the breaking, making and maintaining of institutionalized rules. Sustainability transitions require a fundamental change to value creation. Yet achieving such a change demands some form of external pressure or intervention, especially if dominant system players cannot capture any direct economic benefits. This highlights policy as a key mechanism for correcting market failures, or directing change within a socio-technical system.

The role of policy, and policy design, is rarely touched upon in service research (for an exception, see Rubalcaba, Gallego, and Hertog 2010, Rubalcaba et al. 2012), yet defined as a research priority when it comes to sustainable development in services (Field et al. 2021). Previous studies have applied the service ecosystem to policy design (e.g., Trischler and Charles 2019) and policy's role in supporting service innovation (Rubalcaba, Gallego, and Hertog 2010). Yet, these do not focus on sustainability transitions per se. In this regard, developments in the innovation policy literature provide a suitable starting point. Innovation policy is traditionally aimed at R&D and innovation systems with the purpose of strengthening a country's or region's economic growth and competitiveness (Lundvall 1992). Recognizing that innovation has an important part to play in sustainable development, innovation policy programs have started to shift their focus away from achieving economic goals towards addressing societal and environmental problems (Boon and Edler 2018, Schot and Steinmueller 2018, Kuhlmann and Rip 2018, Weber and Rohrer 2012). This so-called third generation of innovation policy encompasses programs such as mission-oriented innovation policies (Hekkert et al. 2020, Mazzucato 2016), challenge-oriented innovation policies (Boon and Edler 2018), and transformative innovation policies (Schot and Steinmueller 2018). While these policy programs slightly dif-

fer in their theory and design – referred to as policy mix – they share one common goal: Tapping, bundling, and directing the innovative force of different system actors toward driving transformative change. Oft-cited examples of such policy programs are large-scale transition programs, such as the United Nations Agenda 2030, Horizon 2020, and the European Green Deal.

In this article, we draw on transformative innovation policy because this emerging research stream assumes that sustainability transitions can only be achieved through socio-technical systems transformation (e.g., Schot and Steinmueller 2018, Hekkert et al. 2020). According to Schot and Steinmueller (2018), such a transformation requires a policy mix that supports niche innovations from the ground up alongside a process of destabilizing the state of the existing socio-technical system. The latter aspect is especially relevant for the transition towards more sustainable service provisioning because the resistance to change can be strong here. To break this lock-in state, Schot and Steinmueller (2018) recommend opening spaces for experimentation and learning, where actors can collaborate on pathways towards social, behavioral, and technological change. This recommendation aligns closely with the current developments in innovation research (e.g., Gambardella, Raasch, and von Hippel 2016, West et al. 2014) and service research (e.g., Field et al. 2021, Patrício, Gustafsson, and Fisk 2018), both calling for a shift from a traditional, company-centric view of innovation to recognizing the importance of collaborative and open innovation processes where users are defined as active developers of innovations. In the next section, we discuss the role of users in transformative innovations alongside with policy design.

4. Linking Demand for Systems Change with the Sources of Innovation

While transformative innovation policy provides a promising starting point for setting the conditions needed for sustainability transitions, it has also been criticized for not considering the demand side needed for driving change (Boon and Edler 2018). Specifically, it does not specify how possible innovation pathways that evolve from experimentation and learning can be translated into new demands for change. Following the innovation literature, creating new demand requires the inclusion of actors closest to the underlying problem because, through frequent use and first-hand experiences, these actors have unique knowledge of how to address the underlying problem (Baldwin and von Hippel 2011). Thus, regarding issues related to unsustainable consumption, consumers or users, rather than firms, become a key source of innovation. For example, studies show that users develop innovations that promote healthier eating

behavior (Jeppesen 2021) or reduce food waste in households (Trischler et al. 2022). Such innovations, if sufficiently scaled, can create new market demands, which, in turn, can lead to demand-driven systems change.

The above argument leads to the question of whether users engage in innovation activities. The answer is yes. There is increasing evidence showing that millions of users frequently engage in innovation activities and, as a result, contribute individually, socially, and commercially important innovations (von Hippel, de Jong, and Flowers 2012, de Jong et al. 2015, Baldwin and von Hippel 2011, Franke, Schirg, and Reinsberger 2016). This evidence holds across innovation contexts and countries. Recent studies even suggest an underestimation of the scale and value of user innovations because of their strong engagement in so-called behavioral innovations (von Hippel and Cann 2021). Behavioral innovations, in contrast to technological or product innovations, concern social rather than technical aspects; that is, establishing new ways of doing through social, institutional, and behavioral changes (von Hippel and Cann 2021). Since these types of innovations are often intangible and systemic in nature, they usually stay invisible. In fact, most user-generated innovations remain limited to the focal user's sphere and do not diffuse. This is because users innovate to solve a problem based on their individual needs and have little to no incentive to invest in innovation diffusion. In its current design, innovation policy does not mitigate this lack of incentive, leading to a general under-diffusion of socially valuable user innovations (Trischler, Johnson, and Kristensson 2020, de Jong, Gillert, and Stock 2018).

The non-diffusion of behavioral innovations developed by users is problematic because it creates a vacuum in the focal system: Society remains stuck in unsustainable consumption modes. At the same time, producers lack incentives or the demand pressure to change their offerings. We can observe this vacuum across various service industries, including transportation, health care, food retailing, hospitality, and logistics. In these contexts, those actors who use services daily are, per definition, the experts of use and can, therefore, contribute with important knowledge on how to change the way of use through behavioral innovations. In addition, given the scale and scope of the user innovation phenomenon, it might be well argued that policy programs should purposely target user innovators to develop and scale behavioral innovations as the starting point for demand-driven systems change. Doing so, we argue, can lead to a bottom-up transition pathway, which, combined with top-down regulative measures, can facilitate the conditions for the transformation of socio-technical systems.

5. Conclusion and Call for Service Research

In this article, we discussed the importance of policy programs in directing innovation activities towards driving change within a socio-technical system. In addition, we discussed the role users can play in innovation and the development of innovations that contribute to a more sustainable future. Service research has a strong tradition in recognizing the systemic nature of value creation, within which the role of service users is seen as active co-creators rather than passive recipients of value (Gummeson and Polese 2009, Vargo and Lusch 2011). However, when it comes to innovation, the role of service users is typically limited to the involvement into the firm's development process as 'co-creators' (Hoyer et al. 2010) or 'co-designers' (Trischler et al. 2018).

We conclude our paper with a call for service researchers to explore the innovating role of users beyond and independently from the firm. Related research may investigate possible ways to link users for innovation purposes by studying user engagement processes, innovation platforms, user communities and grassroots initiatives, as well as how different actors could support user innovators, for example, by opening up data, research, and education. In addition, we need more profound insights into the benefits of supporting user innovation activities because this will ultimately help in the democratization of innovation. Such benefits may include the development of diverse and innovative ideas (Trischler et al. 2018), economic growth and societal well-being (von Hippel 2005), addressing local needs (Jeppesen and Frederiksen 2006), predicting future trends (West and Bogers 2013), or building trust and loyalty (Fuchs and Schreier 2011).

We also call for a more vital link between service and policy research to facilitate the inclusion of innovating users, and the scaling of their innovations for demand-driven system change. Doing so will be particularly critical for

tackling environmental and societal challenges linked to unsustainable consumption because here, users are the closest to the problem and, thus, the starting point for possible solutions. For example, service research provides extensive insights into how to deal with the systemic, experiential, and process nature of services (Patricio et al. 2011, Zomerdijk and Voss 2010, Koskela-Huotari et al. 2021). There is a continuously strong interest in how institutional arrangements affect and are affected by value creation (Vargo and Lusch 2017). These developments in service research could be translated into implications beyond the service firm. For example, how can developments in service design research be used to develop innovation toolkits for better mapping and communicating the complexity and intangibility of behavioral innovations? How may we break the long-established norms and beliefs among policy makers that firms and research institutes are the key sources of innovation (see Bradonjic, Franke, and Lüthje 2019 for a survey on this issue)? We hope our article encourages the service research community to explore how the field may contribute to setting the conditions for more formally and directly involving users in sustainability transitions.

Notes:

- 1) This serves as an illustrative example only and does not suggest that electric cars are sustainable per se. In fact, the sustainability of electric cars, and the electrification of industries can be challenged in many ways.
- 2) With 'users' and 'user innovators' we refer to individual consumers, citizens, and end-users. We do not refer to an organization or professional who creates an innovation to use it. Based on this framing, a 'user innovation' can be described as a functionally novel product, service, process or application, developed by citizens at private cost in their unpaid discretionary time (von Hippel 2016).

Service Sustainability's Desperate Need

By Timothy Keiningham, Lerzan Aksoy, Barbara Porco, Timothy Hedley, Leigh Anne Statuto, and Bryant F. Dortignacq

1. Introduction

The current state of service sustainability measurement and management can best be described as confusion, if not outright chaos. Too many disparate metrics and frameworks, too much discretion in what to report, and too little transparency in what is reported sadly but accurately reflects the sustainability reporting landscape. The result of this confusion is not surprising. There is widespread disillusionment with the process,

and political pushback – even outright bans by some states – against companies' attempts to move from the management doctrine of maximizing profits as the sole moral imperative of companies (espoused by Nobel economist Milton Friedman) to a management doctrine that includes sustainability as a core responsibility of companies (espoused by business leaders such as BlackRock CEO Larry Fink) (see Friedman 1970; Fink 2022).

Perhaps the most visible pushback in the sustainability space involves the Environmental, Social, and Governance (ESG) metrics used to guide sustainable investment decisions. At present, seven states in the United States have prohibited or discouraged the use of ESG criteria for the investment of state resources. Texas has gone so far as to ban BlackRock and nine other firms from contracting with state and local government entities because of their ESG-related investment strategies.

It is not just politicians who are upset. Tesla founder and CEO, Elon Musk, aired his frustration by referring to ESG as a “scam” and lamenting, “It has been weaponized by phony social justice warriors” (Bove 2022). He wryly observed that six oil companies make the ESG list of sustainable companies, whereas the world’s largest manufacturer of electric vehicles does not.

All of this is having a negative effect on companies’ willingness to embrace sustainability efforts. As a recent *Fortune* magazine story title observed, “The political pushback against ESG is resonating with Fortune 500 CEOs” (Murray and Gordon 2023). As a result, we may be moving from a time where greenwashing (i.e., overstating a company’s sustainability impact) represented one of the greatest threats to sustainability’s legitimacy to one where greenhushing (i.e., not reporting sustainability efforts for fear of negative outcomes) may be a major concern.

It is important to note that the problems facing service sustainability affect all organizations, but finding their resolution falls squarely within the purview of the services discipline. In practice, the traditional lines distinguishing goods and services have blurred. All organizations offer services, goods and services, or use services to facilitate sales. Consequently, organizations traditionally identified as primarily goods providers find themselves addressing the complexities and challenges associated with service provision and sustainability. Perhaps most importantly, the services discipline requires the integration of marketing, operations, management, finance, human resources, and (as we will demonstrate) accounting. This is distinct from the traditional single discipline approach of most business research.

The initial step for service researchers is to recognize the validity of many of the complaints. Until these issues are addressed, sustainability issues will be confusing, prone to manipulation, and politically polarizing. It is impossible to make service sustainability the norm for businesses if the process itself is not sustainable.

2. The Standardization Imperative

One of the significant issues results from a lack of standardized metrics and reporting frameworks. There are several different ESG rating agencies and organizations,

each using their own disparate methodologies. A program by the MIT Sloan Sustainability Initiative—aptly named the Aggregate Confusion Project—compared the ESG ratings from different agencies. It found that the average correlation between ESG ratings was 0.54. By comparison, it was noted that credit ratings between Moody’s and Standard and Poor’s have a correlation of 0.92 (Berg, Kölbel, and Rigobon 2022).

Similarly, there are serious challenges in measuring and managing the United Nations Sustainable Development Goals (UN SDGs). While the United Nations Economic Commission for Europe explicitly states that “high-quality statistics are vital for enabling governments, regional and global organizations, civil society, the private sector and the general public to measure progress towards achievement of the SDGs” it observes that “the 231 indicators selected to measure the SDGs are varied, complex and, in many cases, methodologically underdeveloped (United Nations Economic Commission for Europe 2020, p. 5). The harsh reality is that two hundred and thirty-one varied, complex, and methodologically underdeveloped metrics are unlikely to engender confidence by managers, investors, policy-makers, or the general public that there is a clear path forward to achieving the sustainable development goals.

Sustainability measurement must become standardized. To be fair, there are efforts to consolidate sustainable accounting standards. Still, reporting is largely voluntary. There must be comprehensive, high quality sustainability disclosures by firms (similar to the financial disclosures made by public companies) that meet the needs of investors, policy-makers, and the general public. This need falls squarely under the domain of accounting. While service research is cross disciplinary, the role of accounting in service management has not received much attention. But if service sustainability is to gain widespread acceptance in board rooms around the world, this has to change.

The good news is that the accounting profession has been highly active in developing financially-material, industry-based, decision-useful, evidence-based, market-informed, and cost-effective sustainability disclosure standards for many years. For example, the Sustainable Accounting Standards Board (SASB) – now part of the International Sustainability Standards Board – has developed financially material disclosure standards of sustainability information for seventy-seven industries. Note, the ISSB aims to make sustainability accounting akin to the financial reporting standards developed by the International Accounting Standards Board (IASB) (Eccles and Mirchandani 2022). Both the ISSB and the IASB are under the International Financial Reporting Standards Foundation (IFRS Foundation). IFRS financial reporting standards are

required for domestic public companies in over 145 countries, therefore IFRS sustainability standards have strong potential to become a global standard.

Currently, sustainability reporting is voluntary. Although disclosure is voluntary, ESG reporting by Fortune 500 companies has increased from 20% of companies in 2011 to 92% in 2021 (Governance & Accountability Institute 2021). Most of these reports focus on topics relevant to the industry of the reporting company. At some point in the future, however, government regulatory bodies are almost certain to set reporting requirements. Moreover, investors are demanding common standards and transparency.

Despite their prevalence among most large companies, however, the overwhelming majority of service researchers have not linked their sustainability efforts to the metrics used in company disclosures. Worse still, service researchers don't have a seat at the table in helping develop standards with the IFRS (or any other accounting standards body) because of the service field's current disconnect from the accounting discipline. The International Sustainability Standards Board (ISSB) publishes *Exposure Drafts* to solicit public comment on proposed new sustainable accounting standards—researchers in the service discipline need to be active in providing feedback when these drafts are issued.

If we want transformative service sustainability efforts to become the norm, then service researchers must actively work to bring the accounting discipline into the service field, find a place for service-related accounting in the literature, share knowledge, and tie service sustainability efforts to the reporting that managers and investors will use to evaluate these efforts. Service researchers must also support the IFRS (and other similar efforts) in establishing sustainability accounting standards. Otherwise, service sustainability initiatives are at risk of becoming ad hoc endeavors rather than expected areas for companies to focus their efforts because they are regularly reported to the investment community and other stakeholders.

3. The Financial Linkage Imperative

To quote William Shakespeare, “If money go before, all ways do lie open” (Shakespeare, 1602). For service sustainability efforts to endure, they must not only be environmentally and socially beneficial, they must be economically self-sustaining.

While it is true that not all aspects of service sustainability revolve around generating an economic return, a weak financial foundation can leave these efforts vulnerable, especially during economic downturns. Additionally, positive financial outcomes can help blunt criticisms from those who adhere to the Friedman doctrine, i.e., “the

social responsibility of business is to increase its profits” (Friedman, 1970, p. 32).

As service researchers, it is imperative to assess the overall impact of service sustainability efforts on all stakeholders. One commonly used method to do this is *social return on investment* (SROI) analysis (e.g., Banke-Thomas et al., 2016). To implement SROI, there are numerous resources available for service researchers and managers (e.g., Nicholls et al. 2012; Salverda 2021).

In addition, there are several organizations that offer standardized metrics to measure and report the impact of sustainability initiatives. For instance, IRIS (Impact Reporting and Investment Standards) offers a comprehensive set of over five hundred social impact metrics that can be used to align service research with the United Nations Sustainable Development Goals. Furthermore, the ISSB (International Sustainability Standards Board) provides metrics that are in line with financial accounting standards, ensuring consistency and comparability. Lastly, the Global Reporting Initiative (GRI) offers standards for disclosing non-financial sustainability information, providing a framework for transparent reporting.

By integrating these frameworks and metrics into service sustainability research, we can enhance our understanding of the economic, environmental, and social dimensions of sustainability, leading to more informed decision-making and more effective service sustainability efforts.

4. The Broad, Cross-Disciplinary Collaboration Imperative

The problems of the world are too complicated for any single discipline to solve alone. The good news is that the service discipline is interdisciplinary by design. For example, although it exists as part of the American Marketing Association, the Services Special Interest Group (SERVSIG) is unabashedly cross-disciplinary. Its website proclaims that “SERVSIG is for those who want to begin or continue to explore the interdisciplinary field of services marketing, management, engineering, science, and/or arts. The purpose of the group is to foster a dialogue and expand knowledge on services issues among academics, managers, consumers, and government representatives” (Heinonen and Kabadayi 2023). Similarly, the *Journal of Service Management Research* (SMR) website states, “SMR is committed to interdisciplinarity. ... Contributions from disciplines other than management – engineering, psychology, economics – are explicitly encouraged, as long as they address economic topics” (SMR 2023).

This open arms approach for all disciplines to be able to contribute to service research is arguably its greatest strength. It allows for cross-pollination of ideas, and

more holistic approaches to tackling complex problems. Given this, the service discipline should be a natural hub for sustainability research and action. Thus far, however, the service discipline is not the go-to place for sustainability research of any kind. Clearly, there is significant transformative service research that addresses important sustainability-related issues. But for the service discipline to move beyond ad hoc initiatives and conceptual thought leadership research on sustainability, we as service researchers must begin to aggressively reach out and build coalitions with think and do partners who are actively in the trenches. Sustainability issues, such as climate change, biodiversity loss, resource depletion, and social inequality are multifaceted and require a comprehensive understanding that transcends traditional disciplinary boundaries. Unfortunately, there is extraordinarily little (if any) service sustainability research coauthored with prominent experts in environmental economics, sustainable development, policymaking and governance, environmental/climate science, or international human rights. Until that happens, service sustainability research will lack the influence it needs to make significant changes to management practices and regulatory policies.

5. Conclusion

The current state of service sustainability research is not tenable. The lack of universal standards, failure to work with thought leaders in other disciplines working on the same issues, and the inability to make solid financial linkages for sustainability initiatives make service sustainability an easy target of policymakers and shareholder-first advocates. There is no way for firms to address the significant and complex problems of the world without the buy-in of policymakers and shareholders. Therefore, academic research in service sustainability needs to undergo a transformative change.

First, service researchers must actively get involved in helping to develop new (where necessary) and use (where developed) standardized metrics and reporting frameworks for sustainability. Absent standardized metrics and reporting frameworks, service sustainability research will be ad hoc. Making this happen requires that at a minimum, service researchers work to bring experts in sustainability accounting into the discipline. Moreover, the service research community must reach out to organizations that are creating sustainability disclosure standards to have a seat at the table in enhancing the metrics that are in place, and in creating new metrics where needed. Service researchers must also work with policymakers to ensure that materially relevant sustainability reporting for firms is legislated and uniformly disclosed. The existing disparity among metrics and report-

ing practices leads to confusion and manipulation. For as long as this continues, service sustainability will be viewed with suspicion and sometimes outright disdain by a significant segment of society. We have already seen how this can result in legislation designed to limit firms' sustainability efforts.

Second, we must always remember that companies are profit sustained entities. As such, economic viability is essential for the long-term success of most service sustainability initiatives. This requires that service researchers be skilled at linking sustainability efforts to financial outcomes. Service sustainability efforts that generate a positive return are much harder to castigate because they benefit the financial standing and ultimately the valuation of the firm.

Unfortunately, not all service sustainability initiatives will generate positive cash flows for the firm. When we as service researchers conclude these are "must do" initiatives that significantly benefit the common good, it will require that we compellingly demonstrate to lawmakers the importance of subsidizing these efforts. Of course, because lawmakers ultimately answer to their constituents, these arguments must also resonate with the public.

Despite its importance, service researchers rarely demonstrate compelling financial outcomes for sustainability efforts. This in large part derives from the lack of strong accounting and finance representation in the service discipline. Also, service researchers have not demonstrated a significant ability to influence government policies and regulations. Absent lobbying efforts, this typically happens by 1) building overwhelming demand within the public for legislation, or 2) having a seat at the table with government bodies overseeing issues relevant to sustainability. We need to do both, and do both well.

Finally, while service research is proudly interdisciplinary, it isn't yet cross-disciplinary enough to address the multifaceted nature of sustainability challenges. As noted earlier, we lack sufficient service accounting and finance researchers necessary for service sustainability disclosures and social return on investment analyses. We also lack the expertise in environmental economics, policymaking, human rights law, and sustainable development to answer the real-world challenges in addressing complex sustainability issues. Broad cross-disciplinary teams of experts are essential. On the other hand, service researchers are typically rewarded by their institutions and the discipline itself for having small numbers of coauthors listed on their publications. Sadly, in the case of service sustainability, small teams of coauthors typically result in limited expertise, and therefore limited potential to meaningfully address big challenges. The physical sciences has long recognized that thorny problems often

require big teams to address them. For example, in finding the “god particle,” the Higgs Boson discovery paper listed 5,154 coauthors (Aad et al. 2015). While service sustainability research doesn’t need teams of thousands, hundreds, or even scores, it does need enough experts working together to meaningfully address our own “god particle” equivalent, i.e., finding solutions to service sustainability issues that significantly alleviate human suffering and improve the health of the planet.

The service community is open and welcoming. Moreover, while our experiences are not exhaustive, every service researcher we have met throughout our careers chose this field because they wanted to make a positive impact on the world. Service is most definitely the discipline to make service sustainability the norm for businesses. But it will require that service researchers meet these challenges head-on. We have no doubt it will happen.

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