THESIS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

The Role of Customers in the Co-creation of Sustainable Value in Co-prosumption Services

Lessons Learned from Coworking Spaces

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ABSTRACT

Organisations increasingly face pressure to operate in more sustainable ways, prompting growing interest in the sharing economy as a means of reducing resource use through sharing. A specific subset within the domain of the sharing economy is co-prosumption services, characterised by customers being physically co-present within the service space. Although such services are often assumed to be inherently sustainable, limited research has examined how sustainable value is actively co-created within these contexts. Emerging perspectives suggest that sustainable value primarily arises through customer-to-customer interactions within the service space, emphasising the central role of customers. A limited understanding of the customers' role may jeopardise the long-term viability of co-prosumption services. Accordingly, the purpose of this thesis is to increase understanding of customer behaviour in the co-creation of sustainable value within co-prosumption services.

The empirical context of the thesis is coworking spaces, an expanding form of shared workspace that relies heavily on interaction among members. The research is presented in five papers and adopts a mixed-methods design combining qualitative and quantitative approaches.

Based on the empirical findings, a new multidimensional construct, sustainable coworking behaviour, is conceptualised and operationalised. Through engagement in the underlying behavioural dimensions of sustainable coworking behaviour, sustainable value is co-created within coworking spaces. The thesis also provides evidence of how selected motivational factors are associated with these behavioural dimensions, offering insights into how such behaviours can be supported.

By clarifying both what constitutes sustainable customer behaviour and how it can be promoted, this thesis contributes to service management research and the coworking literature by advancing understanding of co-prosumption services and customer-driven sustainability. Practically, it offers tools for practitioners to understand and encourage behaviours that enhance sustainable value creation in co-prosumption services.

Keywords: Co-prosumption services, sustainability, sustainable behaviour, value co-creation, coworking spaces

LIST OF APPENDED PAPERS

Paper I

Magnusson, D., Raharjo, H., & Bosch-Sijtsema, P. (2024). Sustainable Coworking: The Member Perspective. *Journal of Corporate Real Estate*, 26(2), 153-175.

An earlier version of this paper was reviewed and presented at the Transdisciplinary Workplace Research (TWR) 2022 conference in Milan, which, after several reviews, led to publication in a special issue of the Journal of Corporate Real Estate (JCRE). I led this paper, collecting and analysing all empirical data and serving as the main author.

Paper II

Magnusson, D., Raharjo, H., & Bosch-Sijtsema, P. (Working paper). *Measuring Sustainable Coworking Behavior: A Scale Development Study*.

The second paper is a working paper where more data are currently being collected. During the development of the paper, I conducted the interviews, supported the development of the survey, analysed both qualitative and quantitative data, and wrote most of the manuscript.

Paper III

Magnusson, D., Raharjo, H., & Bosch-Sijtsema, P. (2025). The Relationship Between Psychological Ownership and Sustainable Behavior in Coworking Spaces. *Journal of Corporate Real Estate.*

The third paper started out as a master's thesis written by Dastoornikoo (2022) where I acted as co-supervisor. The paper went on a similar journey as Paper I where it was reviewed and presented at TWR 2024 in Edinburgh and later accepted to the JCRE. I acted as main author where I led the paper by collecting and analysing empirical data.

Paper IV

Magnusson D. (Submitted). *The Effect of Satisfying Basic Psychological Needs on Sustainable Behaviours in Coworking Spaces*.

The fourth paper was reviewed and presented at the 2025 Academy of Management (AoM) annual meeting in Copenhagen. Next, the paper was submitted to a journal focusing on service management research where it is awaiting decision. As sole author, I carried out all work independently.

Paper V

Magnusson, D., Raharjo, H., Bosch-Sijtsema, P. (2025). *Designing a Choice Experiment for Promoting Sustainable Behaviour: A Self-Determination Theory Perspective.*

The fifth paper is a conference paper that was reviewed and presented at the 15th annual meeting of the European Decision Sciences Institute (EDSI) in Gothenburg. Besides acting as the main author, I co-developed the experimental design. Empirical data will be collected in the near future.

ACKNOWLEDGEMENTS

When the pandemic forced the world into lockdown, I suddenly had more space and time to reflect on my future. During that time, I began considering the possibility of pursuing a PhD. At just the right moment, a doctoral position closely aligned with my background appeared, and almost five years ago I began my doctoral journey. Now, reaching the end of my thesis, I have learned more than I can adequately express in words. This work would not have been possible without the support of many people, and I would like to express my sincere gratitude to them here.

First and foremost, I would like to thank my supervisory team including Hendry Raharjo and Petra Bosch-Sijtsema. Working with you has been both rewarding and inspiring. Your broad experience and differing perspectives formed a strong and complementary team, and together we shaped this project in meaningful ways. You consistently provided time, trust, and a safe forum in which I felt comfortable asking even the simplest questions. In the later stages of my doctoral journey, Ida Gremyr contributed with valuable input. Thank you for your comments, constructive feedback, and engaging discussions, particularly in helping me frame my work within my "*mother's street*".

I would also like to thank Fredrik Backlund and Chiara Tagliaro, who served as discussion leaders at my Licentiate and final seminar, respectively. Your feedback significantly improved the quality of this thesis.

This research is grounded in empirical work conducted in coworking spaces. Without the generous cooperation of participating organisations and individuals, this thesis would not have been possible. Although anonymised in the papers, I sincerely thank them for granting access and supporting the data collection.

I am also grateful for the resources provided by the Department of Technology Management and Economics, particularly within the Division of Innovation and R&D Management and the former Division of Service Management and Logistics. PhD workshops, paper development sessions, seminars, and writing retreats all contributed.

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Daniel Magnusson
Gothenburg, February 2026

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1. INTRODUCTION

This introductory chapter begins by presenting the background and highlighting why sustainability is essential for organisations seeking long-term viability. It then turns to the growing prominence of the sharing economy, focusing on the rise of co-prosumption services, in particular coworking spaces, and the limited attention given to sustainability within this context. Building on this background, the purpose of the thesis and two research questions are formulated. The chapter concludes with an outline of the thesis.

1.1 Background

1.1.1 The Need for Sustainable Development in Organisations

Since the publication of the Brundtland Report in 1987 (WCED, 1987), sustainable development has gained significant global attention across industries and academia alike (Caiado et al., 2018; Halkos & Gkampoura, 2021; Ruggerio, 2021). The report established a widely accepted definition of sustainable development as the capacity to meet the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). Building on this foundational concept, the United Nations (2015) introduced the 2030 Agenda for Sustainable Development, which outlines 17 interlinked sustainable development goals (SDGs) aimed at addressing urgent global challenges such as poverty, inequality, environmental degradation, and climate change.

To encourage widespread adoption of the SDGs and ensure meaningful progress toward them, governments increasingly employ policy and regulation to incentivise sustainable transformation among companies. For example, the European Union has introduced several binding measures, such as the Single-Use Plastics Directive (EU, 2019a), the Corporate Sustainability Reporting Directive (EU, 2022), and the Sustainable Finance Disclosure Regulation (EU, 2019b). Together, these types of regulations are designed to align business practices with sustainability goals and to strengthen accountability, comparability, and investor confidence in sustainability claims.

While governments put pressure on organisations, consumers are simultaneously becoming more conscious of sustainability-related issues such as air pollution, biodiversity loss, and resource scarcity. This growing consciousness is reflected in shifting consumption patterns, as consumers increasingly favour organisations that demonstrate commitment to sustainability (Bain & Company, 2025; Bansal & Roth, 2000; Reichheld et al., 2023). Sustainability has therefore shifted from being a peripheral concern to a strategic imperative, or a '*licence to operate*' (Demuijnck & Fasterling, 2016), and an important competitive differentiator in the market (Galbreth & Ghosh, 2013).

Despite its prominence and broad acceptance, the concept of sustainable development remains difficult to define and apply consistently. Critics argue that following the Brundtland Report's definition risks '*including everything*', thereby complicating its

practical and theoretical use (Farley & Smith, 2020). Moreover, sustainable development is frequently associated with the concept of sustainability, leading the two terms to be used interchangeably in both academic and practitioners-oriented literature (Olawumi & Chan, 2018; Ruggerio, 2021).

One of the most extensively used approaches for understanding sustainability in organisations (Bansal & DesJardine, 2014; Hart & Milstein, 2003) is the Triple Bottom Line (TBL) framework, which emphasises three interconnected pillars: environmental sustainability (Planet), social sustainability (People), and economic sustainability (Profit) (Elkington, 1997). The framework suggests that sustainability requires a balanced integration of all these three domains (see Figure 1). For instance, an initiative that is economically profitable but disproportionally harms the environment or exploits communities cannot be considered sustainable in a holistic sense.

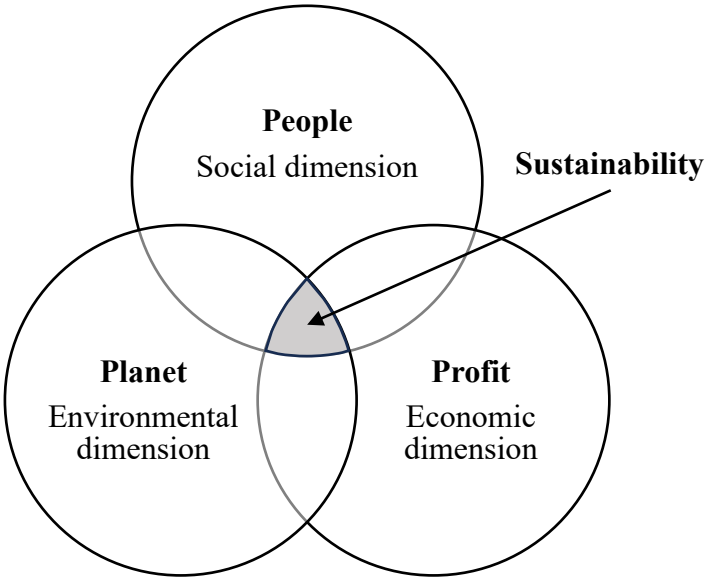

Figure 1. Model of sustainability based on the TBL framework (Elkington, 1997)

1.1.2 The Expansion of the Sharing Economy and Co-Prosumption Services

Given this background, researchers and practitioners have devoted increasing attention to understanding how organisations can promote and manage transformations towards sustainability. Huang et al. (2021) argue that a sustainable future is not possible without sustainable service provisioning. Consequently, sustainability has become a central research priority in service research (Field et al., 2021; Koskela-Huotari et al., 2024).

One phenomenon closely connected to service and sustainability research that has attracted growing interest is the sharing economy (Curtis & Mont, 2020; Faraji et al., 2024; Hossain, 2020; Laukkanen & Nura, 2020). In 2024, the global market value of the sharing economy was estimated at $366.2 billion and is forecasted to exceed $1 trillion by 2030 (Statista, 2025). Broadly defined, the sharing economy encompasses business models that are typically technology-mediated, facilitating access to underutilised goods or services and thereby potentially reducing net consumption (Habibi et al., 2017). While

sharing itself is a long-standing social practice (Belk, 2014), the modern sharing economy serves as an umbrella term including activities such as sharing, renting, borrowing, trading, and buying second-hand (Curtis & Mont, 2020; Frenken & Schor, 2019).

A specific subset within the domain of the sharing economy is co-prosumption services. Introduced by Bouncken and Tiberius (2021, p. 64), the term refers to "*contexts where different customers are directly and physically co-present within the service space*". The concept builds on Toffler's (1980) idea of the prosumer, referring to individuals who act simultaneously as producers and consumers of value. Prosumption is defined as "*the interrelated process of production and consumption*" (Ritzer, 2014 p. 3) and is particularly common in services associated with the sharing economy (Eckhardt et al., 2019). The prefix '*Co-*' highlights the collective and co-present nature of these services indicating that co-prosumers are not only engaged in prosumption but also do so alongside other customers within the same service space. Typical examples of co-prosumption services include coworking spaces, makerspaces, and co-living environments, all of which have experienced growth over the past two decades (Biagetti et al., 2025; Mellner et al., 2020; Zakoth et al., 2023).

1.1.3 The Desire for Sustainable Co-Prosumption Services

At first glance, co-prosumption services, as part of the broader sharing economy, may appear to be inherently sustainable. Their emphasis on shared access to resources, collaboration among participants, and community building aligns with the principles of sustainable development (Bouncken & Tiberius, 2021). However, despite this potential, organisations offering co-prosumption services are not sustainable by default (Geissinger et al., 2019; Martin, 2016). To meaningfully contribute to sustainability, such organisations should actively infuse sustainability principles into the design and management of their services, making sustainability a key part of the customer experience (Huang et al., 2021). This perspective aligns closely with Bouncken and Tiberius (2021), who argue that managing co-prosumption services requires attention to the micro-level processes unfolding within the service rather than an exclusive focus on meso- or macro-level networks (Vargo et al., 2015).

Compared to traditional services, such as receiving repairs from a car mechanic or being served food in a restaurant, co-prosumption services blur the traditional boundaries between production and consumption making them distinct and more complex (Akhmedova et al., 2020; 2021; Kelleher et al., 2019). As such, infusing sustainability into co-prosumption services is particularly challenging because it does not emerge solely from provider-to-customer interaction. Instead, it also emerges from a web of interdependent behaviours that unfold among multiple co-present customers who share the same service space. This means that responsibility for creating a sustainable co-prosumption service rests not only on the provider, but also with the customers. Hence, value can be predominantly *co-created* through interaction between all these actors (Prahalad & Ramaswamy, 2004). Co-creation is a fundamental concept in service research and can be defined as: "*Enactment of interactional creation across interactive*

system-environments (afforded by interactive platforms), entailing agencing engagements and structuring organizations" (Ramaswamy & Ozcan, 2018, p. 200).

Although prior research on sustainable organisations consistently highlights the importance of individual-level behaviour in shaping collective sustainability outcomes (Bénabou & Tirole, 2010; Bertassini et al., 2021; Daily et al., 2009; Habib et al., 2021; Lamm et al., 2015; Lülfs & Hahn, 2013; 2014; Oskamp, 2000), the role of customers in creating sustainable co-prosumption services has received limited attention. Given the growing emphasis on sustainability (Reichheld et al., 2023), understanding how customers contribute to the co-creation (or co-destruction) of sustainable value is not only desirable but necessary for ensuring the long-term viability of these services. Moreover, the rapid growth of co-prosumption services amplifies the cumulative impact of everyday customer behaviour. Seemingly minor actions, when repeated across large numbers of customers and over time, can accumulate into substantial sustainability outcomes, either positive or negative. By overlooking the customer's role, there is a risk of designing co-prosumption services that unintentionally leads to unsustainable outcomes. This highlights the need for research that clarifies how sustainable value is co-created through customer behaviour within co-prosumption services.

1.2 Purpose

The purpose of this thesis is to increase the understanding of customer behaviour in co-creation of sustainable value within co-prosumption services. Specifically, in this thesis, the customer is viewed as the individual who both consumes and actively participates in the co-prosumption service. Behaviour is defined following the American Psychological Association's (2018) Dictionary of Psychology, which defines it as "*an organism's activities in response to external or internal stimuli, including objectively observable activities, introspectively observable activities, and nonconcious processes*". In other words, behaviour refers to what people do.

To fulfil this purpose, the research is situated in the context of *coworking spaces*, an emerging form of workspace that exemplifies co-prosumption by offering a shared work environment and collective experiences to its members. From only 160 spaces in 2008, the global total surged to over 19,400 by 2021, representing a rapid growth of more than 10,000% in just over a decade (Coworking Resources, 2020). This growth illustrates how coworking has evolved from a niche phenomenon into a mainstream type of workspace.

Beyond transforming the nature of work (Leclercq-Vandelannoitte & Isaac, 2016; Spinuzzi, 2012), coworking spaces also represent a promising context for exploring sustainability in practice (Bouncken et al., 2023). With the built environment accounting for nearly 40% of global carbon emissions, rethinking how space is used, shared, and managed has a key role to play in achieving the ambitious goal of carbon-neutrality (European Commission, 2020). Consequently, understanding how sustainability unfolds in coworking spaces is both timely and relevant, offering insights not only for service and sustainability research but also for practitioners seeking more sustainable workspaces.

1.3 The Context of Coworking Spaces

Coworking spaces are commonly defined as "*subscription-based workspaces in which individuals and teams from different companies work in a shared, communal space*" (Howell, 2022, p. 1). They offer an environment where individuals with diverse professional backgrounds, such as entrepreneurs, freelancers, remote employees, and small business teams, work independently while benefiting from the infrastructure and social dynamics of a shared workplace (Gandini, 2015; Garrett et al., 2017; Johns et al., 2024; Leclercq-Vandelannoitte & Isaac, 2016). This experience is often described as "*working alone together*" (Spinuzzi, 2012).

To further illustrate the characteristics of coworking spaces, Figure 2 provides a typical visual representation which shows multiple coworking members independently working in an open-plan layout with different types of tasks. As shown in Figure 2 and emphasised across several studies (Bouncken & Tiberius, 2021; Endrissat & Leclercq-Vandelannoitte, 2021; Orel & Bennis, 2021; Rådman et al., 2023; Weijs-Perrée et al., 2019), coworking spaces accommodate a heterogeneous mix of profiles. For example, some individuals seek a quiet place to focus, others look for a socially vibrant environment where they can interact with like-minded peers, and others use the space as a professional setting for meeting clients.

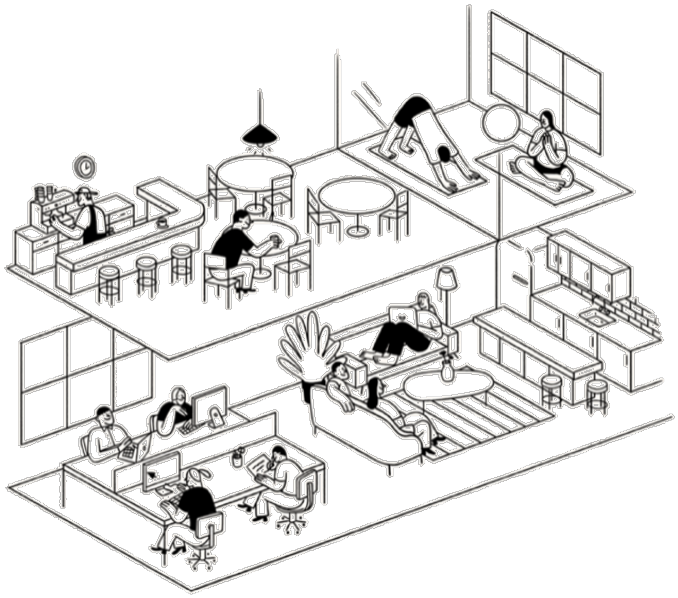

Figure 2. Visualisation of a coworking space. Artwork by "Working from_"

The coworking movement traces its origins to 2005 with the creation of Spiral Muse in San Francisco, widely regarded as the first coworking space (Aumüller-Wagner & Baka, 2023). Since then, with the rise of digital technologies (Colbert et al., 2016) and the COVID-19 pandemic forcing many organisations to adopt remote and hybrid work models (Felstead, 2022; Nyberg et al., 2021), flexibility has become a defining feature of contemporary work, allowing individuals to perform tasks from virtually any location

(Choudhury et al., 2021). Their increased popularity may also be attributed to the broader potential societal contributions of coworking spaces, such as enhancing capacity utilisation (Bouncken & Reuschl, 2018), promoting sustainable mobility (Lejoux et al., 2019; 2024), and having positive transformative effects on cities (Durante & Turvani, 2018; Mariotti et al., 2017; Merkel, 2015).

Importantly, coworking spaces constitute a distinct workspace (Appel-Meulenbroek et al., 2021; Bouncken & Reuschl, 2018; Clifton et al., 2022; Kraus et al., 2022). While they may physically resemble traditional offices, featuring desks, Wi-Fi, and meeting rooms, their social and organisational structures are markedly different. Unlike traditional workplaces, coworking spaces are not organised around a single employer, shared mission, or unified organisational culture. Another key difference between coworking members and traditional employees is that the former are paying customers with a market-oriented service contract (Spinuzzi et al., 2019).

1.4 Research Questions

To fulfil the purpose of this thesis and to guide the data collection, two research questions are formulated. The first research question builds on the idea that coworking members' role in the co-creation of sustainable value in coworking spaces remains an underexplored area. A fundamental, yet reasonable, assumption is to assume that co-creation of sustainable value requires members to engage in certain behaviours. However, these types of behaviour are currently insufficiently defined and under-theorised. This conceptual gap is a significant challenge which leads to the first research question (RQ1):

RQ1: What customer behaviours contribute to the co-creation of sustainable value in coworking spaces?

Once these behaviours have been identified, it becomes possible to examine how they may be promoted. Understanding what enables or constrains such behaviours is necessary for explaining the conditions under which the co-creation of sustainable value in coworking spaces can occur. According to Hoyer et al. (2021), the factors influencing customer behaviour can be classified into four interrelated domains: the psychological core, the process of making decisions, the consumer's culture, and consumer behaviour outcomes. They argue that decisions leading to desirable outcomes are preceded by processes located in the psychological core, with a particular emphasis on motivational factors. Similarly, Etgar (2008) highlights the importance of customers' psychological motivations for participation in co-production, a concept closely related to co-creation. Consequently, the second research question (RQ2) is formulated as follows:

RQ2: What motivational factors affect the identified behaviours that contribute to the co-creation of sustainable value in coworking spaces and to what extent do they do so?

1.5 Structure of the Thesis

This thesis is structured into seven chapters, each contributing to a comprehensive understanding of the research topic. The first chapter introduces the study by outlining its background and motivation, emphasising the need for more sustainable organisations and the limited research on sustainability in co-prosumption services. It presents the context of coworking spaces, the purpose of the thesis, the research questions, and an overview of the thesis structure. The second chapter, the frame of reference, reviews relevant literature on value creation, situating this perspective within the context of co-prosumption services. It further discusses the role of customer behaviour in value creation and clarifies how sustainable behaviour can be conceptualised in coworking spaces. The third chapter, research methodology, describes the research design, data collection, and analytical methods, while also justifying the chosen approach and addressing issues of research quality and ethics. The fourth chapter, summary of appended papers, outlines the aims, methods, and key findings of the individual papers, demonstrating their collective contribution to the overall research purpose. The fifth chapter, results, addresses the research questions with direct responses. The sixth chapter, discussion, integrates and analyses the findings in relation to the purpose, developing new insights into sustainable co-prosumption services. Also, it presents the theoretical and practical contributions, the generalisability of the findings, as well as limitations and directions for future research. Finally, the seventh chapter, conclusion, summarises the thesis and evaluates the fulfilment of the research purpose.

2. FRAME OF REFERENCE

This chapter establishes the theoretical foundation by outlining the evolution of value creation in services from a value-in-exchange perspective to value-in-use. It extends this logic to co-prosumption and sustainable services, where value is created through interactions among service providers, customers, and co-present customers. Building on this foundation, the chapter examines value co-creation behaviour and reviews conceptualisations of sustainable behaviour relevant to coworking spaces.

2.1 Value Creation in Services

To fulfil the purpose of this thesis, namely, to increase understanding of customer behaviour in the co-creation of sustainable value within co-prosumption services, it is necessary to first clarify how value is created in services more generally. Early work by Ramirez (1999) challenged the traditional value-in-exchange perspective by arguing for a shift towards a customer-oriented service system in which value is not embedded in outputs or delivered through transactions, but emerges through interactions among actors. This interactional view of value creation has since become central to service research. In a service context, value is commonly understood as "*being better off*", meaning that a customer, after being supported by a service provider, is, or feels, better off than before (Grönroos, 2015, p. 12). What constitutes "*being better off*" depends on the specific context and must therefore be analysed rather than assumed.

Within service research, this shift away from value-in-exchange has been driven primarily by two complementary perspectives: service-dominant logic (Vargo & Lusch, 2004; 2008; 2014) and service logic (Grönroos, 2008; 2011; Grönroos & Gummerus, 2014). More recently, customer-dominant logic has further extended this line of thinking by emphasising value creation from the customer's point of view while arguing that the other two perspectives represent a provider-dominant logic (Heinonen et al., 2010; Heinonen & Strandvik, 2015). Together, these perspectives challenge goods-dominant logic, which treats value as embedded in outputs exchanged between providers and customers, and instead conceptualise value as value-in-use, realised through ongoing interactions and resource integration among actors (Grönroos, 2008; Vargo & Lusch, 2014).

From a service-dominant logic perspective, service is the fundamental basis of exchange, and all actors are viewed as resource integrators embedded in service systems governed by shared institutional arrangements (Vargo & Lusch, 2016). Service logic complements this view by, according to Grönroos (2015), adopting a more managerial perspective that distinguishes the respective roles of service providers and customers in value creation. To capture these roles, Grönroos and Voima (2013) introduced the concept of value creation spheres, which schematically illustrates how value is created.

2.1.1 Value Creation Spheres

Through the lens of critical service logic, Grönroos and Voima (2013) explain three value creation spheres in which value is shaped: the provider sphere, the joint sphere, and the customer sphere, which are presented in Figure 3 and explained in the subsequent paragraphs. This model clarifies that while actual value is always realised by the customer in use, it can be influenced, supported, and shaped through interactions between the customer and provider.

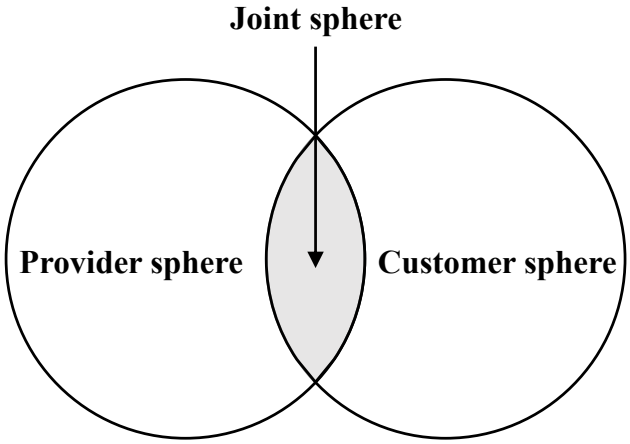

Figure 3. Value creation spheres (Grönroos & Voima, 2013)

In the provider sphere, the service provider plans, designs, and delivers resources, processes, and activities that enable, but do not directly create, value for the customer. Its primary role is to facilitate potential value by offering goods, services, and interactions that customers can later integrate into their own context. However, as Grönroos and Voima (2013) argue, the mere provision of resources is insufficient; value creation occurs when customers integrate those resources meaningfully within their own practices. This is also evident in other studies (e.g., Gremyr et al., 2022; Lindman et al., 2016)

The customer sphere represents the locus of value creation. Here, customers use the resources provided by the service provider, combine them with their own competencies and resources from outside actors, and realise value in their lived context. This sphere is largely independent from the provider's domain. The service provider cannot directly access or control this sphere but can influence it by ensuring its offerings fit the customer's context of use. Understanding this sphere requires learning about both individual and collective contexts, as it remains inaccessible without active customer feedback or interaction (Grönroos & Voima, 2013).

Between these two spheres lies the joint sphere, where provider and customer interact directly, creating opportunities for value co-creation. The scope of the joint sphere depends on the degree of direct interaction, expanded through customer touchpoints such as call centres or online platforms, or reduced in more automated, indirect systems. Wolfson et al. (2014) illustrate the variability of the joint sphere by distinguishing

between super-service and self-service configurations. In super-service settings, the provider sphere is extensive and the customer sphere relatively small, resulting in a changed size of the joint sphere due to the high degree of provider involvement. In contrast, self-service settings enlarge the customer sphere and reduce the provider sphere, thereby changing the size of the joint sphere. This distinction underscores how the allocation of responsibilities between provider and customer shapes the extent and nature of value co-creation.

2.1.2 Value Creation in Co-Prosumption Services

A closer look at the value creation spheres model (Grönroos & Voima, 2013) shows that it primarily describes a dyadic relationship between a service provider and a customer. While this is suitable for many service contexts, it is less adequate for understanding value creation in collective consumption contexts such as co-prosumption services, where multiple customers are co-present and simultaneously engaged in the service experience (Bruce et al., 2019; Pandey & Kumar, 2020). In such settings, the customer sphere is not occupied by a single individual but by a collection of customers whose activities, expectations, and interactions intersect within the same service environment.

Although the value creation spheres model acknowledges that interactions between customer and other people in the ecosystem may occur within the customer sphere, these interactions seems to be treated as secondary to the provider-to-customer relationship (Grönroos & Voima, 2013). When customers interact with one another, *social value co-creation* may take place, potentially altering the value-in-use that emerges through the service use (Grönroos, 2015). Consequently, value creation in co-prosumption services is shaped not only by provider-to-customer interactions but also by customer-to-customer interactions and the social value co-created through them.

A fitting citation by Martin and Pranter (1989 p. 13) from their seminal paper on customer-to-customer interaction explains when customer-to-customer interactions, and thus social value co-creation, is most relevant to understand which aligns particularly well with co-prosumption services such as coworking spaces:

> "*The relevance of customer-to-customer relationships appears to be most critical when customers are in close physical proximity to each other, when customers are likely to interact verbally, when customers have slightly different objectives for using the service environment, when the customer mix is heterogenous in any of several ways, when the core service focuses on the relationship between customers, when customers must occasionally wait for the service, or when customers must share some aspect of the service or environment with each other.*"

To account for the multi-actor configuration in co-prosumption services, the value creation spheres model can be extended by explicitly incorporating a co-present customer (referred to as Customer #2). This extension reveals two joint spheres: one between the provider and the customers, and another between the customers themselves (see Figure 4). The second joint sphere captures customer-to-customer interaction and

highlights that, in addition to the co-creation of value-in-use, the co-creation of social value is a central component of value creation in co-prosumption services. Thus, value in co-prosumption services is co-created in the shared interaction space between provider and customers, represented by the central area of the model marked in grey.

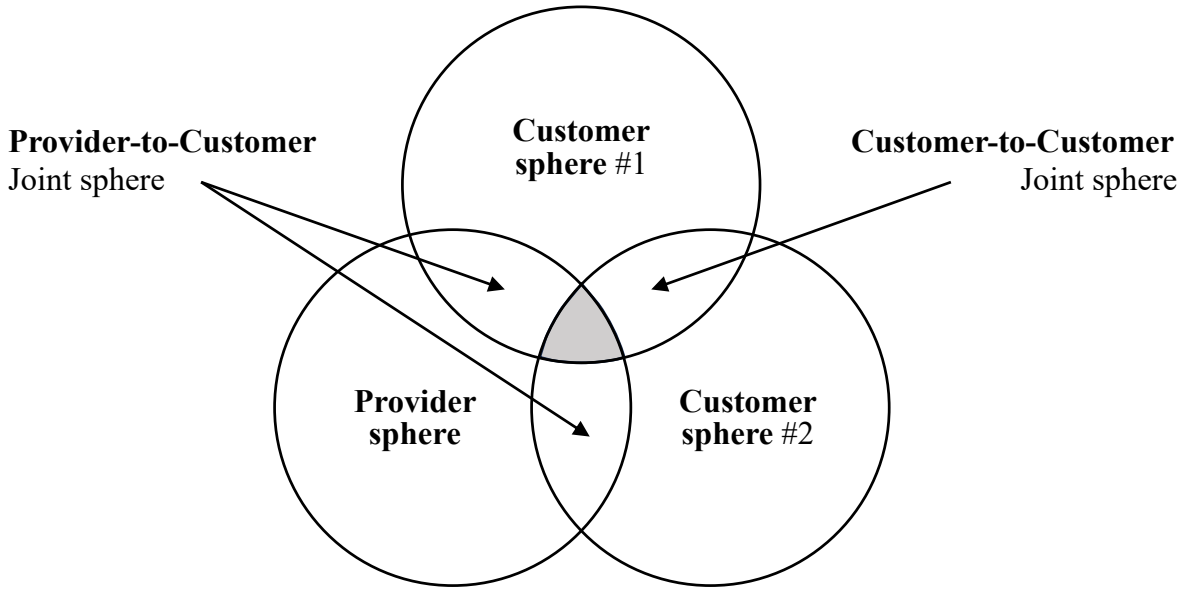

Figure 4. Value creation spheres in co-prosumption services

As Nicholls (2010) and Rihova et al. (2018) note, managing customer-to-customer interactions is particularly challenging because they largely fall outside the provider's direct control. In coworking spaces, for instance, a provider may design an excellent work environment and organise events, yet if coworking members do not engage with one another, little value may emerge despite the favourable conditions. This highlights that customers exert substantial influence over value creation in co-prosumption services.

While co-prosumption services potentially enable the co-creation of both value-in-use and social value through interactions among multiple actors, not all co-created value can be considered sustainable. Value may emerge that benefits individual actors in the short term while undermining longer-term social, environmental, or economic outcomes. Consequently, it becomes necessary to clarify what is meant by *sustainable value creation*. The following section therefore examines how sustainability is conceptualised in relation to value creation.

2.2 Sustainable Value Creation in Services

Building on the idea that value in services is co-created through interactions, sustainable services extend this logic by embedding environmental, social, and economic considerations into the process of value creation itself (de Grandbois, 2013; Field et al., 2021). Rather than being an external goal or a post-hoc evaluation criterion, sustainability becomes an element of the service system (Wolfson et al., 2014).

Accordingly, a service can be regarded as sustainable when its value creation contributes to long-term prosperity while preserving social and environmental integrity, reflecting the dimensions of the TBL (Elkington, 1997; Figge & Hahn, 2004; Hart & Milstein, 2003; Porter & Kramer, 2011).

Koskela-Huotari et al. (2024) argue that studying sustainability in service research requires the specification of at least two systems: the focal system whose sustainability is evaluated, and the containing system that is to be sustained. Figure 5 shows an example where a coworking space is acting as the focal system and its surrounding urban area as its containing system.

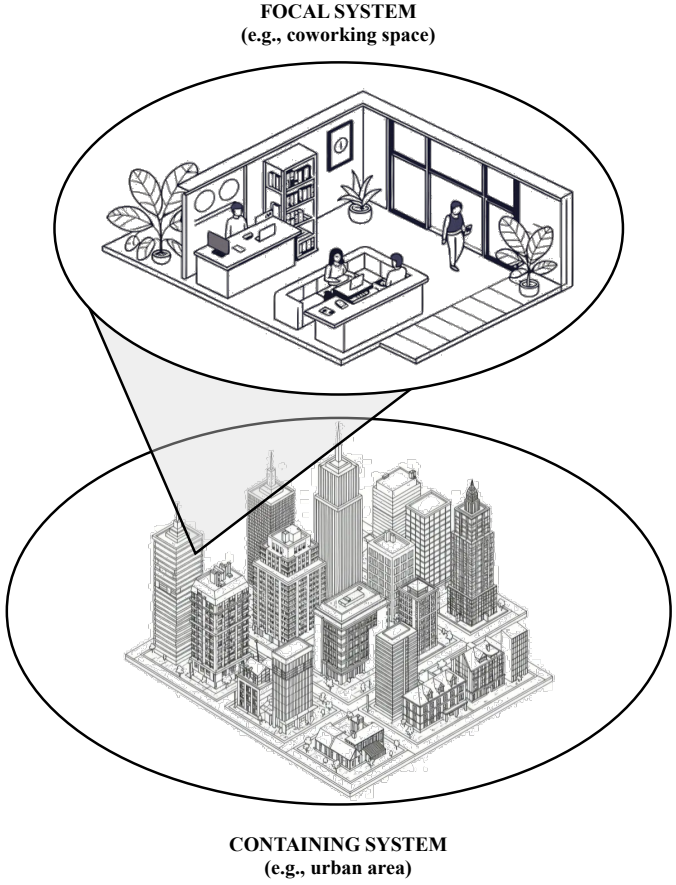

Figure 5. Focal and containing system using coworking spaces and the urban area as examples

Wolfson et al. (2014) align with this view and emphasise that a sustainable service has two values: its core value and the super value. The core value is created in the focal system and represents the immediate functional or experiential benefit a customer gains from the service, such as convenience, quality, or reliability. The super value, by contrast, emerges in the containing system when the service also advances sustainability objectives that extend beyond the individual user, such as reducing environmental impacts, fostering social inclusion, or enhancing community well-being. For instance, a transport service that offers free parking near train stations provides convenience to

customers (core value) while simultaneously encouraging public transportation and reducing emissions (super value).

Conceptualising service sustainability as the focal system's ability to sustain its containing system(s) challenges service researchers to both zoom out and zoom in (Field et al., 2021). While a broader perspective is required to capture multi-actor and macro-level service system configurations, an understanding of sustainability outcomes also depends on analysing the micro-level processes through which value is created. In this thesis, the coworking space constitutes the focal system embedded within multiple containing systems. Consequently, the behaviour of customers themselves become central to the co-creation of sustainable value.

2.3 Value Co-creation Behaviours

Customer behaviour through which individuals participate in and contribute to value creation processes are referred to as value co-creation behaviour (Laud & Karpen, 2017; Yi & Gong, 2013). Building on this reasoning, co-creating sustainable value within co-prosumption services requires customers to not only engage in value creation behaviour but also to orient their behaviour toward sustainability. Put differently, co-creating sustainable value requires customers to engage in *sustainable behaviours*.

2.3.1 Sustainable Behaviour

Despite increasing interest in sustainability, there is limited consensus about what sustainable behaviour entails. This lack of alignment is evident in the consumer behaviour literature, where studies published within a relatively short time span propose differing conceptualisations. Trudel (2019, p. 85) defines sustainable consumer behaviour as "*the extent to which decisions are driven with the intention to benefit or limit the impact on the environment*". White et al. (2019, p. 24), by contrast, conceptualise sustainable behaviour in terms of outcomes, defining it as "*actions that result in decreases in adverse environmental impacts as well as decreased utilization of natural resources across the lifecycle of the product, behavior, or service*". Florence et al. (2022, p. 624) adopt another perspective, stating that "*sustainable consumer behaviour, also known as environmentally responsible behaviour or pro-environmental behaviour, refers to actions undertaken by individuals with the intention of benefitting the environment*". Following this latter perspective, a substantial body of research treats sustainable behaviour as synonymous with pro-environmental behaviour (e.g., McKenzie-Mohr, 2000; Sparkman & Walton, 2017). Consequently, sustainable behaviour is often operationalised through actions such as reducing waste, conserving energy and water, and minimising greenhouse gas emissions. While these behaviours are undeniably important, this dominant environmental focus risks a narrow conceptualisation of sustainable behaviour that insufficiently accounts for the social and economic dimensions emphasised in the TBL framework (Elkington, 1997).

Already more than a decade ago, Tapia-Fonllem et al. (2013, p. 712) criticised the overly environmental focus of many sustainability measures and proposed an expanded definition as "*the set of actions aimed at protecting the socio-physical resources of this planet*". Based on this definition, they identify four interrelated dimensions: pro-ecological behaviour, frugal behaviour, altruistic behaviour, and equitable behaviour. This view of sustainable behaviour coincides with the understanding of Bansal and Roth (2000, p. 687): "*A set of effective, deliberate, and anticipated actions aimed at accepting responsibility for conservation and preservation of physical and cultural resources. These resources include integrity of animal and plant species, as well as individual and social wellbeing, and safety of present and future human generations*".

Building on these descriptions and using a model developed by Schultz (2001) as a foundation, Corral-Verdugo et al. (2021) propose that sustainable behaviour consists of a person-society-nature triad, which further includes a fifth dimension: self-care. Simultaneously, they merge pro-ecological behaviours and frugal behaviours into pro-environmental behaviours and altruistic behaviours and equitable behaviours into prosocial behaviours. From their perspective, sustainable behaviour is not limited to environmental actions but also includes behaviours that promote individual well-being, support others in the community, and protect shared natural and social resources. Although this conceptualisation captures more dimensions of sustainable behaviour, a closer examination of these five components namely: pro-ecological, frugal, altruistic, equitable, and self-caring behaviours, reveals that they cover a broad range of actions, such as eating healthily, assisting the elderly, donating blood, and recycling bottles. This suggests that such conceptualisations primarily capture sustainable behaviours that occur outside work, which may not translate directly to a coworking context.

Drawing from both the TBL framework (Elkington, 1997) and the person-society-nature triad (Corral-Verdugo et al., 2021), it seems like sustainable behaviour is a multidimensional construct, requiring an economic, social, and environmental dimension that corresponds to oneself, other people, and the environment. To clarify, a multidimensional construct refers to "*several distinct but related dimensions treated as a single theoretical concept*" (Edwards, 2001, p. 144) where each dimension represents a unique content domain of the broader construct (Polites et al., 2012).

2.3.2 Sustainable Behaviour in Coworking Spaces

To conceptualise what sustainable behaviours are in coworking spaces, it is useful to identify recurring themes of why coworking members become members in the first place. These themes can then be used to deduce what types of behaviours may be considered sustainable in this context. Conceptualisation involves identifying and defining abstract constructs, a process that enables their subsequent measurement and theoretical linkage. As Lambert and Newman (2023, p. 576) explain, "*a construct is an abstraction that helps us make sense of our environment and is a useful aid to developing theories about relationships. Only by naming these abstractions as constructs (e.g., job satisfaction, organizational performance) can we theorize about relationships between them*".

As previously mentioned, coworking spaces are known to attract a diverse set of users with heterogeneous profiles and motivations (e.g., Bouncken & Tiberius, 2021; Rådman et al., 2023). Despite this diversity, the literature on coworking reveals certain recurring themes that can be aligned with all types of coworking members.

Economic Dimension of Sustainable Behaviour

According to Howell (2022), benefits of working in a coworking space can be categorised into three primary domains related to economic sustainability: efficiency, flexibility, and legitimacy. These categories are echoed in broader research on coworking motivations (Appel-Meulenbroek et al., 2021; Bacevice & Spreitzer, 2023; Spinuzzi, 2012). Efficiency is achieved through proximity to helpful peers, access to supportive hosts, and reduced commuting times. Flexibility is provided by full-time access to the coworking space with short-term and scalable lease agreements that allow members to adapt workspace usage to changing business demands. Legitimacy comes from coworking spaces offering professional and credible environments for client interactions, an advantage compared to working from home or public cafés (Tremblay & Scaillerez, 2020).

In addition to these benefits, the coworking literature highlights the performance-driven nature of these spaces. The centrality of performance is logical: if members cannot sustain their business financially, other aspects of sustainability, such as low carbon footprints or strong social ties, become irrelevant, as the business itself will not survive. Thus, many members are frequently oriented toward productivity, competitive advantage, and income growth (Bueno et al., 2018; Bouncken et al., 2018; Clifton et al., 2022; Jakonen et al., 2017). From this perspective, '**Productive behaviour**' appears to be a more suitable behaviour for the coworking context than, for example, self-care (as suggested by Corral-Verdugo et al., (2021), in the previous section). While self-care emphasises individual well-being and health, productive behaviour can be defined as "*the behaviour of an organization's members that positively contributes to achieving the organization's goals and objectives*" (Park, 2020: p. 4). In coworking contexts, considering that members are often self-employed, such behaviours reflect the very essence of business: working productively to achieve professional and financial sustainability.

Social Dimension of Sustainable Behaviour

A growing body of research highlights the importance of community and belonging as key motivators for coworking (Bouncken et al., 2020; Endrissat & Leclercq-Vandelannoitte, 2021). Researchers argue that the desire for community is particularly salient among freelancers, entrepreneurs, and remote workers who may otherwise face social isolation (Gerdenitsch et al., 2016; Spreitzer et al., 2015; Wright et al., 2022). Members actively seek social interactions (Merkel, 2015) and are often energised by the informal, vibrant '*buzz*' that characterises many coworking spaces (Howell, 2022; Bacevice & Spreitzer, 2023).

Beyond community, coworking spaces facilitate collaboration and networking through the physical co-location of diverse professionals. Waters-Lynch and Potts (2017) identify collaboration as a major incentive, particularly when users lack certain knowledge, resources, or inspiration. For entrepreneurs, in particular, these coworking spaces provide critical support in navigating the uncertainties of launching and sustaining a business (Howell, 2022).

Taken together, these findings suggest that social interactions in coworking are not incidental but central to their value proposition. A behavioural construct that captures this social dimension is '**Prosocial behaviour**'. In organisational contexts, prosocial behaviour refers to "*acts that promote or protect the welfare of individuals, groups, or organizations*" (Brief & Motowidlo, 1986, p. 711). In the coworking setting, such behaviours (i.e., offering help, sharing knowledge, or creating a supportive atmosphere) can be seen as a critical aspect of sustainable behaviour, since the long-term viability of the coworking space itself depends on members' willingness to contribute to one another's success and well-being.

Environmental Dimension of Sustainable Behaviour

Corral-Verdugo et al. (2021) conceptualise this dimension as pro-environmental behaviour, consisting of pro-ecological and frugal behaviours. As defined by Lange and Dewitte (2019, p. 92), pro-environmental behaviours are "*acts that benefit the natural environment (e.g., recycling) and omissions of acts that harm it (e.g., avoid air travel)*". In the focal service system of the coworking context, however, it is not the natural environment but the shared work environment that forms the immediate focus of members' everyday actions. Linking back to sustainable value creation (see Section 2.2), the work environment consists of the focal system while the natural environment includes the containing system. A reasonable adaptation is therefore to substitute the natural environment with the working environment: that is, acts that benefit the work environment and omissions of acts that harm it. To date, such behaviours have not been explicitly named in the literature. In this thesis and the appended papers, this concept is referred to as '**Responsible space-sharing behaviour**'. Without responsible space-sharing behaviour, the coworking space risks becoming unsustainable, as shared resources deteriorate and conflicts increase. In this way, responsible space-sharing behaviour reflects the environmental dimension of sustainability within coworking spaces, ensuring that the physical and social work environment remains viable and supportive for all members.

Sustainable Coworking Behaviour

Taken together, these three constructs, productive behaviour, prosocial behaviour, and responsible space-sharing behaviour, are used to translate the TBL framework (Elkington, 1997) and the person-society-nature triad (Corral-Verdugo et al., 2021) into the coworking context resulting in a new conceptualisation termed '**Sustainable coworking behaviour**'.

Within the conceptualisation, being inspired by recommendations for creating better concept definitions in behavioural sciences given by Podsakoff et al. (2016), sustainable coworking behaviour is defined as actions in which a coworking member: (1) achieves the goals and objectives of their own business or the organisation that they represent, (2) supports and benefits others within the coworking space, and (3) responsibly shares the coworking space. Figure 6 provides a schematic overview of sustainable coworking behaviour.

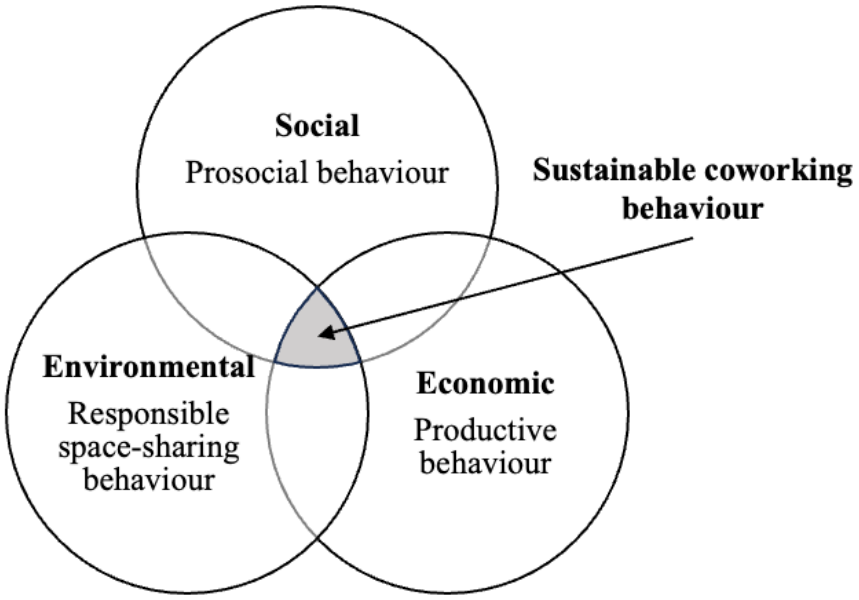

Figure 6. Schematic overview of sustainable coworking behaviour

2.4 Synthesis of Frame of Reference

This chapter has outlined the theoretical foundations guiding this thesis. To synthesise the frame of reference, the central concepts are integrated in Figure 7. The figure situates the value creation spheres model (Grönroos & Voima, 2013) within a co-prosumption service context (Bouncken & Tiberius, 2021) by incorporating an additional sphere representing a co-present customer. This extension reflects the multi-actor nature of co-prosumption services and highlights that value is co-created through interactions among customers and the service provider.

Consistent with the purpose of this thesis and that sustainability is viewed as a desirable and necessary pursuit, the analytical focus is placed explicitly on customer behaviour in the co-creation of sustainable value. While service providers play an important enabling role, the framework concentrates on customers as the primary actors whose behaviours directly shape value creation within the service space.

Figure 7 further illustrates that not all value creation can be considered sustainable. Sustainable value in co-prosumption services must correspond to the social, environmental, and economic dimensions of sustainability (de Grandbois, 2013; Field et al., 2021), as reflected in the TBL framework (Elkington, 1997) and the person-society-

nature triad (Corral-Verdugo et al., 2021). The magnified section of Figure 7 illustrates that sustainable value is co-created when all three dimensions are enacted in combination. In the context of coworking spaces, these dimensions are represented by prosocial behaviour, responsible space-sharing behaviour, and productive behaviour.

Finally, Figure 7 emphasises that sustainable value creation in co-prosumption services can be divided into core value and super value. Sustainable value is co-created when customer behaviour generates core value within the focal system (e.g., the coworking space) while simultaneously contributing super value to the containing system(s) (Koskela-Huotari et al., 2024; Wolfson et al., 2014). In this way, the synthesis directly links the theoretical framework to the purpose of the thesis and provides the conceptual basis for addressing RQ1 and RQ2.

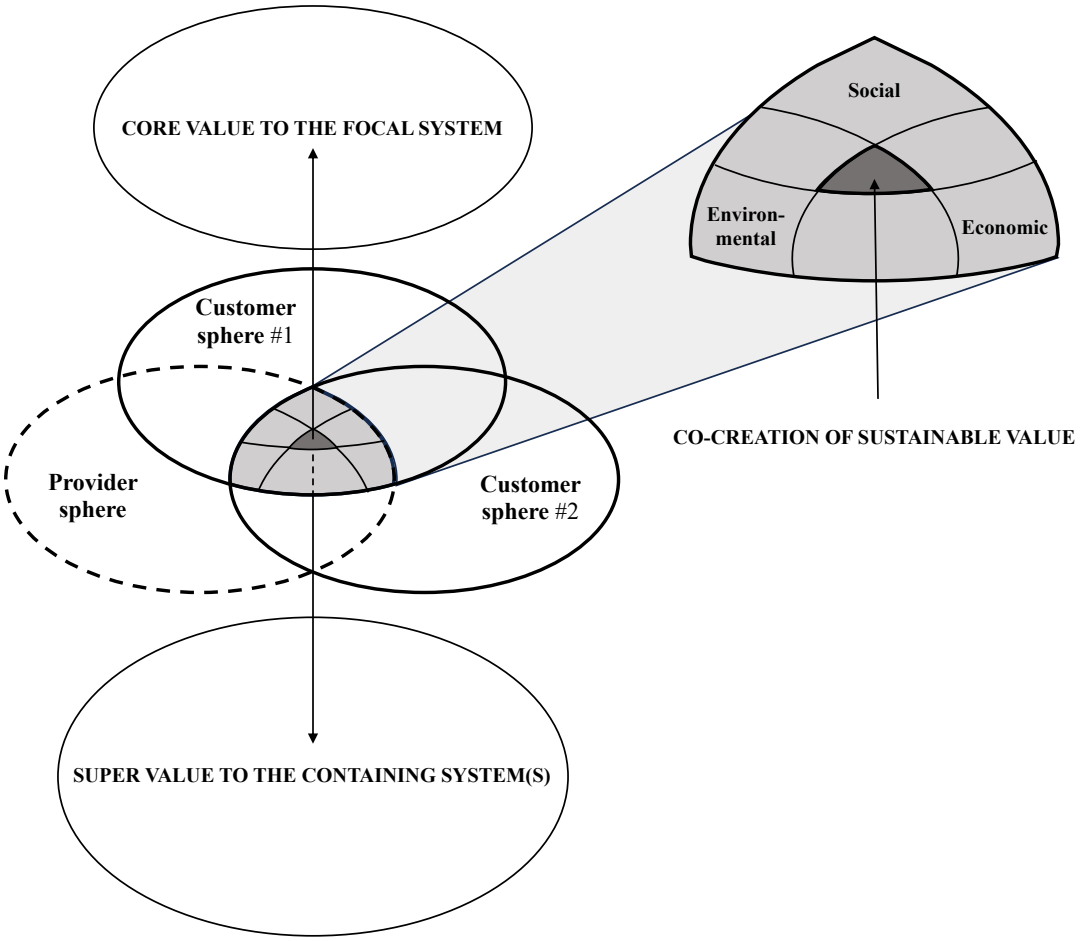

Figure 7. Synthesis of frame of reference

3. RESEARCH METHODOLOGY

This chapter outlines the methodologies used in each paper, their rationale, and how they contribute to the overall research questions. In the end of the chapter, methodological reflections are presented focusing on research quality and ethical considerations.

3.1 Research Process

To address the two research questions posed in this thesis, five distinct research papers have been developed and are referred to throughout using roman numerals (Paper I – V). These research papers employ different research designs, reflecting both the evolving research focus and the nature of the research questions being explored. The papers were initially developed in a serial manner, meaning that Paper I was developed first, Paper II second and so forth. However, with time, the development of the scientific papers was intertwined and made in parallel. The development process of the papers is presented in Figure 8.

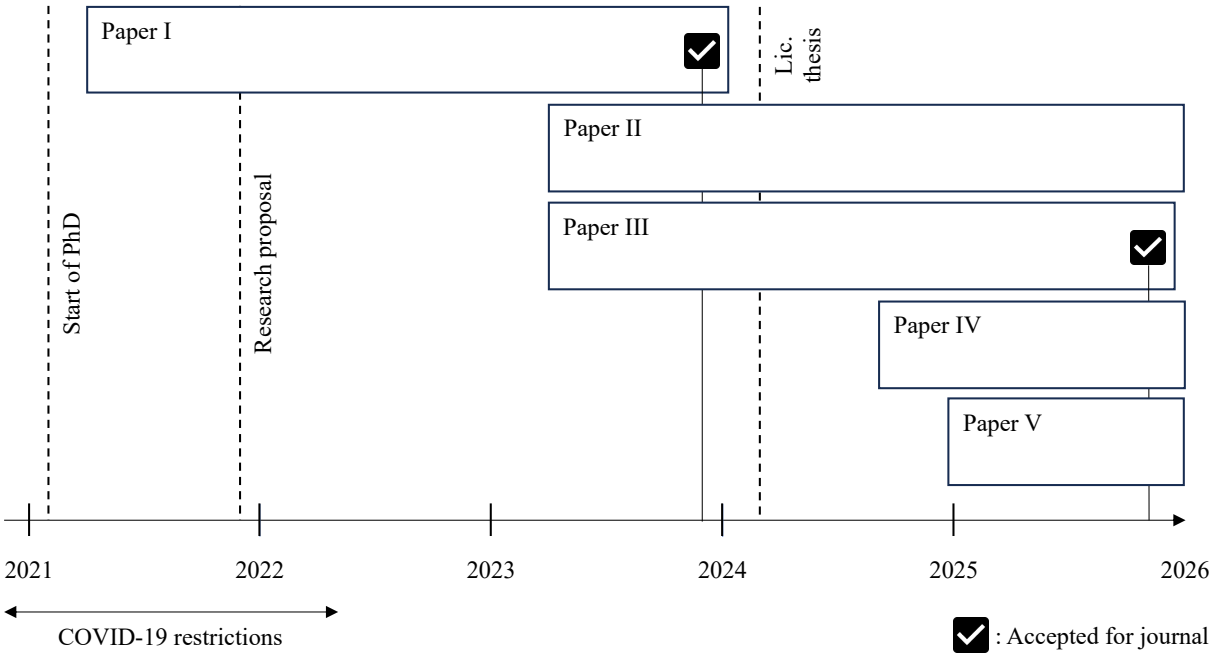

Figure 8. Development process of research papers

The original plan of my doctoral project was to focus primarily on experimental studies in coworking spaces, drawing on concepts from behavioural economics. The project, initially titled '**Creating Quality in Coworking Spaces**', aimed to design and test nudges (Thaler & Sunstein, 2008) inspired by prospect theory (Kahneman & Tversky, 1979) and Kahneman's (2011) distinction between System 1 (fast, intuitive) and System 2 (slow, deliberate) thinking.

The goal of these interventions was to support coworking members in satisfying their customer needs, building on emerging work by Rådman et al. (2023) and Johansson et

al. (2024) where both my supervisors were involved. However, as the project unfolded, it became evident that there was a lack of well-contextualised and holistic measurement tools in coworking spaces. Without such a measurement tool, it would be difficult to know the effect of nudging interventions. Simultaneously, the COVID-19 pandemic hindered people from going to their workplace and authorities advocated for working from home (PHAS, 2024). This created fundamental challenges regarding what to measure and which interventions to design. Consequently, I was hesitant in pursuing this path and the research trajectory shifted towards exploration before returning to correlational and causal investigation in later stages of the project.

3.2 Research Design

This thesis employs four complementary research designs: case study, exploratory sequential design, cross-sectional design, and experimental design. Together, these designs form a coherent methodological progression for increasing the understanding of customer behaviour in co-creating sustainability in co-prosumption services. An overview of the research designs and their corresponding data type, data collection techniques, analysis method, appended paper, and research question is presented in Table 1. The following subsections elaborate on each design in greater detail.

Table 1. Overview of research designs

Research design	Data type	Data collection	Data analysis	Paper	RQ
Case study	Qualitative	Interviews, observations	Thematic analysis	I	1
Exploratory sequential design	Mixed	Interviews, survey	Structural equation modelling	II	1, 2
Cross-sectional design	Quantitative	Survey	Structural equation modelling	III, IV	2
Experimental design	Quantitative	N/A	N/A	V	2

3.2.1 Case Study

To provide an answer to the first research question, the focus was placed on the concretisation of the proposed conceptualisation of sustainable coworking behaviour (See Section 2.3.2). Here, concretisation refers to the process of making something abstract or conceptual more tangible, specific, or definite. Such concretisation provides a firm foundation for delineating the domain of sustainable coworking behaviour (Lambert & Newman, 2023), which in turn allow for the identification of customer behaviours that support the co-creation of sustainability in coworking spaces.

Since the context of coworking spaces is different compared to other workspaces (Appel-Meulenbroek et al., 2021; Bouncken & Reuschl, 2018; Clifton et al., 2022; Kraus et al., 2022), previous views of productive behaviour, prosocial behaviour, and

responsible space-sharing behaviour carried risk of not being accurate. For example, Brief and Motowidlo (1986) identified 13 ways in which people can act prosocially in organisations such as assisting co-workers with job-related matters, staying with the organisation despite temporary hardships, and representing the organisation favourably to outsider. However, their transferability to the coworking context was not certain. To develop a contextually grounded understanding of what these behaviours entail in coworking spaces, a qualitative case study design was therefore considered appropriate (Eisenhardt, 1989; 1991).

Case studies provide a holistic means of examining contemporary, real-world phenomena in depth (Yin, 2014). According to Yin (2014, p. 16), a case study is defined as "*an empirical inquiry that investigates a contemporary phenomenon ('the case') in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident*". A case study design with multiple cases was employed to strengthen theory development in terms of grounding and accuracy (Eisenhardt & Graebner, 2007). The intention was not to compare the cases but rather to collect diverse data to gain a general understanding of sustainable coworking behaviour.

Three coworking spaces located in Gothenburg, Sweden, were selected. As coworking is still an emerging phenomenon in Gothenburg, the number of eligible cases was limited. The selection criteria were twofold: first, the selected coworking spaces exhibited large variation in membership composition, including self-employed individuals, startups, and employees of larger organisations, and offered both private offices and open-plan seating. Second, I had full-time access to each coworking space for over a year, enabling extensive data collection through in-depth interviews, observations, informal conversations with members and hosts, and access to internal digital communication channels. Since all three coworking spaces cater to individuals, teams, and companies, they can be categorised as hybrids between individual- and group-purposed coworking spaces (Orel & Bennis, 2021), as well as co-working hotels (Kojo & Nenonen, 2016).

The first case is situated on the campus of a major Swedish university and is publicly owned. The coworking provider aims to attract members working within the built environment sector and explicitly communicates environmental sustainability as a main part of their organisational identity. At the time of data collection, the coworking space had approximately 70 members. Its relatively low membership fee attracted entrepreneurs and small businesses. In addition to standard coworking amenities (e.g., meeting rooms, private offices, Wi-Fi, coffee machines), extended memberships also included access to a makerspace, gym, and studio.

The second case is located in central Gothenburg and is operated by one of Sweden's largest real estate companies. It offers a more luxurious and corporate-oriented environment, reflected in higher membership fees. With over 500 members across three

floors, it was the largest coworking space in the study. The members included a number of Swedish authorities, huge companies such as Microsoft, and many start-up companies. The space offers customised office solutions for companies requiring up to 50 memberships.

The third case, also centrally located within a shopping mall, was the newest and smallest at the time of data collection. Owned by another major real estate company, its membership-count was initially limited but grew steadily during the study period, reaching around 50 members. This coworking space places particular emphasis on sensory and atmospheric elements such as sound, lighting, scent, and interior design.

Table 2 presents an overview of the cases including details to provide a better understanding of each site.

Table 2. Overview of case studies

Case	No. of members	Location	Price	Type of members	Memberships	Other
1	~70	University campus	Mid	Self-employees, start-ups	Flexible space, private office	Focus on sustainability and the built environment
2	~500	City centre	Mid-high	Start-ups, large companies	Lounge, flexible space, private office	Corporate and professional atmosphere
3	~50	City centre	Mid-high	Self-employees, Start-ups, large companies	Flexible space, private office	High emphasis on mood and sensory elements

3.2.2 Exploratory Sequential Design

Building on the conceptual insights generated from the case study, the focus subsequently shifted to the operationalisation of sustainable coworking behaviour. Operationalisation includes the process of defining how a construct can be measured in practice (Podsakoff et al., 2016). Seltman (2013 p. 9) illustrates this with an example of anger: "*if you have a theory about what affects people's anger level, you need to operationalize the concept of anger. You might measure anger as the loudness of a person's voice in decibels, or some summary feature(s) of a spectral analysis of a recording of their voice, or where the person places a mark on a visual-analogue 'anger scale', or their total score on a brief questionnaire, etc. Each of these is an example of an operationalization of the concept of anger*". This example illustrates that operationalisation involves translating conceptual understanding into measurable indicators.

To operationalise sustainable coworking behaviour, a mixed methods design was conducted, specifically, an exploratory sequential design. Creswell and Plano Clark (2018) distinguish three basic designs in mixed methods research including the convergent, explanatory sequential, and exploratory sequential designs. In the exploratory sequential design, the qualitative phase occurs first and is followed by the quantitative phase. In this thesis, the exploratory sequential design was configured as a scale development process.

Scales are measurement systems that are collections of items combined into a composite score and intended to reveal theoretical variables not readily observable by direct means (DeVellis & Thorpe, 2022). Scales are necessary to develop when researchers want to operationalise a phenomenon that is believed to exist because of the theoretical understanding of the world, but cannot be assessed directly (Lambert & Newman, 2023), such as sustainable coworking behaviour. Accordingly, a valid and reliable scale of sustainable coworking behaviour must capture the set of customer behaviours that support the co-creation of sustainability in coworking spaces. In this way, the scale development process provides a direct response to the first research question.

When analysing more than 100 scale development studies, Morgado et al. (2017) found that the scale development process can be divided into three steps. In the first step, the researcher provides theoretical support for the initial item pool. In the second step, the researcher assesses the content validity of the new scale, ensuring that the initial item pool reflects the desired construct. In the third and final step, the researcher should assess whether the new scale has construct validity and reliability. This overarching procedure was used, and it was guided by recommendations from Churchill (1979), DeVellis and Thorpe (2022), Hinkin (1995, 1998), and Lambert and Newman (2023) resulting in a six-step process presented in Figure 9.

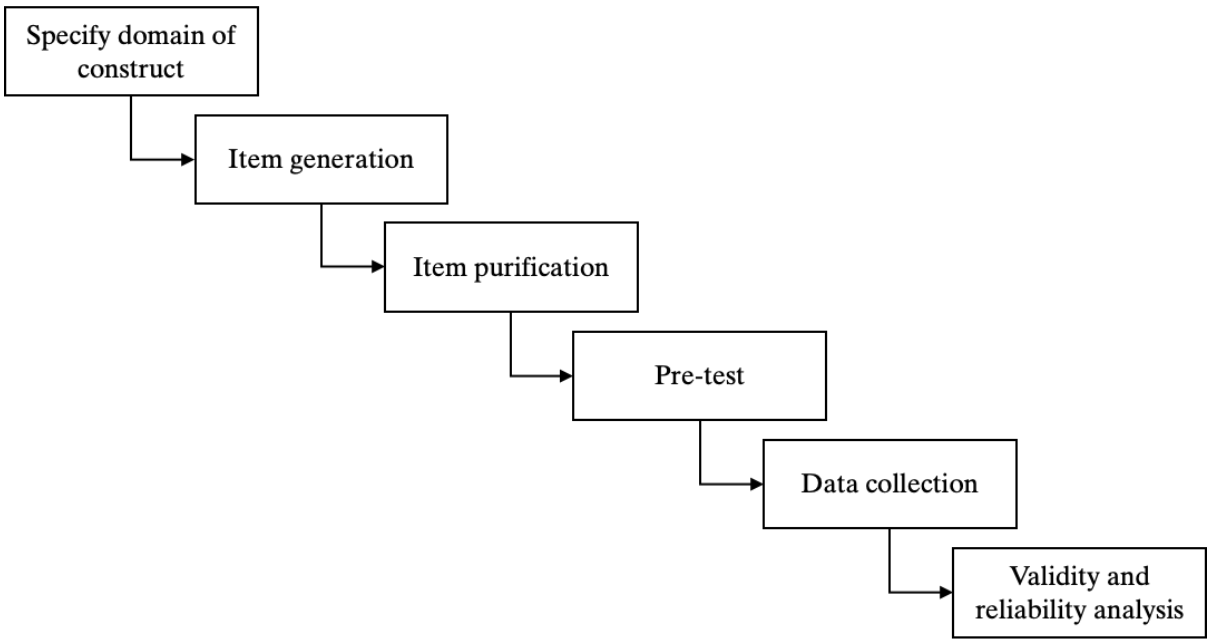

Figure 9. Scale development process

3.2.3 Cross-sectional Design

Based on the findings from the case study and the scale development process, the next step was to examine the motivational factors affecting sustainable coworking behaviour, directly addressing the second research question. Drawing on psychological ownership theory (Pierce et al., 2001; 2003) and self-determination theory (Deci & Ryan, 2013; Gagné & Deci, 2005), and building on previous empirical applications of these frameworks (e.g., Chiniara & Bentein, 2016; Cordery et al., 2010; Gagné et al., 2022; Haas, 2010; Hamrick et al., 2024; Van Dyne & Pierce, 2004; Zhang et al., 2021), it was hypothesised that these motivational theoretical frameworks could effectively help explain what affects sustainable coworking behaviour. Specifically, positive associations were expected between psychological ownership of the coworking space and sustainable coworking behaviour, as well as between satisfaction of the basic psychological needs and sustainable coworking behaviour. The basic psychological needs is an underlying "mini-theory" of self-determination arguing that the satisfaction of autonomy, competence, and relatedness is essential for well-being and optimal functioning (CSDT, 2026).

To examine these associations, two cross-sectional designs were employed, each resulting in an appended paper (Paper III and Paper IV). Cross-sectional designs are well suited for studying relationships among established constructs at a single point in time. Bell et al. (2019 p. 59) explain a cross-sectional design as: "*A cross-sectional design entails the collection of data on more than one case (usually quite a lot more than one) and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables (usually many more than two), which are then examined to detect patterns of association)*". Compared to experimental designs, cross-sectional designs are widely considered as more cost-effective and quicker to conduct, however, they do not allow for strong causal inference (Wang & Cheng, 2020). Despite this limitation, they are well-suited for hypothesis testing and can provide insight into the prevalence of key behaviours and factors, thereby informing future experimental studies (Wang & Cheng, 2020). For this reason, the cross-sectional design was employed, with the potential for further examination through an experimental follow-up (as outlined in the next section)

The methodological procedure was grounded in the framework of classical statistical inference, particularly hypothesis testing. Statistical inference is concerned with the problems of estimation and testing hypotheses about the properties of a population using sample data (Casella & Berger, 2024). Based on Moore et al. (2017), hypothesis testing can be presented in a structured format: hypotheses formulation, selecting statistical test, data collection, and statistical analysis.

3.2.4 Experimental Design

Following the results from the cross-sectional designs, the final research design adopts an experimental design to examine how the causal influence of basic psychological need

satisfaction on sustainable coworking behaviour can be tested. The results from the cross-sectional designs indicated that basic psychological need satisfaction was more attractive to pursue in the experimental setting compared to psychological ownership. Whereas the cross-sectional designs were suited to identifying associations, an experimental design is necessary to assess causality. According to Bell et al. (2019), classical experimental designs involve the manipulation of an independent variable across treatment and control groups, allowing for the measurement of effects on a dependent variable through pre- and post-tests.

To better understand how the relationship between basic psychological needs satisfaction and sustainable coworking behaviour can be tested, a discrete choice experiment (DCE) with a pairwise design was developed. DCE is a quantitative experimental approach used to elicit individuals' preferences by presenting them with hypothetical scenarios and asking them to choose between alternatives (Vass et al., 2017). This method is particularly useful for understanding trade-offs individuals make between multiple attributes and is therefore well-suited for exploring how coworking members prioritise different basic psychological needs in relation to sustainable coworking behaviour.

One way to develop a DCE is to follow the widely accepted procedure by Lancsar & Louviere (2008):

1. Defining attributes and levels,
2. creating the experimental design,
3. constructing choice sets,
4. collecting data,
5. conducting econometric analysis.

However, it is important to emphasise that the research design used in thesis only covers the first three steps, meaning that the experimental design itself and the construction of the choice sets constitute the primary outcome. Consequently, no empirical data is collected, and no statistical results are reported.

3.3 Data Collection and Analysis Methods

As previously presented in Table 1, this thesis draws on both qualitative and quantitative data. Qualitative data were generated through interviews and observations, allowing for an in-depth exploration of participants' experiences, behaviours, and interpretations. Quantitative data were obtained from two surveys designed to capture patterns, measure constructs, and test relationships at a broader scale. Figure 10 provides an overview of the data collection methods and illustrates how each method aligns with the overall research designs. It also shows which research questions are addressed by each research design. The following subsections describe the data collection procedures and analytical techniques in more detail.

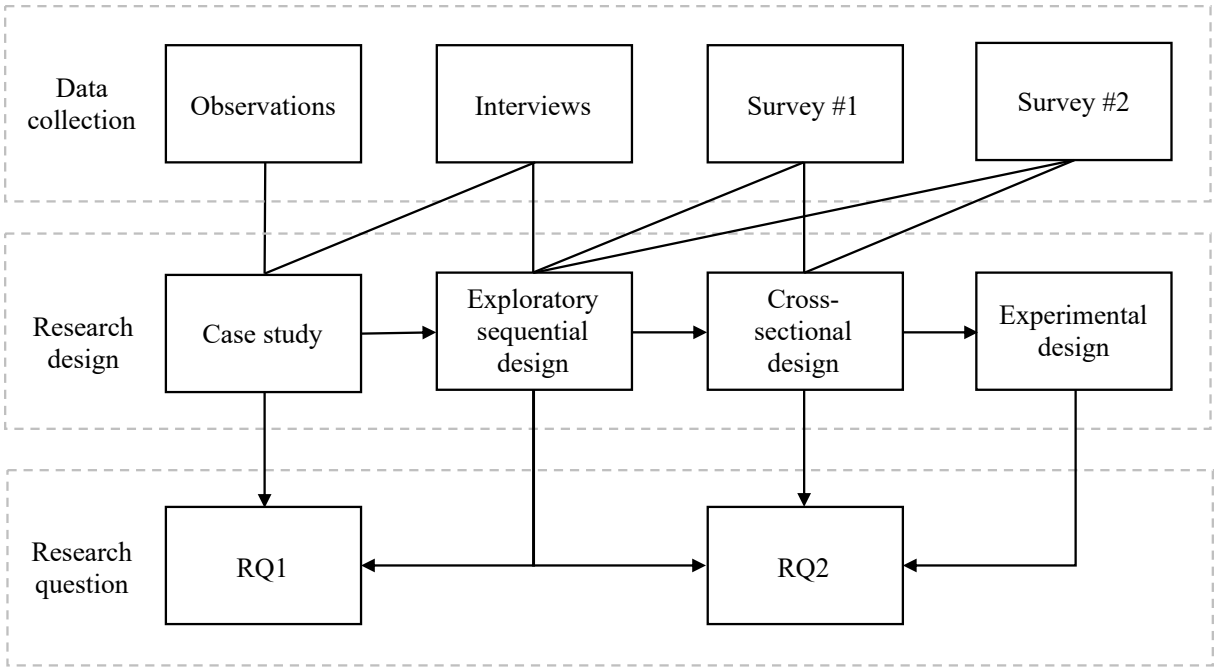

Figure 10. Outlook of research methodology including data collection, research design, and research questions

3.3.1 Interviews

Interviews were selected as the primary method of qualitative data collection due to their flexibility and capacity to yield in-depth insights into participants' perspectives (Bell et al., 2019; Knott et al., 2022). In-depth interviews can take various forms (Kvale, 2007), including highly structured (survey-like), unstructured (narrative and free-flowing), and semi-structured (flexibility with topic guide). Given the exploratory aim of understanding participants' perceptions of sustainable coworking, the semi-structured format was deemed most appropriate, as it balances consistency with the flexibility to probe further.

Data collection included a mix of face-to-face and online interviews, depending on participant preference. Each interview lasted approximately 45 minutes and was conducted in local language (Swedish). Since interviews were conducted in Swedish and quotes presented in this thesis are translated into English, they are technically paraphrases. Having Swedish as my native language, I have tried to preserve original meaning and nuance to the highest extent.

The interview guide was developed based on the three underlying constructs of sustainable coworking behaviour: productive behaviour, prosocial behaviour, and responsible space-sharing behaviour representing economic, social, and environmental perspectives. These constructs provided a conceptual foundation for formulating the interview questions, ensuring sufficient direction while avoiding overly narrow interpretations. Without such theoretical anchoring, there was a risk that participants would interpret 'sustainability' solely with environmental terms, thereby limiting the scope of the investigation.

The interviews followed an open yet directed style, as recommended by Leech (2002). The interview guide included broad, non-leading questions such as: “Please describe a productive day that you have experienced in the coworking space” and “What does responsible sharing of a coworking space mean to you?”. Questions were intentionally phrased in generic terms to avoid steering participants toward specific interpretations, thereby facilitating a broader understanding of each construct. Given that the concept of prosociality may be less familiar than productivity or responsibility, the interview guide included prompts based on established literature (e.g., Bolino & Grant, 2016). To enhance comprehension, prosociality was made more comprehensible through more tangible activities such as helping others, volunteering, and engaging in social interactions. All interviews were audio recorded and transcribed with participants’ consent to ensure accurate documentation and minimise recall bias. Participants were also offered the opportunity to review summarised takeaways to confirm the accuracy of the interpretations; however, none requested changes.

A purposive sampling strategy was employed, which is widely considered suitable for qualitative research involving small sample sizes (Small, 2009; Knott et al., 2022). Participants were recruited from the three coworking spaces included in the case study and represented a diverse group of members. In total, 30 interviews were conducted, with data collection continuing until saturation was reached (Guest et al., 2006). The sample included self-employed coworking members as well as employees from both start-ups and larger organisations, with membership durations ranging from one month to four years. Participants utilised various workspace arrangements, including private offices and flexible open-plan areas. The sample was demographically diverse, encompassing a range of genders, age groups, and professional sectors. This diversity enabled a broad exploration of sustainable practices beyond any single subgroup, such as freelancers or new members. An overview of the interview participants is provided in Table 3.

To ensure analytical rigor, all interview data were processed through a systematic coding procedure, as recommended by Linneberg and Korsgaard (2019). The analysis was conducted in NVivo and followed a three-step approach outlined by Gioia et al. (2013) and was inspired by a study made by Sonenshein (2014). First, an initial round of open coding was carried out, during which relevant quotations were extracted from the transcripts. These quotations were gathered in a compendium which constituted the first-order categories, closely reflecting participants’ own language. Second, patterns were identified across the first-order data and clustered into conceptual categories, forming the second-order themes, which captured underlying theoretical patterns. Finally, the second-order themes were further distilled into overarching aggregate dimensions. This iterative process resulted in a structured hierarchy of codes, comprising first-order categories, second-order themes, and aggregate dimensions.

Table 3. List of interview participants

No.	Age group	Gender	Professional role	Time as member	Type of membership
1	35-44	Female	Customer success manager	1.5 years	Private office
2	55-64	Male	Chief executive officer	2 years	Private office
3	45-54	Male	Project leader	1 month	Private office
4	55-64	Male	Chief digital officer	4 years	Private office
5	45-54	Female	Civil servant	4 years	Private office
6	45-54	Female	HR manager	1 month	Private office
7	35-44	Male	Recruiter	4 months	Flex
8	35-44	Male	Chief project manager	1 week	Flex
9	35-44	Male	Software consultant	1.5 years	Private office
10	25-34	Female	Business developer	2 months	Flex
11	25-34	Male	Business developer	1.5 years	Flex
12	35-44	Female	Community manager	1 year	Flex
13	35-44	Male	Consultant	2 months	Private office
14	35-44	Female	Community manager	1 year	Private office
15	55-64	Male	Advisor	3.5 years	Private office
16	25-34	Female	Service delivery manager	3 years	Private office
17	55-64	Male	Media entrepreneur	3 years	Private office
18	55-64	Male	System developer	4 years	Flex
19	35-44	Male	Consultant	2 months	Private office
20	55-64	Female	Program manager	4 years	Private office
21	35-44	Female	Appointment booker	6 months	Flex
22	25-34	Male	Business developer	6 months	Flex
23	55-64	Male	Project leader	2 years	Private office
24	45-54	Male	Consultant	1 year	Flex
25	45-54	Female	Regional manager	2 years	Private office
26	55-64	Female	Management consultant	3 years	Flex
27	35-44	Female	Senior consultant	2 months	Flex
28	25-34	Male	Chief executive officer	6 months	Private office
29	35-44	Male	Chief executive officer	1 month	Flex
30	25-34	Male	Software developer	1 year	Private office

3.3.2 Observations

One common criticism of interviews is that the researcher does not collect data in naturally occurring situations and environments (Bell et al., 2019). Therefore, to boost the trustworthiness of the interviews, I conducted observational research as a mean for triangulation (Golafshani, 2003). Observations are helpful to directly capture behaviours, allowing for deeper interpretation of interview data and helping to verify whether participants' reported intentions aligned with actual practice (Bateson & Martin, 2021). Observation is used as a research method in two distinct ways; structured and unstructured. Structured observation is "*a technique in which the researcher employs explicitly formulated rules for the observation and recording of behaviour*" while

unstructured observation refers to "*situations in which the observer has no control over the behaviour or sign in question, and plays an unobserved, passive, and non-intrusive role in the research situation*" (Bell et al., 2019). In this thesis, both structured and unstructured observations were used.

Over a 15-month period, I regularly visited the coworking spaces included in the study. My visits were flexible, ranging from several days a week to just a few days per month, and always took place during regular office hours (07:00–18:00) to ensure observations reflected typical workdays. In total, I spent over 1,000 hours in the spaces, which aligns with Lincoln's et al. (2011) recommendation to spend extensive time in the field to strengthen the trustworthiness of qualitative research. Time was estimated based on three categories: full days (8 hours), half days (4 hours), and events (1 hour), resulting in 78 full days, 91 half days, and 21 coworking events.

During unstructured observations, I worked in open areas as any other member, observing day-to-day interactions in lounges, near coffee machines, and in different work zones. These spontaneous observations provided rich, real-time insight into members' behaviour without the influence of predetermined categories (Mulhall, 2003). For example, I noticed how members often spread out across the workspace or how others reacted to disruptive phone calls, hinting at unspoken norms around focus and mutual consideration. Because members were unaware of the specific times I would be present, these unstructured observations helped minimise the Hawthorne effect (i.e., the phenomenon where individuals modify or improve their behaviour or performance when they are aware of being observed). After each session, I documented observations as written field notes, following Clancey's (2006) approach of maintaining a time-stamped project diary.

I also participated in recurring coworking events, such as community breakfasts, lunches, seminars, and company presentations, where I conducted more structured observations. These settings allowed for consistent comparisons across events and spaces. I observed, for instance, that event participation varied significantly between coworking spaces, and that while some members eagerly socialised, many tended to interact mainly within their own company groups. While my active participation allowed for a deeper understanding of member interactions, it also introduced potential bias due to my presence.

3.3.3 Survey

As noted by Blair et al. (2014), survey research is particularly suitable when the objective is to investigate associations between two or more variables. While several modes of survey distribution exist, including postal questionnaires, telephone interviews, and in-person surveys (Bell et al., 2019), the surveys used in this thesis were of an internet-based format. Internet-based surveys offer distinct advantages, including cost efficiency, rapid data collection, support for complex skip patterns, and the possibility to include interactive or multimedia elements (Dillman et al., 2014). Limitations include the lack of comprehensive sampling frames, which can constrain generalisability (Groves et al.,

2009). Nevertheless, internet-based surveys are well suited to targeted populations such as employees, organisational members, or, as in this thesis, coworking members, who represent a clearly targetable group. Data were collected in two rounds. The survey instrument was adapted across two rounds to reflect learning from earlier data.

Round 1

The first round targeted coworking members located in Sweden and was conducted in collaboration with the owner of a company operating eight coworking spaces in Gothenburg, which had approximately 700 active members at the time of data collection. The survey remained open from October to December 2023 where a total of 77 valid responses were obtained, corresponding to a response rate of approximately 11%. A summary of the demographic profile of these respondents is presented in Table 4. Note that only five out eight spaces are represented. This was expected as the ones not represented were also the ones with the fewest members.

Table 4. Demographic profile of respondents (Round 1)

Characteristic	**Category**	**N**	**%**
Coworking space	Space 1	7	9
	Space 2	20	26
	Space 3	40	52
	Space 4	2	3
	Space 5	8	10
Office type	Fixed space	27	35
	Flexible space	6	8
	Private office	43	56
	Other	1	1
Payment type	My employer	61	79
	Myself	15	20
	Other	1	1
Tenure	< 1 year	42	55
	1-2 years	18	23
	2-3 years	11	14
	3-4 years	1	1
	> 4 years	5	7
Workdays	0-1 days/week	9	12
	2-3 days/week	29	37
	4-5 days/week	39	51
Age	18-24 years	5	6
	25-34 years	29	38
	35-44 years	22	29
	45-54 years	15	19
	55-64 years	6	8
Gender	Female	36	47
	Male	41	53

The first-round instrument included sections on demographics, sustainable coworking behaviour, psychological ownership, and basic psychological need satisfaction. Sustainable coworking behaviour was measured using 47 items which served as the outcome from the item generation and item purification included in the scale development process reported in Section 3.2.2. Psychological ownership was measured using a refined version of a seven-item scale (see Table 5) developed by Van Dyne and Pierce (2004). To measure basic psychological need satisfaction, an adapted version of the Basic Psychological Need Satisfaction at Work Scale was used (see Table 6). The original 21-item scale has been widely applied in workplace research (e.g., Baard et al., 2004; Deci et al., 2001; Gagné, 2003) and has undergone extensive psychometric testing. Also helpful, a Swedish validated translation is available by Eriksson and Boman (2018).

Table 5. Items used for measuring psychological ownership

Item	Item description
PO1	I sense that this is MY coworking space
PO2	I feel a very high degree of personal ownership for this coworking space
PO3	I sense that this is OUR coworking space
PO4	It is hard for me to think about this coworking space as MINE (Reversed)

Table 6. Items used for measuring satisfaction of basic psychological needs

Item	Item description
Autonomy	
A1	I feel pressured to socialise in the coworking space (Reversed)
A2	I am free to express my ideas and opinions inside the coworking space
A3	I feel like I can pretty much be myself in the coworking space
Relatedness	
R1	I get along with people in this coworking space
R2	I pretty much keep to myself when I am in this coworking space (Reversed)
R3	People in this coworking space care for me
R4	People in this coworking space are pretty friendly towards me
Competence	
C1	People in this coworking space tell me I am good at what I do
C2	I have been able to learn interesting new skills in this coworking space
C3	When I am working in this coworking space I do not feel very capable (Reversed)

Round 2

Building on insights from the first round, the survey was revised and distributed to a broader, international sample. Revisions included additions to the demographic section, an expanded Likert response scale (from five to seven points), and minor wording adjustments to a small number of items. Data collection for the second round was carried out via Prolific, a platform frequently used in behavioural and social science research

(Douglas et al., 2023; Peer et al., 2021). Eligibility was restricted to respondents who self-identified as entrepreneurs and as current members of a coworking space. Two quality-control procedures were applied: responses completed in less than half of the estimated completion time were excluded, and two attention-check items in the form of simple arithmetic problems were embedded in the survey. After applying these criteria, 423 valid responses remained. The demographic profile of the respondents is available in Table 7.

Table 7. Demographic profile of respondents (Round 2)

Characteristic	Category	N	%	Characteristic	Category	N	%
Office type	Fixed space	96	23	Gender	Female	276	65
	Flexible space	114	27		Male	147	35
	Shared office	140	33	Motivation	Workplace outside home	50	12
	Private office	63	15		Part of community	44	10
	Other	10	2		Vibrant & creative atmosphere	65	15
Tenure	< 1 year	33	8		Sharing knowledge	71	17
	1-2 years	131	31		Professional appearance	22	5
	2-3 years	86	20		Affordable workplace	38	9
	3-4 years	77	18		Business-related networking	39	9
	> 4 years	96	23		Flexibility	20	5
Workdays	0-1 days/week	17	4		Professional support services	19	5
	2-3 days/week	181	43		Social interactions	21	5
	4-5 days/week	194	46		Was assigned by company	33	8
	6-7 days/week	31	7	Company size	Myself	12	3
Age	18-24 years	77	18		2-10 employees	51	12
	25-34 years	194	46		11-50 employees	134	32
	35-44 years	77	18		51-250 employees	145	34
	45- 54 years	44	11		> 250 employees	81	19
	55-64 years	25	6				
	> 65 years	6	1				

3.3.4 Structural Equation Modelling

To test the associations from the collected survey data, structural equation modelling (SEM) was chosen as the most appropriate analytical approach (Whittaker & Schumacker, 2022). SEM allows for the simultaneous estimation of both the

measurement model and the structural model (Bollen et al., 1989). To clarify, measurement models assess the association between observed items and their corresponding latent constructs while structural models test the associations between latent variables.

Unlike traditional regression techniques, SEM explicitly accounts for measurement error, improving the accuracy and validity (Raykov & Marcoulides, 2012). Moreover, the framework of SEM accommodates second-order constructs, which is particularly useful for modelling the multidimensional structure of sustainable coworking behaviour. Together, these features make SEM a comprehensive and rigorous framework for testing the hypothesised associations.

Traditionally, evaluating measurement model's validity and reliability relies on confirmatory factor analysis (CFA). However, CFA have limitations when assessing multidimensional constructs (Marsh et al., 2014). Exploratory Structural Equation Modelling (ESEM), another evaluating analysis within the SEM-framework, addresses many of these limitations (Asparouhov & Muthén, 2009). Despite its name, ESEM can be applied in both exploratory and confirmatory contexts (Morin et al., 2013). Recent advancements such as bifactor ESEM introduce a global factor (G-factor) alongside specific factors, enhancing the ability to model complex constructs (Howard et al., 2018; Morin et al., 2020). For illustration purposes, a simple CFA, bifactor CFA, ESEM, and bifactor ESEM model is illustrated in Figure 11.

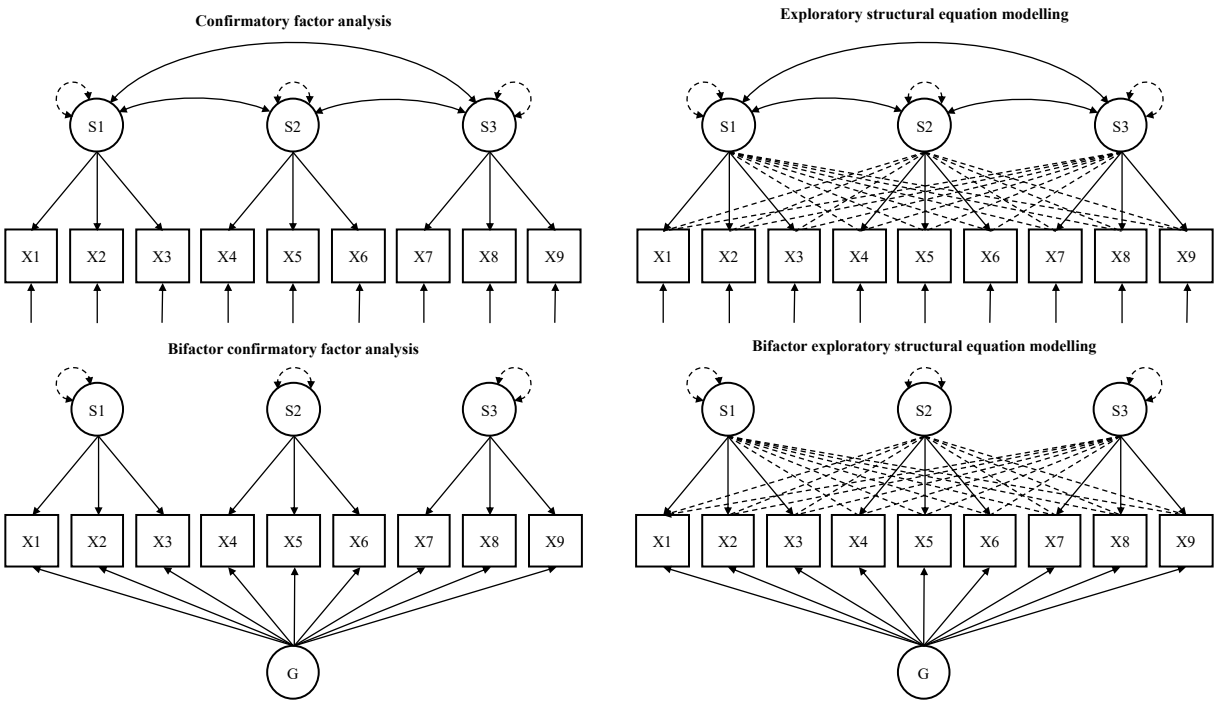

Figure 11. Visual example of CFA (top left), bifactor CFA (bottom left), ESEM (top right) and bifactor ESEM (bottom right)

All models were estimated in Mplus (version 8.11) using diagonally weighted least squares (WLSMV), which is recommended for ordinal data (Finney & DiStefano, 2013). Oblique target rotation was applied in CFA and ESEM models, and orthogonal rotation was used in bifactor models. Missing data, including responses marked '*Don't know*', were handled using full information maximum likelihood (FIML), the default and robust method in Mplus.

3.4 Research Quality

The quality of research can be assessed in several ways. Three commonly applied criteria in the social sciences are reliability, replicability, and validity (Bell et al., 2019). In brief, reliability concerns the extent to which the results of a study are consistent and repeatable; replicability addresses whether a study can be reproduced using the same procedures; and validity refers to the integrity and accuracy of the conclusions drawn from the research. As Golafshani (2003) notes, these criteria emerge primarily from a positivist epistemological tradition, which makes them particularly appropriate for evaluating quantitative research and, although relevant, less directly applicable to qualitative studies. Given that this thesis relies predominantly on quantitative studies, the methodological reflections below focus on reliability, replicability, and validity.

3.4.1 Reliability

Traditionally, one of the most commonly reported reliability coefficients in studies using SEM is Cronbach's alpha (Cronbach, 1951) with values above 0.7 widely considered indicative of acceptable reliability. However, reliability in this thesis was assessed using McDonald's omega (McDonald, 1970), which is considered a more appropriate reliability estimate for SEM-based studies (Cheung et al., 2023). Compared with traditional reliability estimates such as Cronbach's alpha, McDonald's omega provides a more accurate assessment by incorporating the varying strengths of item-factor relationships and by explicitly modelling item-specific measurement error (Dunn et al., 2014; McNeish, 2017; Sijtsma, 2009). Since the omega coefficients for all dimensions of the scale developed in this thesis reached acceptable levels, the measurement of sustainable coworking behaviour can be considered reliable.

The use of reliability coefficients is not applicable in qualitative research. Instead, reliability and validity were addressed through methodological triangulation (Golafshani, 2003; Creswell & Miller, 2000). By combining interviews and observations across three different coworking spaces, it was possible to seek convergence among multiple data sources. This approach strengthened the trustworthiness of the findings and supported the development of a reliable and valid understanding of what constitutes sustainable coworking behaviour.

3.4.2 Replicability

Replication is widely regarded as a cornerstone of scientific progress within quantitative social science (Bell et al., 2019). Concerns about replicability have intensified in recent

years, often referred to as the '*replication crisis*', as numerous studies across psychology and other social sciences have failed to produce the same findings when independently replicated (Camerer et al., 2016; Camerer et al., 2018).

To support the replicability of this thesis and its appended papers, and to reduce the risk of inferential errors, several methodological measures were taken. These measures align with the recommendations for improving replicability outlined by Asendorpf et al. (2013). Specifically, efforts were made to minimise bias and subjectivity by employing adequate sample sizes, using reliable measurement instruments, and avoiding underpowered study designs. Furthermore, all methodological procedures are documented in a transparent, step-by-step manner, enabling scrutiny and reuse. Established best practices for data collection, analysis, and reporting were followed throughout the research process (e.g., Alamer, 2022; Gioia et al., 2013). Collectively, these measures enhance the likelihood that the findings can be replicated under comparable conditions by future researchers.

3.4.3 Validity

Given that a central part of this thesis is the conceptualisation and operationalisation of sustainable coworking behaviour, the primary concern for validity lies in establishing construct validity, that is, demonstrating that the measurement instrument adequately captures the construct it intends to measure (Smith, 2005). To establish construct validity, several underlying facets of validity were assessed: content, convergent, discriminant, and nomological validity.

To ensure content validity, the operationalisation of sustainable coworking behaviour was aligned closely with its multidimensional conceptual framework (Almanasreh et al., 2019). Item generation was guided by the theoretical definition of the construct and reflected all identified conceptual facets (Lambert & Newman, 2023). The measurement items subsequently underwent a systematic purification process involving cognitive interviews, feedback from subject-matter experts, and pilot studies, ensuring that only items with strong conceptual and empirical grounding were retained.

Two additional components of construct validity, convergent and discriminant validity, were assessed using SEM (Bagozzi et al., 1991). Convergent validity refers to the extent to which alternative indicators of the same construct converge or agree, whereas discriminant validity concerns the distinctiveness of the construct relative to other, theoretically separate constructs (Campbell & Fiske, 1959). These were examined by analysing parameter estimates and overall model fit indices following established guidelines (Alamer, 2022; Swami et al., 2023). The results provide evidence that the sustainable coworking behaviour construct demonstrates adequate convergent and discriminant validity.

Finally, nomological validity was established by situating the sustainable coworking behaviour construct within broader theoretical frameworks. Following Lambert and

Newman's (2023) argument that constructs must be examined within their surrounding conceptual networks, sustainable coworking behaviour was evaluated in relation to psychological ownership and self-determination theory. The observed relationships were mostly consistent with theoretical expectations, thereby supporting the construct's nomological validity.

3.5 Ethical Considerations

Similar to research quality, ethical considerations are central to social research. Diener and Crandall (1978) identify four key issues that researchers must address: harm to participants, lack of informed consent, invasion of privacy, and deception. This thesis takes several measures to address each of these concerns.

To prevent harm and misrepresentation, interview participants were informed that they would have the opportunity to review their transcripts to ensure accurate interpretation. Anonymity was guaranteed by removing identifying information so that no quotation could be traced back to an individual. The coworking providers included in the study were also anonymised. Once transcription and anonymisation were complete, audio recordings were deleted in order to minimise the risk of unauthorised access.

Informed consent and participant privacy were carefully managed in the surveys. The introduction included a confidentiality statement assuring respondents that their answers would remain anonymous. Participation was voluntary and respondents could withdraw at the outset by indicating that they did not wish to take part. In one of the surveys, an incentive in the form of a €100 voucher was offered to a limited number of winners, which required participants to provide an email address. Before submitting their address, respondents were explicitly informed that doing so would reduce their anonymity. No IP-addresses were collected, and all anonymised data were stored securely in spreadsheets.

Finally, deception was deliberately avoided throughout the research process. All participants were given clear and transparent information about the purpose of the studies, the use of data, and their rights as participants. All anonymised raw data are available as supplementary material upon request.

An additional ethical consideration concerns the use of artificial intelligence, specifically large language models (LLMs), during the writing process. LLMs were used exclusively as editorial support tools, primarily to assist with language refinement, such as identifying grammatical or spelling errors and improving clarity and flow. They were not used to generate original theoretical ideas, interpretations, or empirical content. All conceptual development, analysis, and argumentation remain the sole responsibility of myself. The use of LLMs is therefore understood as comparable to advanced proofreading or language-editing assistance and does not compromise authorship or academic integrity.

4. SUMMARY OF APPENDED PAPERS

This chapter briefly summarises the five appended papers included in this thesis presented as structured abstracts. Furthermore, the chapter includes an explanation of how each paper contribute to the purpose this thesis. The full versions of the scientific papers appear at the end of the thesis.

4.1 Paper I

Reference: Magnusson, D., Raharjo, H., & Bosch-Sijtsema, P. (2024). Sustainable Coworking: The Member Perspective. *Journal of Corporate Real Estate*, 26(2), 153-175.

Introduction: Sustainability is regarded as a core value that the coworking movement aspires to. However, most sustainability efforts focus on the providers' perspective while neglecting the coworking members' role. Therefore, this paper aims to explore sustainable coworking from the members' perspective by focusing on sustainable behaviours.

Methodology: This paper uses a flexible pattern matching approach. Theoretical patterns are identified using literature on coworking space and sustainable behaviour while matching them with the empirical data. Empirical data were collected from three different coworking spaces in Sweden through interviews and observations.

Findings: Based on the theoretical patterns, three constructs for sustainable coworking were identified, namely, productive behaviour, prosocial behaviour and responsible space sharing behaviour. Through the empirical data, the constructs were further concretised to understand their different aspects. The findings uncovered a new layer of complexity where members can show the same behaviour and be perceived differently.

Originality: This paper offers a more holistic understanding of sustainable coworking by highlighting the members' role and identifying different member perceptions on sustainable coworking behaviours.

Contribution to thesis: This paper contributes to the overall thesis by providing a conceptual foundation for understanding sustainable behaviour within coworking spaces. It represents an essential first step toward addressing RQ1 by defining and delineating underlying constructs of sustainable coworking behaviour (SCB). By examining how the underlying behaviours of SCB are enacted in practice, the paper adds granularity to the understanding of SCB by revealing multiple facets within each behavioural dimension. This contextually grounded conceptualisation provides a strong foundation for establishing content validity in the subsequent operationalisation phase. Finally, the analysis highlights the inherent complexity of sustainable behaviours, showing that actions perceived as desirable from one perspective may have unintended or adverse consequences from another.

4.2 Paper II

Reference: Magnusson, D., Raharjo, H., & Bosch-Sijtsema, P. (working paper). *Measuring Sustainable Coworking Behaviour: A Scale Development Study*.

Introduction: To create sustainable coworking spaces, the behaviour of the coworking members can be either instrumental or detrimental. Coworking members consist of a unique amalgamation of workers and currently there is a lack of instruments to quantify how sustainable they are. To address the absence of a measurement instrument, the purpose of this study is to develop a measurement scale to assess sustainable coworking behaviour.

Methodology: The study is based on a scale development process where quantitative data were collected from two independent samples. In total, 77 and 423 coworking members answered the survey, and the data were analysed using modern factor analysis techniques including confirmatory factor analysis (CFA), exploratory structural equation modelling (ESEM), and their bifactor counterparts.

Findings: The results of the analysis provided a reliable and valid four-factor model including task performance, creative performance, prosocial behaviour, and responsible space-sharing behaviour. The final scale includes 40 items that can be used to measure sustainable coworking behaviour.

Originality: This is the first study to provide a comprehensive, psychometrically sound, and operationally valid measure of sustainable behaviour from the members' perspective in coworking spaces.

Contribution to thesis: Building directly on the conceptual foundation established in Paper I, this paper advances the thesis by providing the first empirical operationalisation of sustainable coworking behaviour. In doing so, it offers an answer to RQ1 by translating the identified facets of sustainable coworking behaviour into a measurable, empirically validated scale. The development of a 40-item, four-factor measurement instrument represents a central contribution to the overall thesis, as it transforms an under-theorised and previously intangible construct into one that can be systematically examined, compared, and quantified.

Beyond addressing RQ1 with a list of validated behaviours, this paper also contributes meaningfully to RQ2. Through the application of contemporary psychometric methods, the paper establishes strong evidence of construct validity. As a result, the scale provides a robust and generalisable tool that can be applied across different coworking settings, member compositions, and geographical contexts. This strengthens the analytical foundation for the subsequent studies in the thesis by ensuring that SCB is capturing what it is intended to measure. By producing a validated measure of SCB, the paper creates the methodological conditions necessary to investigate its antecedents and consequences.

4.3 Paper III

Reference: Magnusson, D., Raharjo, H., & Bosch-Sijtsema, P. (2025). The Relationship Between Psychological Ownership and Sustainable Behaviour in Coworking Spaces. *Journal of Corporate Real Estate*.

Introduction: With a rising pressure on organisations to comply with sustainable regulations, it becomes increasingly important to focus on sustainability in coworking spaces. Lately, there has been an expansion of research linking psychological ownership with a range of desirable attitudes and behaviours. It is currently unknown if psychological ownership of a coworking space affects coworking members' engagement in sustainable behaviours and to what extent. Thus, this paper aims to investigate the relationship between psychological ownership and sustainable behaviours in coworking spaces.

Methodology: This study is based on a cross-sectional design to test the hypothesised relationship between the independent variable psychological ownership of a coworking space and the dependent variable sustainable coworking behaviour. Sustainable coworking behaviour is a multidimensional construct consisting of prosocial behaviour, responsible space-sharing behaviour, task performance, and creative performance. Data were collected from 423 members of coworking spaces via a global survey. The structural equation modelling method was used for data analysis.

Findings: The findings indicate that there is a statistically significant relationship between psychological ownership and all four dimensions of sustainable coworking behaviour. Specifically, a positive relationship was found between psychological ownership and prosocial behaviour ($R^2 = 17\%$, $p < .001$), task performance ($R^2 = 12\%$, $p < .001$), and creative performance ($R^2 = 3\%$, $p = .013$). A negative relationship was found between psychological ownership and responsible space-sharing behaviour ($R^2 = 1\%$, $p = .093$).

Originality: From an academic perspective, this study is among the first to incorporate psychological ownership theory in the unique setting of coworking spaces. From a managerial perspective, these findings highlight that by cultivating psychological ownership, providers may activate an underutilised resource, the members themselves, as actors of sustainable behaviour.

Contribution to thesis: By empirically linking psychological ownership to SCB, this paper provides evidence that feelings of possession toward the coworking space are positively associated with sustainable behaviours among coworking members. This association offers an empirical response to RQ2, identifying psychological ownership as an antecedent of SCB. Moreover, the results position psychological ownership as a strategic factor that providers can cultivate to mobilise members as active co-creators of sustainable value, thereby reinforcing the thesis's broader argument that customer behaviour is central to sustainable value co-creation in co-prosumption services.

4.4 Paper IV

Reference: Magnusson, D. (Submitted). *Motivating Consumers for More Sustainable Co-prosumption Services: Insights from Coworking Spaces.*

Introduction: Organisations are pressured to become more sustainable and co-prosumption services such as coworking spaces are growing rapidly. In these settings, sustainable value creation depends on customers everyday behaviours. Therefore, this study examines how satisfaction of basic psychological needs influences sustainable behaviour in coworking spaces.

Methodology: Grounded in self-determination theory, the study adopts a quantitative research design using survey data collected from two separate samples of coworking space users. Structural equation modelling is applied to test seven hypothesised relationships between satisfaction of autonomy, competence, and relatedness and four dimensions of sustainable coworking behaviour: task performance, creative performance, prosocial behaviour, and responsible space-sharing behaviour.

Findings: The results indicate that five out of seven hypotheses are supported. Satisfaction of the need for autonomy is positively associated with task performance (γ_1 = -.057, p < .626; γ_2 = .760, p < .001) and creative performance (γ_1 = .673, p < .001; γ_2 = .641, p = .005). Although weakly significant, this is also true for satisfying the need for competence with task performance (γ_1 = .721, p < .001; γ_2 = .374, p < .113) and creative performance (γ_1 = .332, p < .054; γ_2 = .405, p < .123). Satisfaction of the need for relatedness was positively associated with prosocial behaviour (γ_1 = .376, p = .005; γ_2 = .369, p = .073). In contrast, remaining hypotheses were inconsistent or non-significant.

Originality: This study offers one of the first empirical applications of self-determination theory to sustainable behaviour in coworking spaces, advancing understanding of sustainable value creation in co-prosumption services. It empirically demonstrates that basic psychological needs have distinct and behaviour-specific effects on sustainable coworking behaviour.

Contribution to thesis: In parallel with Paper III, this study contributes to both the validation and explanation of SCB. It strengthens the operationalisation of SCB by providing further evidence of nomological validity and advances understanding of its psychological antecedents. The results reveal a statistically significant association between need satisfaction and sustainable behaviour, suggesting that intrinsic motivation is a driver of sustainable value within coworking spaces. These findings provide a partial answer to the RQ2 by suggesting basic psychological needs as an additional predicting factor of sustainable behaviour other than psychological ownership. More broadly, the paper deepens understanding of sustainable value creation in co-prosumption services, illustrating that customers plays a role in contributing to the co-creation of sustainable value.

4.5 Paper V

Reference: Magnusson D., Raharjo, H., & Bosch-Sijtsema, P. *Designing a Choice Experiment for Promoting Sustainable Behaviour: A Self-determination Theory Perspective*. This conference paper was submitted, reviewed, and presented at the European Decision Sciences Institute (EDSI) conference, June 2025.

Introduction: The purpose of this study is to design an experiment-based methodology for examining what drives individuals to behave sustainably. Drawing on self-determination theory (SDT), it is hypothesised that satisfaction of the basic psychological needs for autonomy, relatedness and competence influences decisions to engage in sustainable behaviours. Coworking spaces serve as the empirical context.

Methodology: A discrete choice experiment (DCE) is developed to assess how variations in basic psychological need satisfaction shape sustainable coworking behaviour. The three psychological needs act as independent variables and four sustainable behaviours function as dependent variables. Attributes and levels are derived from validated SDT items. A D-optimal design is used to create an efficient experimental design that is translated into compensatory choice scenarios.

Findings: The methodology enables identification of which psychological needs most strongly influence specific sustainable behaviours. Respondents evaluate paired alternatives representing different levels of need satisfaction and choose the scenario in which they would be more likely to act sustainably. A consistency check ensures the validity of generated alternatives. Choice data can be analysed with multinomial logit models to estimate the influence and relative importance of each psychological need.

Originality: The study presents a replicable method for testing causal psychological mechanisms underlying sustainable behaviour. By integrating SDT with discrete choice modelling, it offers a practical and theoretically grounded approach that helps researchers and practitioners identify which basic psychological needs are most effective for promoting sustainable behaviour in coworking spaces.

Contribution to thesis: This study contributes to the thesis by providing a methodological foundation for examining the causal mechanisms underlying sustainable coworking behaviour. While the thesis identifies psychological ownership and basic psychological needs as antecedents of SCB, the DCE offers a way to test these relationships experimentally rather than correlationally. The proposed approach strengthens the thesis by demonstrating how variations in autonomy, competence and relatedness can be systematically manipulated to reveal their relative influence on different sustainability behaviours. This methodological contribution enables future research to move beyond inference toward causal explanation, thereby deepening theoretical understanding and informing targeted interventions in coworking spaces.

5. RESULTS

This chapter presents the results of the thesis, structured as responses to the two research questions. First, the chapter reports how sustainable coworking behaviour is concretised and operationalised. Second, it presents the results of the structural equation models examining the relationships between motivational antecedents and sustainable coworking behaviour. The chapter focuses on reporting the empirical outcomes of the analyses, while interpretation and discussion of their theoretical and managerial implications are reserved for the subsequent chapter.

5.1 Operationalisation of Sustainable Coworking Behaviour

This section elaborates on the findings from Paper I and II and clarifies how sustainable coworking behaviour was conceptualised and later operationalised.

5.1.1 Concretisation of Sustainable Coworking Behaviour

Based on the case study in Paper I, the three underlying constructs, productive behaviour, prosocial behaviour, and responsible space-sharing behaviour, were refined and broken down into fifteen facets. Table 8 summarises these facets along with illustrative quotes. Together, these facets represent the construct domain of sustainable coworking behaviour with increased granularity.

One quote in particular highlights a key insight: "*There are two sides of productivity, one where you sit down and focus, and one, just as important, where you are creative and generate new ideas*." This distinction suggests that productive behaviour in coworking contexts consists of two components. To more accurately reflect this complexity, the economic dimension of sustainability was divided into task performance and creative performance. This division aligns with previous research on productivity in office environments (Drucker, 1999; Koopmans et al., 2011; Oldham & Cummings, 1996; Viswesvaran & Ones, 2000). Task performance refers to the proficiency with which individuals perform central job tasks, including work quantity, work quality, and job knowledge (Campbell, 1990; Campbell & Wiernik, 2015). Creative performance refers to behavioural manifestations of creativity, including the generation of ideas, procedures, or products that are both novel and useful (Koopmans et al., 2011).

Taken together, the empirical findings indicate that sustainable coworking behaviour comprises four underlying constructs: task performance, creative performance, prosocial behaviour, and responsible space-sharing behaviour. Importantly, sustainable coworking behaviour is not defined by any one of these constructs in isolation, but by their *combination*. Much like sustainability requires a balanced integration of economic, social, and environmental perspectives within the TBL (Elkington, 1997), sustainable coworking behaviour requires a balanced integration of all four underlying constructs.

Table 8. Concretisation of sustainable coworking behaviour

Facet	Descriptive quote
Productive behaviour	
Remain focused [RF]	"*I try to hide and avoid people to focus on my work*"
Be efficient [BE]	"*Compared to any other alternative, the coworking space makes me save a lot of time and be more efficient*"
Meet targets [MT]	"*To do what is planned is to be productive*"
Generate new ideas [GNI]	"*There are two sides of productivity, one where you sit down and focus, and one, just as important, where you are creative and generate new ideas*"
Prosocial behaviour	
Engage socially [ES]	"*If this space is supposed to cherish networking, socialisation, collaboration etc. then it is everyone's responsibility to do their part. The social culture does not come by itself*"
Share resources [SR]	"*If someone asks me for a charger, I gladly share it if I do not need it myself*"
Provide instrumental support [PIS]	"*For example, once there was a person that came into our office and had some issues with her computer. She was supposed to lead a lecture within a short time span. It was a simple issue and, of course, I assisted*"
Provide emotional support [PES]	"*Recently, I suffered a mental breakdown and being comforted by my colleagues helped me a lot*"
Volunteer for additional tasks [VAT]	"*I try to do more than just work here. For example, I ran a small campaign of the benefits with coworking hoping that someone new would join this space*"
Suggest improvements [SI]	"*Since we work here, we know best what we want, and we should communicate this to make the experience better for everyone*"
Responsible space-sharing behaviour	
Be environmentally responsible [BER]	"*I always switch the light off in the meeting room but not everyone is doing this*"
Care for the work environment [CWE]	"*Keep everything clean and welcoming. For example, if you happen to spill some liquid, wipe it up*"
Be legally responsible [BLR]	"*If you don't follow the rules, you are irresponsible*"
Be morally responsible [BMR]	"*It is not enough to follow the rules, there are also invisible rules to comply to*"
Confront irresponsible behaviour [CIB]	"*If someone is irresponsible, it is your responsibility to confront them and ensure order in the shared space*"

5.1.2 The Sustainable Coworking Behaviour Scale

The exploratory sequential design from Paper II resulted in the development of a 40-item measurement scale that operationalises sustainable coworking behaviour. The full list of items is presented in Table 9. Details about the validity and reliability analysis of the scale (e.g., inter-factor correlation, factor loadings, cross-loadings) are available in Paper II.

Table 9. The sustainable coworking behaviour scale

The following statements concern your behaviour as a coworking member during the last six months. Please indicate your behaviour on a scale between 1 and 7 for each statement.	
Construct	**Item description**
	While inside the coworking space I…
Task performance [TP]	Can work without interruption (*)
	Can work without being noticed (*)
	Can concentrate while I work (*)
	Can perform work of high quality (*)
	Can complete tasks efficiently (*)
	Can focus on core activities (*)
	Meet formal short-term targets at my job (*)
	Meet formal long-term targets at my job (*)
	Progress towards formal targets at my job (*)
Creative performance [CP]	Can create new ideas (*)
	Can think outside the box (*)
	Can become inspired (*)
Prosocial behaviour [PB]	Take a personal interest in other members
	Introduce new members to each other
	Help orient new members even though it is not required
	Keep other members updated with important information
	Share experiences that may help other members avoid risks and trouble
	Share my possessions with other members
	Willingly help other members who have work-related problems
	Help other members who have heavy workloads
	Help other members who have been absent
	I try to be caring towards other members if I see them going through a difficult time
	Like to be there for other members in times of difficulty
	Take time to listen to other members' problems and worries
	Volunteer for things that are not required for my work
	Attend functions not required for my work
	Say positive things about this coworking space
	Make constructive suggestions on how to improve the coworking space's services
	Inform the employees if I notice a problem, even if it does not affect me
	Let the employees know if they give me good service
	Challenge other members If I think something is done wrong
Responsible space-sharing behaviour [RB]	Conserve and protect the property of this coworking space
	Am aware if I invade other members' workspaces (*)
	Obey the coworking space's rules and policies even when no one is watching
	Carefully observe the rules and policies (*)
	Am mindful of how my behaviour affects other members' job (*)
	Adhere to informal rules devised to maintain order
	Try to avoid creating problems for other members
	Speak up and encourage other members to get involved in issues that affect all members
	Tell the employees if I see something that is done wrong

Note: (*) indicate a response scale based on agreement (1: Strongly disagree, 4: Neutral, 7: Strongly agree). Remaining items use a response scale based on frequency (1: Never, 4: Sometimes, 7: Always)

5.2 Motivational Factors' Effect on Sustainable Coworking Behaviour

This section presents the results examining how psychological ownership of the coworking space and satisfaction of basic psychological needs are associated with sustainable coworking behaviour based on Paper III and Paper IV. In addition, it outlines a proposed experimental design developed in Paper V and illustrates how such relationships could be examined at a causal level.

5.2.1 The Effect of Psychological Ownership on Sustainable Coworking Behaviour

The results from the first structural model, testing the association between psychological ownership and sustainable coworking behaviour as reported in Paper III, are summarised in Table 10. The analysis is based on survey data from the second data collection round, as the sample size in the first round (N = 77) was deemed insufficient for drawing accurate and generalisable conclusions.

Table 10. Summary of hypotheses for psychological ownership and sustainable coworking behaviour

Hypothesis	γ	*p*	R^2	Support
H1: Psychological ownership of a coworking space is positively associated with coworking members' prosocial behaviours	.408	<.001	.166	Yes
H2: Psychological ownership of a coworking space is positively associated with coworking members' responsible space-sharing behaviours	-.115	.093	.013	No
H3a: Psychological ownership of a coworking space is positively associated with coworking members' task performance	.345	<.001	.119	Yes
H3b: Psychological ownership of a coworking space is positively associated with coworking members' creative performance	.173	.013	.030	Yes

The results provide the support for three of the four proposed hypotheses. Psychological ownership was found to have a strong and statistically significant positive association with prosocial behaviour, accounting for approximately 17% of the explained variance. This finding provides empirical support for H1. In contrast, the association between psychological ownership and responsible space-sharing behaviour was negative and only weakly supported statistically (p = .093). While this p-value indicates a marginal effect, the negative association contradicts the hypothesis, leading to a rejection of H2. Psychological ownership was also positively related to task performance, explaining about 12% of its variance. In addition, a positive relationship was observed with creative performance, although the explained variance in this case was more modest, at approximately 3%. Despite these comparatively low R^2-values, the effects were statistically significant, providing support for H3a and H3b.

5.2.2 The Effect of Satisfying Basic Psychological Needs on Sustainable Coworking Behaviour

Table 11 summarises the results of the second structural model reported in Paper IV, which examines autonomy, competence, and relatedness as antecedents of sustainable coworking behaviour. In contrast to the model including psychological ownership, data from both survey rounds were included in the analysis, enabling comparison between the two studies.

Table 11. Summary of hypotheses for satisfaction of basic psychological needs and sustainable coworking behaviour

Hypothesis	*Study 1 (N = 77)*			*Study 2 (N = 423)*		
	γ_1	*p*	Support	γ_2	*p*	Support
H1: Satisfying the need for autonomy is positively associated with task performance for coworking members	-.057	.626	No	.760	<.001	Yes
H2: Satisfying the need for autonomy is positively associated with creative performance for coworking members	.673	<.001	Yes	.641	.005	Yes
H3: Satisfying the need for autonomy is positively associated with prosocial behaviour for coworking members	.492	.013	Yes	-.698	.003	No
H4: Satisfying the need for competence is positively associated with task performance for coworking members	.721	<.001	Yes	.374	.113	Weak
H5: Satisfying the need for competence is positively associated with creative performance for coworking members	.332	.054	Weak	.405	.123	Weak
H6: Satisfying the need for relatedness is positively associated with prosocial behaviour for coworking members	.376	.005	Yes	.369	.073	Weak
H7: Satisfying the need for relatedness is positively associated with responsible space-sharing behaviour for coworking members	-.134	.347	No	.076	.735	No

The results show that, based on survey data from round 1 (N = 77), five out of seven hypotheses were supported, whereas the results from round 2 (N = 423) indicate support for five hypotheses, but not all being the same ones.

Starting with autonomy-related hypotheses, the relationship between autonomy satisfaction and task performance (H1) differed between studies. While Study 1 showed a non-significant association, Study 2 revealed a strong positive effect, suggesting that autonomy satisfaction can enhance task performance under certain conditions. Given the larger sample and stronger statistical evidence in Study 2, H1 is considered

supported. Autonomy satisfaction was also consistently and positively associated with creative performance across both studies ($\gamma_1 = .673$, $\gamma_2 = .641$; $p \leq .005$), providing clear support for H2. In contrast, the relationship between autonomy satisfaction and prosocial behaviour (H3) varied substantially across studies. Whereas Study 1 indicated a positive association ($\gamma_1 = .492$; $p = .013$), Study 2 showed a strong negative relationship ($\gamma_2 = -.698$; p = .003). Given this inconsistency and the negative effect observed in the larger study, H3 is not supported.

Turning to competence-related hypotheses, satisfaction of the need for competence showed weak but positive associations with task performance (H4) and creative performance (H5). Although these relationships reached only marginal levels of statistical significance, the results provide tentative support for both H4 and H5.

Regarding relatedness satisfaction, a positive association with prosocial behaviour was observed in both studies ($\gamma_1 = .376$, $\gamma_2 = .369$; $p = .005, .073$), albeit with weaker statistical strength in Study 2. Nevertheless, the consistency of direction across samples provides support for H6. Finally, neither study found evidence of a statistically significant relationship between relatedness satisfaction and responsible space-sharing behaviour. Accordingly, H7 is not supported.

5.2.3 Proposed Experimental Design to Test the Relationships

Although both structural models provide important insights, they are correlational and cannot determine causality. To address this limitation, a DCE as a complementary methodology to evaluate the relative effect of the three basic psychological needs on sustainable coworking behaviour was proposed. The upcoming paragraphs summarise the DCE, which is explained in full detail in Paper V.

Revisiting the procedure by Lancsar and Louviere (2008), the first step is to define the attributes and assign them with levels. To capture the full range of the basic psychological needs, an item is first randomly drawn from the corresponding latent construct (i.e., autonomy, relatedness, and competence). These measure variables are identical to the survey items represented in Table 6 (See Section 3.3.3). These randomly drawn items function as the attributes. Second, the item is phrased as either negative or positive meaning that they are assigned two attribute levels.

The next step is to create the design matrix. A full factorial design, which tests all possible combinations, would be impractical because the total number of combinations would overwhelm the respondents. Instead, a D-optimal design (Mitchell, 2000) is used to reduce the number of necessary combinations while preserving statistical efficiency. Through this procedure, the compensatory alternatives were arranged into a design matrix, which is presented in Table 12.

Using this design matrix as the basis, the choice sets were then constructed. An example of a finalised choice set, including the dependent variables of sustainable coworking behaviour, is shown in Figure 13. The figure also shows the construction process.

Table 12. Design matrix

Choice set	Alternative	Autonomy	Relatedness	Competence
1	B	High	High	Low
	E	Low	High	High
2	D	High	Low	Low
	E	Low	High	High
3	B	High	High	Low
	G	Low	Low	High
4	D	High	Low	Low
	G	Low	Low	High
5	C	Low	High	Low
	F	High	Low	High
6	F	Low	High	Low
	G	Low	Low	High
7	D	High	Low	Low
	F	Low	High	Low
8	C	High	Low	High
	E	Low	High	High

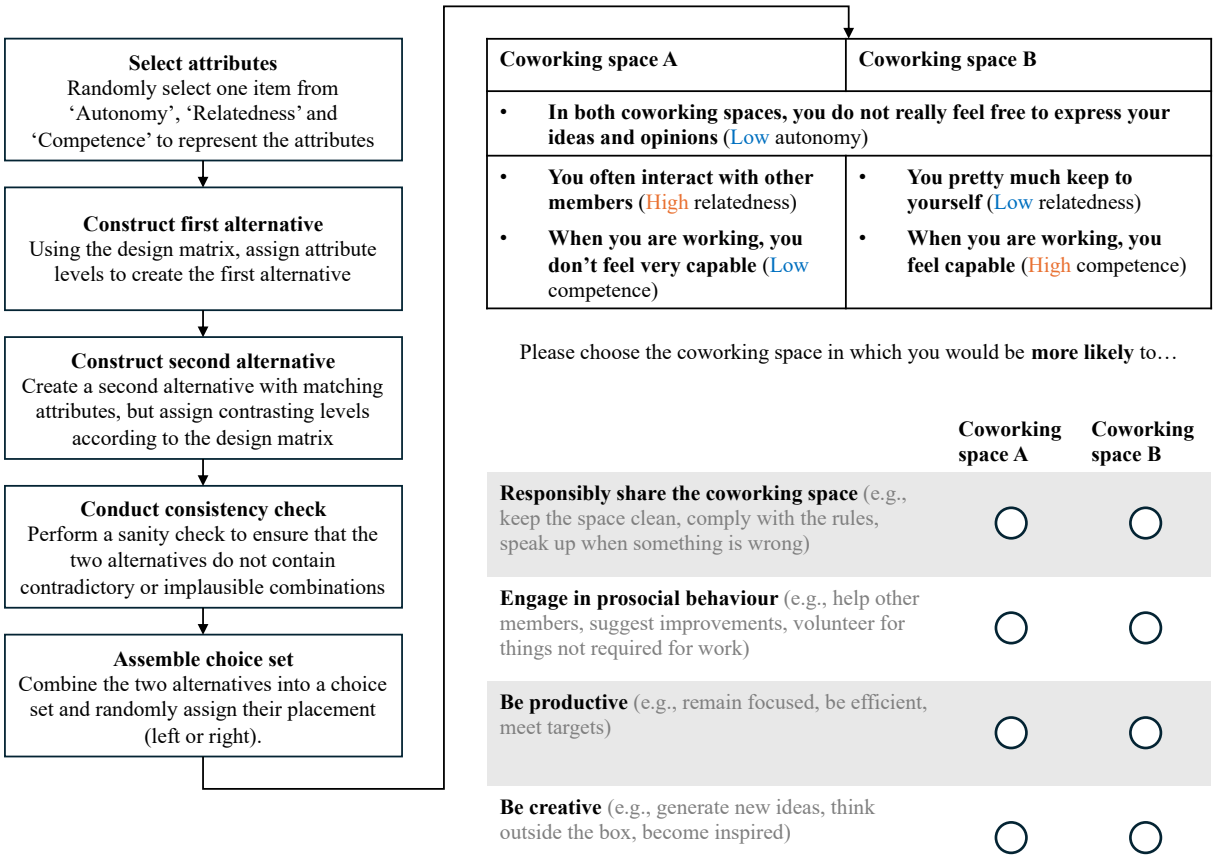

Figure 12. Example of Choice set 6 including alternative F and G

6. DISCUSSION

This chapter discusses the findings of the thesis. First, the results are interpreted to provide deeper insight beyond their descriptive presentation. The chapter then outlines the theoretical and practical contributions of the thesis, followed by a brief discussion of the generalisability of the findings. Finally, the chapter concludes by addressing the limitations of the research and outlining directions for future studies.

6.1 Discussion of Results

6.1.1 RQ1: Customer Behaviours Contributing to Co-creation of Sustainable Value in Coworking Spaces

This section addresses the first research question, phrased as "*What customer behaviours contribute to the co-creation of sustainable value in coworking spaces*?"

Based on the results, the domain of sustainable coworking behaviour was delineated. At the conceptual level, sustainable coworking behaviour was initially framed using three complementary perspectives: the TBL (Elkington, 1997), the person-society-nature triad (Corral-Verdugo et al., 2021; Schultz, 2001), and recurring behavioural patterns identified in the coworking literature (e.g., Appel-Meulenbroek et al., 2021; Bouncken et al., 2020; Howell, 2022; Kraus et al., 2022). Together, these perspectives provided a theoretically grounded foundation for conceptualising sustainability as a behavioural phenomenon embedded in coworking spaces from the customer perspective.

This initial conceptualisation was subsequently refined through qualitative interviews with coworking members. Importantly, the empirical focus was placed exclusively on customers rather than providers, resulting in a behavioural domain grounded in members' lived experiences and everyday practices. Through this concretisation process, abstract sustainability principles were translated into more specific, context-sensitive forms of action relevant to coworking spaces. The outcome was a detailed behavioural map including 15 facets of sustainable coworking behaviour reflecting how customers themselves understood it.

It should be noted that the qualitative data collection process was partially deductive in nature. The interview guide was informed by predefined behavioural categories derived from theory (see Section 2.3.2), which oriented the empirical material towards elaborating prosocial behaviour, responsible space-sharing behaviour, and productive behaviour, rather than identifying entirely new behavioural domains. While this approach ensured theoretical coherence and alignment with the conceptualisation of sustainable coworking behaviour, it also delineated the boundaries of the behavioural domain that emerged.

Sustainability remains a broad and multifaceted concept (Farley & Smith, 2020). Although the resulting concretisation captures a substantial share of customer behaviour relevant to sustainable value co-creation in coworking spaces, it does not claim to

represent sustainability in its entirety. Rather than striving for exhaustive coverage of all possible sustainability-related behaviours, this thesis deliberately prioritised analytical parsimony by identifying a theoretically grounded subset of behaviours that capture the core of sustainable coworking behaviour. Accordingly, the concretisation should be understood as a constitutive element of sustainable coworking behaviour, rather than as an exhaustive account of sustainable behaviours in coworking spaces.

Building on this concretisation, behavioural items were generated in the form of observable customer actions to represent the domain of sustainable coworking behaviour. The scale development process resulted in a final set of 40 items representing sustainable coworking behaviour.

One result from the scale development process concerns the facet labelled '*be environmentally responsible*', which emerged from the qualitative data. Results from the survey data and subsequent SEM analysis showed that none of the items intended to represent this facet loaded satisfactorily onto the responsible space-sharing behaviour construct. As a result, all items associated with this facet were eliminated during the scale purification process. A plausible explanation lies in how responsible space-sharing behaviour is defined in this thesis, namely as acts that benefit the work environment and omissions of acts that harm it. Such behaviours primarily relate to the focal service system, that is, the coworking space itself. In contrast, behaviours captured by the "*be environmentally responsible*" facet appear to be more strongly oriented towards broader containing systems, such as the natural environment. As such, this facet may represent a distinct form of sustainability-oriented behaviour that falls outside the conceptual boundaries of responsible space-sharing and thereby sustainable coworking behaviour.

Another possible explanation is that the concretisation of sustainable coworking behaviour was grounded in qualitative data from a relatively small sample of Swedish coworking members (N = 30). Sweden is a national context characterised by high levels of environmental awareness. For instance, Sweden's strong performance in global sustainability rankings (SolAbility, 2025) suggests that participants may have been particularly attuned to environmental concerns. As a result, this facet may reflect a context-specific understanding of sustainable behaviour that does not translate consistently across coworking settings and is therefore not uniformly perceived as part of responsible space-sharing behaviour.

Furthermore, it is important to emphasise that the 40-item scale should be regarded as a work in progress. Additional empirical data are currently being collected to further refine and potentially shorten the scale, increasing its suitability for practical applications where survey length must be minimised. Such further purification may result in additional facets not being represented, thereby reinforcing the context-dependent nature of certain facets.

Currently, the 40-item scale provides a direct response to RQ1. As all items are operationalised as sustainable coworking behaviours, they represent customer

behaviours that contribute to the co-creation of sustainable value within coworking spaces. To provide a more visual representation of these behaviours, Figure 13 synthesises both the conceptualisation and the operationalisation of sustainable coworking behaviour.

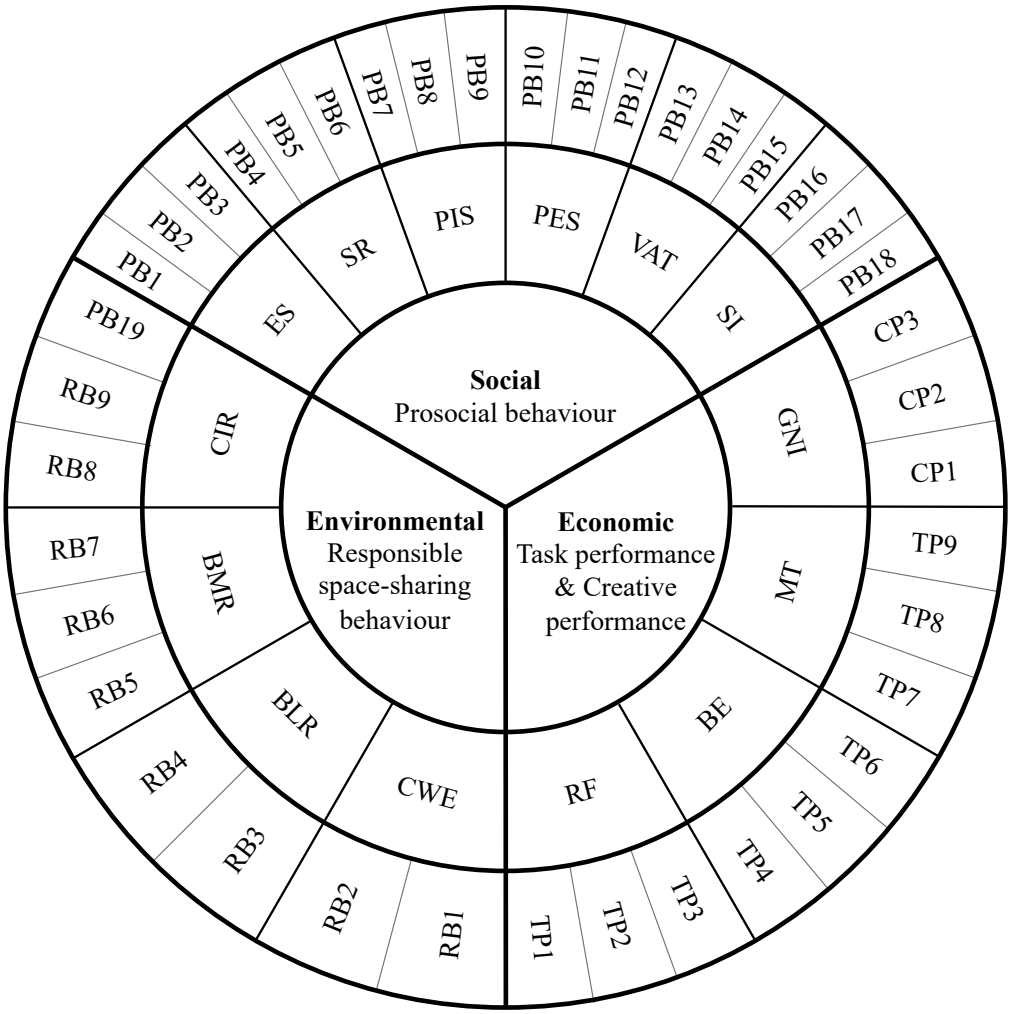

Figure 13. Synthesis of conceptualisation and operationalisation of sustainable coworking behaviour

6.1.2 RQ2: Effect of Motivational Factors on Identified Customer Behaviours Contributing to Co-creation of Sustainable Value in Coworking Spaces

This section addresses the second research question: "*What motivational factors affect the identified behaviours that contribute to the co-creation of sustainable value in coworking spaces, and to what extent do they do so?*". The analysis focused on two complementary motivational factors: psychological ownership (Pierce et al., 2001; 2003) and the satisfaction of basic psychological needs, namely autonomy, competence, and relatedness (Deci & Ryan, 2013). Both factors were found to influence sustainable coworking behaviour, although in different ways and with varying magnitudes across behavioural dimensions.

As hypothesised, the results showed that psychological ownership of the coworking space had statistically significant positive associations with prosocial behaviour, task performance, and creative performance. These findings highlight psychological ownership as an important motivational driver of sustainable coworking behaviour, indicating that when coworking members feel a sense of personal investment and attachment to the space, they are more likely to engage in three of the four behavioural dimensions of sustainable coworking behaviour. However, psychological ownership did not have a positive association with responsible space-sharing behaviour. Instead, a weak negative relationship was observed.

This negative association was unexpected, particularly in light of theoretical frameworks that link psychological ownership to heightened responsibility and stewardship (e.g., Pierce et al., 2003; 2009), as well as empirical findings reporting similar relationships in other organisational contexts (e.g., Li et al., 2021; Peck et al., 2021; Van Dyne & Pierce, 2004). Further examination of foundational psychological ownership theory offers a plausible explanation. Pierce et al. (2001) describe psychological ownership as emerging through control, personal investment, and intimacy with a target. While these mechanisms can foster care and commitment, they argue that it may also give rise to territoriality and resistance to sharing. In shared environments such as coworking spaces, strong feelings of psychological ownership may therefore reduce willingness to engage in behaviours that prioritise collective resource use.

The examination of basic psychological needs also revealed an effect on some of the underlying constructs of sustainable coworking behaviour. Hypotheses related to satisfaction of the need for autonomy being positively associated with task performance and creative performance were supported. A positive, but weakly significant, association of satisfying the need for competence with task performance and creative performance were also supported. Regarding satisfaction of the need for relatedness, the evidence indicate that it is positively associated with prosocial behaviour. The consistency of these relationships across two methodologically distinct studies suggests that they operate as relatively robust motivational factors within coworking contexts.

In contrast, the hypothesised relationships between satisfying the need for autonomy and prosocial behaviour showed statistically significant results but varied heavily between studies. This indicates that the influence of autonomy-satisfaction on prosocial behaviour may depend on contextual factors such as sample composition, usage intensity, or situational characteristics of coworking spaces. Notably, neither study demonstrated a significant association between relatedness satisfaction and responsible space-sharing behaviour.

Taken together, these findings provide empirical support for the central role of customers in the co-creation of sustainable value by showing how motivational factors positively affect productive and prosocial behaviours within coworking spaces. At the same time, none of the examined motivational factors were able to support a positive

relationship with responsible space-sharing behaviour. How such behaviour can be effectively motivated therefore remains unclear.

Furthermore, since sustainable coworking behaviour is a multidimensional construct, the overall effect of increasing psychological ownership or satisfying basic psychological needs cannot be inferred from a single aggregated outcome. Psychological ownership showed a strong positive association with prosocial behaviour, somewhat weaker positive associations with task and creative performance, and a weak negative association with responsible space-sharing behaviour. A similarly differentiated pattern was observed for basic psychological needs, where satisfaction of specific needs supported particular behaviours rather than sustainable coworking behaviour as a whole.

Based on the difficult of establishing an overall effect, providing a simple or unified answer to RQ2 is challenging. Instead, the findings emphasise the importance of understanding coworking members as heterogeneous actors and suggest that motivational factors operate in behaviour-specific ways. There is no one-size-fits-all approach to promote sustainable coworking behaviour. For instance, if a coworking provider observes high levels of prosocial behaviour but low engagement in responsible space-sharing behaviour, interventions aimed at strengthening psychological ownership may be counterproductive given its negative association with the latter. Conversely, in contexts where responsible space-sharing behaviour is strong but prosocial behaviour is weak, strengthening psychological ownership or relatedness may be more relevant.

A final point of discussion concerns the distinction between correlation and causation. The relationships identified in this thesis are correlational, and causal inferences cannot be drawn without experimental or longitudinal research designs. Although the proposed DCE was not implemented within this thesis and therefore did not generate any results, its development constitutes an important methodological contribution. The experimental design provides a structured foundation for future research to test causal relationships between motivational factors and sustainable coworking behaviour.

6.1.3 An Explanatory Storyline

Taken together, the findings increase the understanding of how sustainable value emerges in coworking spaces. The thesis suggests that sustainable value is neither primarily the result of dyadic interactions between coworking providers and members nor the outcome of isolated individual behaviour. Instead, sustainable value appears to emerge through an accumulated process of interdependent customer behaviours within the shared service space. The following explanatory storyline outlines this process.

1. **Individual-level behaviour formation**
   Individual members engage in sustainable coworking behaviours that are shaped by their sense of psychological ownership and the satisfaction of basic psychological needs. These motivational factors influence how members enact

productive, prosocial, and responsible space-sharing behaviours within the coworking space.

2. **Customer co-presence and interactions**
   Unlike traditional services characterised by predominantly dyadic interactions, coworking spaces are defined by customer co-presence. As members engage in sustainable behaviours to varying degrees, these behaviours become visible to others through everyday customer-to-customer interactions.
3. **From interaction to value co-creation**
   Customers begin to jointly contribute to economic, social, and environmental value within the coworking space. Through repeated interactions, these behaviours accumulate and give rise to sustainable value co-creation.
4. **Emergence of sustainable value**
   Sustainable value in coworking spaces is therefore best understood as an emergent, customer-driven phenomenon. It forms bottom-up through the interplay of customer behaviours and social dynamics, rather than being produced solely through top-down management practices or infrastructural design.
5. **Spillover beyond the focal service system**
   Over time, the sustainable value created within the coworking space may extend beyond the focal service system and affect surrounding contexts. For example, coworking can reduce social isolation, decrease commuting to distant offices, and facilitate the development of innovative ideas that benefit the wider neighbourhood or local economy.

This storyline reframes sustainability co-creation as a multi-level process in which customers are the central co-creators of sustainable value. It acknowledges the complexity of customer-to-customer interaction, recognises the limits of provider control, and highlights the need for research approaches capable of capturing how micro-level behaviours scale into meso- and macro-level sustainability outcomes.

6.2 Contributions

By providing direct answers to RQ1 and RQ2, this thesis makes both theoretical and practical contributions. Theoretical contributions involve the development of new knowledge that extends, challenges, or refines existing theory and thereby form the foundation of academic advancement (Whetten, 1989). As emphasised by Corley and Gioia (2011), such contributions accumulate over time, shaping future research agendas and informing practical change. Alongside theoretical advancement, meaningful research is also expected to contribute to practice. Lim and Bowman (2023, p. 263) underline this point by arguing that "*research is not merely the quest for new knowledge, but a vessel for resolving challenges and elevating practice. True contribution to practice occurs when we see a tangible improvement in the conditions of stakeholders, born out of practical advancements steered by insightful research*".

6.2.1 Theoretical Contributions

This thesis offers four key theoretical contributions. Primarily, it contributes to literature on coworking and service research.

First, the thesis contributes to the coworking literature by foregrounding the customers' role on sustainability in coworking spaces, a perspective that has received limited attention in prior research. Existing studies have predominantly examined sustainability in coworking from the viewpoints of service providers (Bouncken et al., 2022), business models (Oswald & Zhao, 2020), or spatial design (Bouncken et al., 2023). By demonstrating the active and complementary role of coworking members in shaping sustainability outcomes, this thesis reframes coworking spaces as co-prosumption service system in which customers are essential co-creators rather than passive users. In doing so, it shifts analytical attention from organisational-level sustainability initiatives to the micro-level behaviours through which sustainable value is enacted in everyday coworking practices.

Second, the thesis extends the application of psychological ownership theory (Pierce et al., 2001; 2003) and self-determination theory (Deci & Ryan, 2013; Gagné & Deci, 2005) into the empirical setting of coworking spaces. Although these theories are well established, they have rarely been applied to co-prosumption services. By providing evidence of how psychological ownership and basic psychological needs is associated with sustainable coworking behaviour, the thesis highlights the relevance of these theoretical frameworks for understanding customer behaviour in such service systems.

Third, the thesis offers a conceptualisation and operationalisation of sustainable coworking behaviour, a multidimensional construct capturing how customers enact sustainable value in coworking spaces. The construct encompasses four interrelated behavioural dimensions, task performance, creative performance, prosocial behaviour, and responsible space sharing. Beyond serving as a measurement instrument, this construct functions as a theory-building device that specifies how sustainable value is realised through concrete customer practices in co-prosumption services, providing a foundation for future empirical, comparative, and interventional research.

Fourth, and most substantially for service research, the thesis advances a customer-oriented perspective on sustainable value co-creation in co-prosumption services. Building on the critique by Heinonen et al. (2015) that service logics (e.g., Vargo & Lusch, 2008; Grönroos, 2015) tend to privilege provider-to-customer as the primary locus of value creation, this thesis aligns with Pandey and Kumar (2020) in challenging this assumption. The content of this thesis indicates that in coworking spaces, sustainable value emerges predominantly through customer-to-customer interactions embedded in everyday co-presence. Responsibility for sustainable value is therefore distributed across the customer sphere rather than located solely with the provider. This extends the value creation spheres framework (Grönroos & Voima, 2013) by highlighting a co-present customer sphere in which collective customer behaviour shapes sustainable

outcomes. By revealing how sustainability arises through micro-level interactional processes among customers (Koskela-Huotari et al., 2024), the thesis opens a new conceptual pathway for understanding co-creation of sustainable value in co-prosumption services.

6.2.2 Practical Contributions

In addition to its theoretical contributions, this thesis provides several practical contributions for stakeholders involved in the design, management, and facilitation of coworking spaces.

First, the thesis helps translate sustainability from an abstract ambition into a set of 40 observable customer behaviours. The operationalisation of sustainable coworking behaviour provides practitioners with a practical tool of assessing such behaviour, enabling them to identify, monitor, and encourage specific actions rather than relying on general sustainability indicators. Moreover, by identifying psychological ownership and basic psychological need satisfaction as antecedents of sustainable coworking behaviour and evaluating their relative influence, the thesis offers actionable guidance on which motivational factors practitioners can develop when designing interventions or activities such as onboarding processes and community events. The results further demonstrate that motivational factors influence sustainability differently across productive (economic), prosocial (social), and responsible space-sharing (environmental) behaviours, highlighting the need for behaviour-specific intervention approaches rather than one-size-fits-all sustainability strategies.

Second, the thesis shows how sustainability can be enhanced without necessarily requiring substantial financial or technological investments. By demonstrating the central role of customer-to-customer interactions and motivational factors, the findings indicate that coworking communities themselves constitute existing social and relational resources that can be mobilised to support sustainability.

Finally, the validated sustainable coworking behaviour construct can be used by coworking networks, policymakers, and sustainability-oriented organisations to benchmark behaviours across different coworking spaces and identify best practices. These insights can support more informed managerial decision-making and contribute to the development of scalable and context-sensitive strategies that encourage long-term and meaningful contributions to sustainability goals.

6.3 Generalisability to Other Co-prosumption Services

The stated purpose of this thesis extends beyond coworking spaces to co-prosumption services more broadly. It is therefore necessary to reflect on the extent to which findings derived from coworking spaces can be transferred to other forms of co-prosumption services.

Before considering generalisability beyond coworking, it is important to acknowledge the heterogeneity of coworking spaces themselves. Prior research has identified multiple typologies of coworking spaces (Fiorentino, 2019; Kojo & Nenonen, 2016; Orel & Bennis, 2021), highlighting variation in purpose, governance, and degrees of community orientation. In this thesis, information about the specific type of coworking space was not collected in the larger, international dataset, making it impossible to control for such variation. As a result, differences between coworking space types may influence how sustainable behaviours are enacted, thereby constraining the generalisability of the findings within the coworking context.

Turning to co-prosumption services more generally, these are characterised by situations in which customers are directly and physically co-present within the service environment (Bouncken & Tiberius, 2021). In addition to coworking spaces, makerspaces, and co-living environments, this category includes contexts such as public transport, shared mobility services (e.g., UberX Share), libraries, and cafeterias. Across these settings, value is co-created not only through provider-to-customer interactions but also through interactions among customers themselves. As demonstrated in Section 2.1.2, this multi-actor nature of value creation makes a customer-centred perspective on sustainability broadly relevant across co-prosumption services.

At the same time, coworking spaces exhibit characteristics that distinguish them from many other co-prosumption services. They are typically subscription-based, work-oriented, and strongly emphasise community norms and ongoing member relationships (Howell, 2022). These features shape how sustainable value is created through everyday behaviour. Consequently, the four behavioural dimensions identified in this thesis, task performance, creative performance, prosocial behaviour, and responsible space-sharing behaviour, are unlikely to apply uniformly across all co-prosumption services. For example, task performance or creative performance would not typically constitute sustainability-relevant behaviours in contexts such as libraries or shared mobility services.

For this reason, the construct developed in this thesis is intentionally labelled sustainable *coworking* behaviour. This label reflects the contextual specificity of the behavioural dimensions rather than positioning them as a universal model of sustainable behaviour across all co-prosumption services. Nonetheless, the underlying logic of focusing on customer behaviour as a key driver of sustainable value creation is likely transferable to other co-prosumption contexts, even if the specific behaviours through which sustainable value is co-created differ.

6.4 Limitations and Future Research

The research conducted for this thesis is subject to several limitations that should be considered when interpreting the findings. At the same time, these limitations point to important avenues for future research on sustainable value co-creation in co-prosumption services.

First, much of the empirical evidence in this thesis is based on cross-sectional survey data which reflect a specific point in time. While appropriate for theory testing and scale development, such designs limit the ability to draw conclusions about causality. Furthermore, as coworking models, sustainability norms, and hybrid work arrangements continue to evolve, the relative importance of different sustainable behaviours may also change. Consequently, the temporal robustness of the findings should be interpreted with caution. Future research could address this limitation by employing longitudinal or experimental designs to examine how sustainable behaviours develop, persist, or change in co-prosumption services. In particular, the proposed DCE offers a promising foundation for testing causal relationships between motivational factors and behaviour and could be extended to field experiments or repeated-measures designs.

Second, sustainable coworking behaviour was measured using self-reported survey data. Although widely used in behavioural research, self-reports may be subject to social desirability bias or discrepancies between reported and enacted behaviour. Future studies could complement survey-based approaches with qualitative or ethnographic methods, such as participant observation or diary studies, to capture sustainability practices as they unfold in everyday interactions. Combining self-reported and observational data would allow researchers to assess the alignment between perceived and actual sustainable behaviour in co-prosumption services.

Third, this thesis adopts a predominantly customer-centric perspective and does not explicitly examine the role of service providers in sustainability co-creation. While this focus aligns with the purpose of foregrounding customer behaviour, it means that provider behaviours, governance practices, and facilitation mechanisms remain underexplored. Future research could investigate how providers and customers jointly contribute to sustainable value in co-prosumption services by integrating provider perspectives and examining how managerial actions shape customer behaviour and interaction.

Finally, the thesis focuses on sustainable value co-creation within the focal service system of the coworking space. Broader containing systems, such as urban infrastructures, regulatory environments, platform ecosystems, or societal sustainability goals, are not explicitly incorporated. Future research could extend the analysis beyond the focal system to explore how sustainability value is co-created across interconnected service systems. Such work would support the development of a more comprehensive understanding of sustainable value co-creation that spans multiple levels, actors, and institutional contexts.

7. CONCLUSIONS

This thesis set out to advance understanding of customer behaviour in the co-creation of sustainable value within co-prosumption services. As service organisations increasingly seek sustainable ways of operating, co-prosumption services have grown rapidly over the past two decades. These services are characterised by customer co-presence and shared use of resources, making sustainability outcomes particularly dependent on how customers act and interact within the service environment.

Drawing on general value creation processes and contextualising it within co-prosumption services, this thesis demonstrated that sustainability in such settings cannot be understood solely through provider initiatives. Instead, sustainable value creation relies heavily on customers, whose everyday behaviours and interactions play a substantial and constitutive role in shaping sustainability outcomes. While prior research has predominantly focused on provider-to-customer relationships, this thesis addressed a gap by foregrounding the customer's role in creating sustainable value through customer-to-customer interaction within the service space. The empirical investigation was situated in coworking spaces, a prominent example of a co-prosumption service where customers are continuously exposed to and influenced by one another.

Across five research papers, the thesis conceptualised sustainable coworking behaviour as a multidimensional construct encompassing productive behaviour, including task and creative performance, prosocial behaviour, and responsible space-sharing behaviour. Together, these dimensions reflect the economic, social, and environmental pillars of sustainability and capture how customers contribute to the functioning and long-term viability of the shared workspace. This conceptualisation was refined into fifteen behavioural facets and operationalised through a rigorously developed 40-item measurement scale. The scale was tested across multiple empirical studies and demonstrated strong psychometric properties, providing a robust foundation for examining sustainable value creation from a customer perspective.

The findings advance theoretical understanding of coworking and co-prosumption services by demonstrating that customers play a substantial and active role in the creation of sustainable value. By shifting analytical attention to the customer sphere, this thesis extends existing service research and highlights that micro-level behavioural and motivational processes among co-present customers are central to sustainability co-creation.

Beyond its theoretical contributions, the thesis offers clear practical implications. The validated measurement scale provides practitioners with a diagnostic tool for assessing and supporting sustainable coworking behaviour. By fostering psychological ownership and supporting basic psychological needs, practitioners can actively enable customers to take responsibility for sustainable value creation. This reframes customers not merely as users, but as central actors whose behaviours are integral to the creation and maintenance of sustainability in coworking and other co-prosumption services.

REFERENCES

Akhmedova, A., Manresa, A., Escobar Rivera, D., & Bikfalvi, A. (2021). Service quality in the sharing economy: A review and research agenda. *International Journal of Consumer Studies*, 45(4), 889-910. https://doi.org/10.1111/ijcs.12680.

Akhmedova, A., Mas-Machuca, M., & Marimon, F. (2020). Value co-creation in the sharing economy: The role of quality of service provided by peer. *Journal of Cleaner production*, 266, 121736. https://doi.org/10.1016/j.jclepro.2020.121736.

Alamer A (2022) Exploratory structural equation modeling (ESEM) and bifactor ESEM for construct validation purposes: Guidelines and applied example. *Research Methods in Applied Linguistics*, 1(1), 100005. https://doi.org/10.1016/j.rmal.2022.100005.

Almanasreh, E., Moles, R., & Chen, T. F. (2019). Evaluation of methods used for estimating content validity. *Research in Social and Administrative Pharmacy*, 15(2), 214-221. https://doi.org/10.1016/j.sapharm.2018.03.066.

American Psychological Association. (2018). *APA Dictionary of Psychology: Behavior*. Available at: https://dictionary.apa.org/behavior. [Accessed 23 Jan 2026].

Appel-Meulenbroek, R., Weijs-Perrée, M., Orel, M., Gauger, F., & Pfnür, A. (2021). User preferences for coworking spaces; a comparison between the Netherlands, Germany and the Czech Republic. *Review of Managerial Science*, 15, 2025-2048. https://doi.org/10.1007/s11846-020-00414-z.

Asendorpf, J. B., Conner, M., De Fruyt, F., De Houwer, J., Denissen, J. J., Fiedler, K., ... & Wicherts, J. M. (2013). Recommendations for increasing replicability in psychology. *European Journal of Personality*, 27(2), 108-119. https://doi.org/10.1002/per.1919.

Asparouhov, T., & Muthén, B. (2009). Exploratory structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 16(3), 397-438. https://doi.org/10.1080/10705510903008204.

Aumüller-Wagner, S., & Baka, V. (2023). Innovation ecosystems as a service: Exploring the dynamics between corporates & start-ups in the context of a corporate coworking space. *Scandinavian Journal of Management*, 39(2), 101264. https://doi.org/10.1016/j.scaman.2023.10126.

Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: a motivational basis of performance and weil-being in two work settings. *Journal of Applied Social Psychology*, 34(10), 2045-2068. https://doi.org/10.1111/j.1559-1816.2004.tb02690.x.

Bacevice, P. A., & Spreitzer, G. M. (2023). 'It's like, instant respect': Coworking spaces as identity anchoring environments in the new economy. *New Technology, Work and Employment*, 38(1), 59-81. https://doi.org/10.1111/ntwe.12254.

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing construct validity in organizational research. Administrative science quarterly, 36(3), 421-458. https://doi.org/10.2307/2393203.

Bain & Company (2025). The Visionary CEO's Guide to Sustainability 2024: The Power of Pragmatism. Available at: https://www.bain.com/globalassets/noindex/2025/bain_report_the_visionary_ceos_guide_to_sustainability_2025.pdf. [Accessed Jan 23 2026].

Bansal, P., & DesJardine, M. R. (2014). Business sustainability: It is about time. *Strategic organization*, 12(1), 70-78. https://doi.org/10.1177/1476127013520265.

Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. Academy of Management Journal, 43(4), 717-736. https://doi.org/10.5465/1556363.

Bateson, M., & Martin, P. (2021). *Measuring Behaviour: An Introductory Guide*. 4th ed. Cambridge University Press.

Belk, R. (2014). You are what you can access: Sharing and collaborative consumption online. Journal of Business Research, 67(8), 1595-1600. https://doi.org/10.1016/j.jbusres.2013.10.001.

Bell, E., Bryman, A., & Harley, B. (2019). *Business Research Methods*. 5th ed. Oxford University Press.

Bénabou, R., & Tirole, J. (2010). Individual and corporate social responsibility. *Economica*, 77(305), 1-19. https://doi.org/10.1111/j.1468-0335.2009.00843.x.

Bertassini, A. C., Ometto, A. R., Severengiz, S., & Gerolamo, M. C. (2021). Circular economy and sustainability: The role of organizational behaviour in the transition journey. *Business Strategy and the Environment*, 30(7), 3160-3193. https://doi.org/10.1002/bse.2796.

Biagetti, M., Mariotti, I., Rossi, F., & Scicchitano, S. (2025). Did remote working push the growth of coworking spaces? The Italian cities case study. *Cities*, 166, 106272. https://doi.org/10.1016/j.cities.2025.106272.

Blair, J., Czaja, R. F., & Blair, E. A. (2014). *Designing surveys: A guide to decisions and procedures*. 3rd ed. Sage Publications.

Bolino, M. C., & Grant, A. M. (2016). The bright side of being prosocial at work, and the dark side, too: A review and agenda for research on other-oriented motives, behavior, and impact in organizations. *Academy of Management Annals*, 10(1), 599-670. https://doi.org/10.5465/19416520.2016.1153260.

Bollen, K. A. (1989). *Structural equations with latent variables*. John Wiley & Sons.

Bouncken, R. B., Aslam, M. M., Gantert, T. M., & Kallmuenzer, A. (2023). New work design for knowledge creation and sustainability: An empirical study of coworking-spaces. *Journal of Business Research*, 154, 113337. https://doi.org/10.1016/j.jbusres.2022.113337.

Bouncken, R. B., Lapidus, A., & Qui, Y. (2022). Organizational sustainability identity:'New Work'of home offices and coworking spaces as facilitators. Sustainable Technology and Entrepreneurship, 1(2), 100011. https://doi.org/10.1016/j.stae.2022.100011.

Bouncken, R. B., Laudien, S. M., Fredrich, V., & Görmar, L. (2018). Coopetition in coworking-spaces: value creation and appropriation tensions in an entrepreneurial space. *Review of Managerial Science*, 12(2), 385-410. https://doi.org/10.1007/s11846-017-0267-7.

Bouncken, R., Ratzmann, M., Barwinski, R., & Kraus, S. (2020). Coworking spaces: Empowerment for entrepreneurship and innovation in the digital and sharing economy. *Journal of Business Research*, 114, 102-110. https://doi.org/10.1016/j.jbusres.2020.03.033.

Bouncken, R. B., & Reuschl, A. J. (2018). Coworking-spaces: how a phenomenon of the sharing economy builds a novel trend for the workplace and for entrepreneurship. *Review of Managerial Science*, 12, 317-334. https://doi.org/10.1007/s11846-016-0215-y.

Bouncken, R. B., & Tiberius, V. (2021). Legitimacy processes and trajectories of co-prosumption services: Insights from coworking spaces. *Journal of Service Research*, 26(1), 64-82. https://doi.org/10.1177/10946705211050208.

Brief, A. P., & Motowidlo, S. J. (1986). Prosocial organizational behaviors. *Academy of Management Review*, 11(4), 710-725. https://doi.org/10.5465/amr.1986.4283909.

Bruce, H. L., Wilson, H. N., Macdonald, E. K., & Clarke, B. (2019). Resource integration, value creation and value destruction in collective consumption contexts. *Journal of Business Research*, 103, 173-185. https://doi.org/10.1016/j.jbusres.2019.05.007.

Bueno, S., Rodríguez-Baltanás, G., & Gallego, M. D. (2018). Coworking spaces: a new way of achieving productivity. *Journal of Facilities Management*, 16(4), 452-466. https://doi.org/10.1108/JFM-01-2018-0006.

Caiado, R. G. G., Leal Filho, W., Quelhas, O. L. G., de Mattos Nascimento, D. L., & Ávila, L. V. (2018). A literature-based review on potentials and constraints in the implementation of the sustainable development goals. *Journal of Cleaner Production*, 198, 1276-1288. https://doi.org/10.1016/j.jclepro.2018.07.102.

Camerer, C. F., Dreber, A., Forsell, E., Ho, T. H., Huber, J., Johannesson, M., ... & Wu, H. (2016). Evaluating replicability of laboratory experiments in economics. *Science*, 351, 1433-1436. https://doi.org/10.1126/science.aaf0918.

Camerer, C. F., Dreber, A., Holzmeister, F., Ho, T. H., Huber, J., Johannesson, M., ... & Wu, H. (2018). Evaluating the replicability of social science experiments in Nature and Science between 2010 and 2015. *Nature Human Behaviour*, 2(9), 637-644. https://doi.org/10.1038/s41562-018-0399-z.

Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In: M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., pp. 687-732). Consulting Psychologists Press.

Campbell D. T., Fiske D. W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81-105. https://doi.org/10.1037/h0046016.
Campbell, J. P., & Wiernik, B. M. (2015). The modeling and assessment of work performance. *Annual Review of Organizational Psychology and Organizational Behavior*, 2(1), 47-74. https://doi.org/10.1146/annurev-orgpsych-032414-111427.
Casella, G., & Berger, R. (2024). *Statistical Inference*. 2nd ed. Chapman and Hall/CRC.
Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2023). Reporting reliability, convergent and discriminant validity with structural equation modelling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, 41, 745-783. https://doi.org/10.1007/s10490-023-09871-y.
Chiniara, M., & Bentein, K. 2016. Linking servant leadership to individual performance: Differentiating the mediating role of autonomy, competence and relatedness need satisfaction. *The Leadership Quarterly*, 27(1): 124-141. https://doi.org/10.1016/j.leaqua.2015.08.004.
Choudhury, P., Foroughi, C., & Larson, B. (2021). Work-from-anywhere: The productivity effects of geographic flexibility. *Strategic Management Journal*, 42(4), 655-683. https://doi.org/10.1002/smj.3251.
Churchill Jr, G. A. (1979). A paradigm for developing better measures of marketing constructs. Journal of Marketing Research, 16(1), 64-73. https://doi.org/10.1177/002224377901600110.
Clancey, W. J. (2006). Observation of work practices in natural settings. In: K.A. Ericsson, N. Charness, P. J. Feltovich, R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 127-145). Cambridge University Press.
Clifton, N., Füzi, A., & Loudon, G. (2022). Coworking in the digital economy: Context, motivations, and outcomes. *Futures*, 135, 102439. https://doi.org/10.1016/j.futures.2019.102439.
Colbert, A., Yee, N., & George, G. (2016). The digital workforce and the workplace of the future. *Academy of Management Journal, 59*(3), 731-739. https://doi.org/10.5465/amj.2016.4003.
Cordery, J. L., Morrison, D., Wright, B. M., & Wall, T. D. 2010. The impact of autonomy and task uncertainty on team performance: A longitudinal field study. *Journal of Organizational Behavior*, 31(2-3), 240-258. https://doi.org/10.1002/job.657.
Corley, K. G., & Gioia, D. A. (2011). Building theory about theory building: what constitutes a theoretical contribution?. *Academy of Management Review*, 36(1), 12-32. https://doi.org/10.5465/amr.2009.0486.
Corral-Verdugo, V., Pato, C., & Torres-Soto, N. (2021). Testing a tridimensional model of sustainable behavior: self-care, caring for others, and caring for the planet. Environment, Development and Sustainability, 23, 12867-12882. https://doi.org/10.1007/s10668-020-01189-9.
Coworking Resources (2020). *Global Coworking Growth Study 2020*. Available at: https://en.coworkingresources.org/hubfs/Coworking/Global-Coworking-Study-2020.pdf. [Accessed 23 Jan 2026].
Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into Practice*, 39(3), 124-130. https://doi.org/10.1207/s15430421tip3903_2.
Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research*. 3rd ed. Sage Publications.
Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. psychometrika, 16(3), 297-334. https://doi.org/10.1007/BF02310555.
CSDT (Center for Self-Determination Theory). (2026). Formal Theory: SDT's Five Mini-Theories. Available at: https://selfdeterminationtheory.org/formal-theory-sdts-five-mini-theories/. [Accessed 23 Jan 2026].
Curtis, S. K., & Mont, O. (2020). Sharing economy business models for sustainability. *Journal of Cleaner Production*, 266, 121519. https://doi.org/10.1016/j.jclepro.2020.121519.

Daily, B. F., Bishop, J. W., & Govindarajulu, N. (2009). A conceptual model for organizational citizenship behavior directed toward the environment. *Business & Society*, 48(2), 243-256. https://doi.org/10.1177/0007650308315439.

Dastoornikoo, N. (2022). What affects sustainable coworking behavior: a psychological ownership perspective. Chalmers University of Technology. Available at: https://odr.chalmers.se/server/api/core/bitstreams/4124a00b-44e6-4207-878d-82bcf2655d18/content. [Accessed 23 Jan 2026].

de Grandbois, Y. (2013). *Service science and the information professional*. Chandos Publishing.

Deci, E. L., & Ryan, R. M. 2013. *Intrinsic Motivation and Self-Determination in Human Behavior*. Springer Science & Business Media.

Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. 2001. Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, 27(8), 930-942. https://doi.org/10.1177/0146167201278002.

Demuijnck, G., & Fasterling, B. (2016). The social license to operate. *Journal of Business Ethics*, 136, 675-685. https://doi.org/10.1007/s10551-015-2976-7.

DeVellis, R. F., & Thorpe, C. T. (2022). *Scale development: Theory and applications*. 5th ed. Sage Publication.

Diener, E., & Crandall, R. (1978). *Ethics in social and behavioral research*. U Chicago Press.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed mode surveys: The tailored design method*. 4th ed. John Wiley & Sons.

Douglas, B. D., Ewell, P. J., & Brauer, M. (2023). Data quality in online human-subjects research: Comparisons between MTurk, Prolific, CloudResearch, Qualtrics, and SONA. *PLoS ONE*, 18(3), e0279720. https://doi.org/10.1371/journal.pone.0279720.

Drucker, P. F. (1999). Knowledge-worker productivity: The biggest challenge. *California Management Review*, 41(2), 79-94. https://doi.org/10.2307/41165987.

Dunn, T. J., Baguley, T., & Brunsden, V. (2014). From alpha to omega: A practical solution to pervasive problem of internal consistency estimation. *British Journal of Psychology*, 105(3), 399-412. https://doi.org/10.1111/bjop.12046.

Durante, G., & Turvani, M. (2018). Coworking, the Sharing Economy, and the City: Which Role for the 'Coworking Entrepreneur'?. *Urban Science*, 2(3), 83. https://doi.org/10.3390/urbansci2030083.

Eckhardt, G. M., Houston, M. B., Jiang, B., Lamberton, C., Rindfleisch, A., & Zervas, G. (2019). Marketing in the sharing economy. *Journal of Marketing*, 83(5), 5-27. https://doi.org/10.1177/0022242919861929.

Edwards, J. R. (2001). Multidimensional constructs in organizational behavior research: An integrative analytical framework. Organizational Research Methods, 4(2), 144-192. https://doi.org/10.1177/109442810142004.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550. https://doi.org/10.5465/amr.1989.4308385.

Eisenhardt, K. M. (1991). Better stories and better constructs: The case for rigor and comparative logic. *Academy of Management Review*, 16(3), 620-627. https://doi.org/10.5465/amr.1991.4279496.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of Management Journal*, 50(1), 25-32. https://doi.org/10.5465/amj.2007.24160888.

Elkington, J. (1997) Cannibals with Forks: The Triple Bottom Line of 21st Century Business. Oxford: Capstone limited.

Endrissat, N., & Leclercq-Vandelannoitte, A. (2021). From sites to vibes: Technology and the spatial production of coworking spaces. *Information and Organization*, 31(4), 100353. https://doi.org/10.1016/j.infoandorg.2021.100353.

Eriksson, M., & Boman, E. 2018. Short is Beautiful: Dimensionality and Measurement Invariance in Two Length of the Basic Psychological Need Satisfaction at Work Scale. *Frontiers in Psychology*, 9. https://doi.org/10.3389/fpsyg.2018.00965.

Etgar, M. (2008). A descriptive model of the consumer co-production process. *Journal of the Academy of Marketing Science*, 36(1), 97-108. https://doi.org/10.1007/s11747-007-0061-1.
EU (European Union). (2019a). On the reduction of the impact of certain plastic products on the environment. L/155/1. *Official Journal of the European Union*.
EU (European Union). (2019b). On sustainability-related disclosures in the financial services sector. L/317/1. *Official Journal of the European Union*.
EU (European Union). (2022). Amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards corporate sustainability reporting. L/322/15. *Official Journal of the European Union*.
European Commission (2020). *Energy efficiency in buildings. Department: Energy – in focus*. Available at: https://commission.europa.eu/system/files/2020-03/in_focus_energy_efficiency_in_buildings_en.pdf [Accesses 23 Jan 2026].
Faraji, M., Seifdar, M. H., & Amiri, B. (2024). Sharing economy for sustainability: A review. *Journal of Cleaner Production*, 434, 140065. https://doi.org/10.1016/j.jclepro.2023.140065.
Farley, H. M., & Smith, Z. A. (2020). *Sustainability: if it's everything, is it nothing?*. 2nd ed. Routledge.
Felstead, A. (2022). *Remote working: A research overview*. Routledge.
Field, J. M., Fotheringham, D., Subramony, M., Gustafsson, A., Ostrom, A. L., Lemon, K. N., ... & McColl-Kennedy, J. R. (2021). Service research priorities: designing sustainable service ecosystems. *Journal of Service Research*, 24(4), 462-479. https://doi.org/10.1177/10946705211031302.
Figge, F., & Hahn, T. (2004). Sustainable value added—measuring corporate contributions to sustainability beyond eco-efficiency. *Ecological Economics*, 48(2), 173-187. https://doi.org/10.1016/j.ecolecon.2003.08.005.
Fiorentino, S. (2019). Different typologies of 'co-working spaces' and the contemporary dynamics of local economic development in Rome. *European Planning Studies*, 27(9), 1768-1790. https://doi.org/10.1080/09654313.2019.1620697.
Finney, S. J., & Di Stefano, C. (2013). Non-normal and categorical data in structural equation modelling. In: G. R. Hancock, & R. O. Mueller (Eds.), *Structural Equation Modelling: A second course*, (pp. 439-492), Information Age.
Florence, E. S., Fleischman, D., Mulcahy, R., & Wynder, M. (2022). Message framing effects on sustainable consumer behaviour: a systematic review and future research directions for social marketing. *Journal of Social Marketing*, 12(4), 623-652. https://doi.org/10.1108/JSOCM-09-2021-0221.
Frenken, K., & Schor, J. (2019). Putting the sharing economy into perspective. In O. Mont (Ed.), *A research agenda for sustainable consumption governance* (pp. 121-135). Edward Elgar Publishing.
Gagné, M. 2003. The role of autonomy support and autonomy orientation in prosocial behavior engagement. *Motivation and Emotion*, 27, 199-223. https://doi.org/10.1023/A:1025007614869.
Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26(4), 331-362. https://doi.org/10.1002/job.322.
Gagné, M., Parker, S. K., Griffin, M. A., Dunlop, P. D., Knight, C., Klonek, F. E., & Parent-Rocheleau, X. (2022). Understanding and shaping the future of work with self-determination theory. *Nature Reviews Psychology*, 1(7), 378-392. https://doi.org/10.1038/s44159-022-00056-w.
Galbreth, M. R., & Ghosh, B. (2013). Competition and sustainability: The impact of consumer awareness. *Decision Sciences*, 44(1), 127-159. https://doi.org/10.1111/j.1540-5915.2012.00395.x.
Gandini, A. (2015). The rise of coworking spaces: A literature review. *Ephemera*, 15(1), 193-205.
Garrett, L. E., Spreitzer, G. M., & Bacevice, P. A. (2017). Co-constructing a sense of community at work: The emergence of community in coworking spaces. *Organization Studies*, 38(6), pp. 821-842. https://doi.org/10.1177/0170840616685354.

Geissinger, A., Laurell, C., Öberg, C., & Sandström, C. (2019). How sustainable is the sharing economy? On the sustainability connotations of sharing economy platforms. *Journal of Cleaner Production*, 206, 419-429. https://doi.org/10.1016/j.jclepro.2018.09.196.
Gerdenitsch, C., Scheel, T. E., Andorfer, J., & Korunka, C. (2016). Coworking spaces: A source of social support for independent professionals. *Frontiers in Psychology*, 7. https://doi.org/10.3389/fpsyg.2016.00581.
Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods*, 16(1), 15-31. https://doi.org/10.1177/1094428112452151.
Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-607.
Gremyr, I., Birch-Jensen, A., Kumar, M., & Löfberg, N. (2022). Quality functions' use of customer feedback as activation triggers for absorptive capacity and value co-creation. *International Journal of Operations & Production Management*, 42(13), 218-242. https://doi.org/10.1108/IJOPM-11-2021-0692.
Grönroos, C. (2008). Service logic revisited: who creates value? And who co-creates?. *European Business Review*, 20(4), 298-314. https://doi.org/10.1108/09555340810886585.
Grönroos, C. (2015). *Service management and marketing: managing the service profit logic*. 4th ed. Wiley & Sons.
Grönroos, C. (2011). Value co-creation in service logic: A critical analysis. *Marketing Theory*, 11(3), 279-301. https://doi.org/10.1177/1470593111408177.
Grönroos, C., & Gummerus, J. (2014). The service revolution and its marketing implications: service logic vs service-dominant logic. *Managing Service Quality: An International Journal*, 24(3), 206-229.
Grönroos, C., & Voima, P. (2013). Critical service logic: making sense of value creation and co-creation. *Journal of the Academy of Marketing Science*, 41(2), 133-150. https://doi.org/10.1007/s11747-012-0308-3.
Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2011). *Survey methodology*. 2nd ed. John Wiley & Sons.
Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. Field Methods, 18(1), 59-82. https://doi.org/10.1177/1525822X05279903.
Haas, M. R. 2010. The double-edged swords of autonomy and external knowledge: Analyzing team effectiveness in a multinational organization. *Academy of Management Journal*, 53(5): 989-1008. https://doi.org/10.5465/amj.2010.54533180.
Habib, R., White, K., Hardisty, D. J., & Zhao, J. (2021). Shifting consumer behavior to address climate change. *Current Opinion in Psychology*, 42, 108-113. https://doi.org/10.1016/j.copsyc.2021.04.007.
Habibi, M. R., Davidson, A., & Laroche, M. (2017). What managers should know about the sharing economy. *Business Horizons*, 60(1), 113-121. https://doi.org/10.1016/j.bushor.2016.09.007.
Halkos, G., & Gkampoura, E. C. (2021). Where do we stand on the 17 Sustainable Development Goals? An overview on progress. *Economic Analysis and Policy*, 70, 94-122. https://doi.org/10.1016/j.eap.2021.02.001.
Hamrick, A. B., Burrows, S., Waddingham, J. A. & Crossley, C. D. (2024). It's my business! The influence of psychological ownership on entrepreneurial intentions and work performance. *Journal of Organizational Behavior*, 45(8), 1208-1230. https://doi.org/10.1002/job.2818.
Hart, S. L., & Milstein, M. B. (2003). Creating sustainable value. *Academy of Management Perspectives*, 17(2), 56-67. https://doi.org/10.5465/ame.2003.10025194.
Heinonen, K., & Strandvik, T. (2015). Customer-dominant logic: foundations and implications. *Journal of Services Marketing*, 29(6/7), 472-484. https://doi.org/10.1108/JSM-02-2015-0096.
Heinonen, K., Strandvik, T., Mickelsson, K. J., Edvardsson, B., Sundström, E., & Andersson, P. (2010). A customer-dominant logic of service. *Journal of Service Management*, 21(4), 531-548. https://doi.org/10.1108/09564231011066088.

Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management*, 21(5), 967-988. https://doi.org/10.1177/014920639502100509.
Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, 1(1), 104-121. https://doi.org/10.1177/109442819800100106.
Hossain, M. (2020). Sharing economy: A comprehensive literature review. *International Journal of Hospitality Management*, 87, 102470. https://doi.org/10.1016/j.ijhm.2020.102470.
Howard, J. L., Gagné, M., Morin, A. J., & Forest, J. (2018). Using bifactor exploratory structural equation modeling to test for a continuum structure of motivation. *Journal of Management*, 44(7), 2638-2664. https://doi.org/10.1177/0149206316645653.
Howell, T. (2022). Coworking spaces: An overview and research agenda. *Research Policy*, 51(2), 104447. https://doi.org/10.1016/j.respol.2021.104447.
Hoyer, W. D., MacInnis, D. J., Pieters, R., Chan, E., & Northey, G. (2020). *Consumer behaviour*. 2nd ed. Cengage.
Huang, M. H., Malthouse, E., Noble, S., & Wetzels, M. (2021). Moving service research forward. *Journal of Service Research*, 24(4), 459-461. https://doi.org/10.1177/10946705211040022.
Jakonen, M., Kivinen, N., Salovaara, P., & Hirkman, P. (2017). Towards an Economy of Encounters? A critical study of affectual assemblages in coworking. *Scandinavian Journal of Management*, 33(4), 235-242. https://doi.org/10.1016/j.scaman.2017.10.003.
Johansson, E., Rådman, E., Raharjo, H., & Bosch-Sijtsema, P. (2024). Identifying and prioritizing coworking member needs. *Journal of Corporate Real Estate*, 26(4), 309-330. https://doi.org/10.1108/JCRE-06-2022-0020.
Johns, J., Yates, E., Charnock, G., Pitts, F. H., Bozkurt, Ö., & Ozdemir Kaya, D. D. (2024). Coworking spaces and workplaces of the future: Critical perspectives on community, context and change. *European Management Review*. https://doi.org/10.1111/emre.12654.
Kahneman, D. (2011). *Thinking, Fast and Slow*. Macmillan
Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-291.
Kelleher, C., N. Wilson, H., Macdonald, E. K., & Peppard, J. (2019). The score is not the music: integrating experience and practice perspectives on value co-creation in collective consumption contexts. *Journal of Service Research*, 22(2), 120-138. https://doi.org/10.1177/1094670519827384.
Knott, E., Rao, A. H., Summers, K., & Teeger, C. (2022). Interviews in the social sciences. Nature Reviews Methods Primers, 2, 73. https://doi.org/10.1038/s43586-022-00150-6.
Kojo, I., & Nenonen, S. (2016). Typologies for co-working spaces in Finland–what and how?. *Facilities*, 34(5/6), 302-313. https://doi.org/10.1108/F-08-2014-0066.
Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., de Vet Henrica, C. W., & Van Der Beek, A. J. (2011). Conceptual frameworks of individual work performance: A systematic review. *Journal of Occupational and Environmental Medicine*, 53(8), 856-866. https://doi.org/10.1097/JOM.0b013e318226a763.
Koskela-Huotari, K., Svärd, K., Williams, H., Trischler, J., & Wikström, F. (2024). Drivers and hinderers of (un) sustainable service: a systems view. *Journal of Service Research*, 27(1), 106-123. https://doi.org/10.1177/10946705231176071.
Kraus, S., Bouncken, R. B., Görmar, L., González-Serrano, M. H., & Calabuig, F. (2022). Coworking spaces and makerspaces: Mapping the state of research. *Journal of Innovation & Knowledge*, 7(1), 100161. https://doi.org/10.1016/j.jik.2022.100161.
Kvale, S. (2007). *Doing interviews*. Sage Publications
Lambert, L. S., & Newman, D. A. (2023). Construct development and validation in three practical steps: Recommendations for reviewers, editors, and authors. *Organizational Research Methods*, 26(4), 574-607. https://doi.org/10.1177/10944281221115374.
Lamm, E., Tosti-Kharas, J., & King, C. E. (2015). Empowering employee sustainability: Perceived organizational support toward the environment. *Journal of Business Ethics*, 128(1), 207-220. https://doi.org/10.1007/s10551-014-2093-z.

Lange, F., & Dewitte, S. (2019). Measuring pro-environmental behavior: Review and recommendations. *Journal of Environmental Psychology*, 63, 92-100. https://doi.org/10.1016/j.jenvp.2019.04.009.

Lancsar, E., Louviere, J. 2008. Conducting discrete choice experiments to inform healthcare decision making. *Pharmacoeconomics*, 26(8), 661-677. https://doi.org/10.2165/00019053-200826080-00004.

Laud, G., & Karpen, I. O. (2017). Value co-creation behaviour–role of embeddedness and outcome considerations. *Journal of Service Theory and Practice*, 27(4), 778-807. https://doi.org/10.1108/JSTP-04-2016-0069.

Laukkanen, M., & Tura, N. (2020). The potential of sharing economy business models for sustainable value creation. *Journal of Cleaner Production*, 253, 120004. https://doi.org/10.1016/j.jclepro.2020.120004.

Leclercq-Vandelannoitte, A., & Isaac, H. (2016). The new office: how coworking changes the work concept. *Journal of Business Strategy*, 37(6), 3-9. https://doi.org/10.1108/JBS-10-2015-0105.

Leech, B. L. (2002). Asking questions: Techniques for semistructured interviews. *PS: Political Science & Politics*, 35(4), 665-668. https://doi.org/10.1017/S1049096502001129.

Lejoux, P., Flipo, A., Ortar, N., Ovtracht, N., Souche-Lecorvec, S., & Stanica, R. (2019). Coworking, a way to achieve sustainable mobility? Designing an interdisciplinary research project. *Sustainability*, 11(24), 1-11. https://doi.org/10.3390/su11247161.

Lejoux, P., Flipo, A., Ortar, N., Ovtracht, N., & Souche-Le Corvec, S. (2024). Coworking spaces: a way of promoting more sustainable mobility and lifestyles? The example of the Auvergne-Rhône-Alpes region of France. In: D. G. Tremblay & G. Krauss (Eds.), *The Coworking (R) evolution* (pp. 160-173). Edward Elgar Publishing.

Li, S., Qu, H., & Wei, M. (2021). Antecedents and consequences of hotel customers' psychological ownership. *International Journal of Hospitality Management*, 93, 102773. https://doi.org/10.1016/j.ijhm.2020.102773.

Lim, W. M., & Bowman, C. (2023). How to establish practical contributions and convey practical implications? Guidelines on locating practice gaps and making recommendations for practice. *Activities, Adaptation & Aging*, 47(3), 263-282. https://doi.org/10.1080/01924788.2023.2232220.

Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In: N. K. Denzin & Y.S Lincoln (Eds.) *The Sage handbook of qualitative research* (5th ed., pp. 97-128). Sage Publication.

Lindman, M., Pennanen, K., Rothenstein, J., Scozzi, B., & Vincze, Z. (2016). The value space: how firms facilitate value creation. *Business Process Management Journal*, 22(4), 736-762. https://doi.org/10.1108/BPMJ-09-2015-0126.

Linneberg, M. S., & Korsgaard, S. (2019). Coding qualitative data: A synthesis guiding the novice. *Qualitative Research Journal*, 19(3), 259-270. https://doi.org/10.1108/QRJ-12-2018-0012.

Lülfs, R., & Hahn, R. (2013). Corporate greening beyond formal programs, initiatives, and systems: A conceptual model for voluntary pro-environmental behavior of employees. *European Management Review*, 10(2), 83-98. https://doi.org/10.1111/emre.12008.

Lülfs, R., & Hahn, R. (2014). Sustainable behavior in the business sphere: A comprehensive overview of the explanatory power of psychological models. *Organization and Environment*, 27(1), 43-64. https://doi.org/10.1177/1086026614522631.

Mariotti, I., Pacchi, C., & Di Vita, S. (2017). Co-working Spaces in Milan: Location Patterns and Urban Effects. *Journal of Urban Technology*, 24(3), 47-66. https://doi.org/10.1080/10630732.2017.1311556.

Marsh, H. W., Morin, A. J. S., Parker, P. D., & Kaur, G. (2014). Exploratory structural equation modelling: An integration of the best features of exploratory and confirmatory factor analysis. *Annual Review of Clinical Psychology*, 10, 85-110. https://doi.org/10.1146/annurev-clinpsy-032813-153700.

Martin, C. J. (2016). The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism?. *Ecological Economics*, 121, 149-159. https://doi.org/10.1016/j.ecolecon.2015.11.027.
Martin, C. L., & Pranter, C. A. (1989). Compatibility Management: Customer-to-Customer Relationships in Service Environments. *Journal of Services Marketing*, 3(3), 5-15. https://doi.org/10.1108/EUM0000000002488.
McDonald, R. P. (1970). The theoretical foundations of principal factor analysis, canonical factor analysis, and alpha factor analysis. *British Journal of Mathematical and Statistical Psychology*, 23(1), 1-21. https://doi.org/10.1111/j.2044-8317.1970.tb00432.x.
McKenzie-Mohr, D. (2000). Fostering sustainable behavior through community-based social marketing. *American Psychologist*, 55(5), 531-537. https://doi.org/10.1037/0003-066X.55.5.531.
McNeish, D. (2017). Thanks coefficient alpha, we'll take it from here. *Psychological Methods*, 23(3), 412-433. https://doi.org/10.1037/met0000144.
Mellner, C., Niemi, M., Pollanen, E., & Osika, W. (2021). Enhancing social and individual sustainability in urban co-living. *International Journal of Housing Markets and Analysis*, 14(5), 1129-1144. https://doi.org/10.1108/IJHMA-09-2020-0117.
Merkel, J. (2015). Coworking in the city. *Ephemera*, 15(2), 121-139.
Mitchell, T. J. (2000). An algorithm for the construction of "D-optimal" experimental designs. *Technometrics*, 42(1), 48-54. https://doi.org/10.1080/00401706.2000.10485978.
Moore, D. S., McCabe, G. P., & Craig, B. A. (2017). Introduction to the Practice of Statistics. 9th ed. W. H. Freeman.
Morgado, F. F., Meireles, J. F., Neves, C. M., Amaral, A. C., & Ferreira, M. E. (2017). Scale development: ten main limitations and recommendations to improve future research practices. *Psicologia: Reflexão e Crítica*, 30(3). https://doi.org/10.1186/s41155-016-0057-1.
Morin, A. J. S., Marsh, H. W., & Nagengast, B. (2013). Exploratory structural equation modelling. In: G. R. Hancock & R. O. Mueller (Eds), *Structural equation modelling: A second course*, (pp. 395-436). Information Age.
Morin, A. J. S., Myers, N. D., & Lee, S. M. (2020). Modern factor analytic techniques: Bifactor models, exploratory structural equation modeling (ESEM) and bifactor-ESEM. In G. Tenembaum, & R. C. Eklund (Eds.), *Handbook of Sport Psychology*, (pp. 1044-1073). Wiley
Mulhall, A. (2003). In the field: notes on observation in qualitative research. *Journal of Advanced Nursing*, 41(3), 306-313. https://doi.org/10.1046/j.1365-2648.2003.02514.x.
Nicholls, R. (2010). New directions for customer-to-customer interaction research. *Journal of Services Marketing*, 24(1), 87-97. https://doi.org/10.1108/08876041011017916.
Nyberg, A. J., Shaw, J. D., & Zhu, J. (2021). The people still make the (remote work-) place: Lessons from a pandemic. *Journal of Management*, 47(8), 1967-1976. https://doi.org/10.1177/01492063211023563.
Olawumi, T. O., & Chan, D. W. (2018). A scientometric review of global research on sustainability and sustainable development. *Journal of Cleaner Production*, 183, 231-250. https://doi.org/10.1016/j.jclepro.2018.02.162.
Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39(3), 607-634. https://doi.org/10.5465/256657.
Orel, M., & Bennis, W. M. (2021). Classifying changes. A taxonomy of contemporary coworking spaces. *Journal of Corporate Real Estate*, 23(4), 278-296. https://doi.org/10.1108/JCRE-12-2020-0061.
Oskamp, S. (2000). A sustainable future for humanity? How can psychology help?. *American Psychologist*, 55(5), 496–508. https://doi.org/10.1037/0003-066X.55.5.496.
Oswald, K., & Zhao, X. (2020). What is a sustainable coworking space?. *Sustainability*, 12(24), 10547. https://doi.org/10.3390/su122410547.
Pandey, S., & Kumar, D. (2020). Customer-to-customer value co-creation in different service settings. *Qualitative Market Research: An International Journal*, 23(1), 123-143. https://doi.org/10.1108/QMR-09-2018-0106.

Park, K. O. (2020). How CSV and CSR affect organizational performance: A productive behavior perspective. *International Journal of Environmental Research and Public Health*, 17(7), 2556. https://doi.org/10.3390/ijerph17072556.
Peck, J., Kirk, C. P., Luangrath, A. W., & Shu, S. B. (2021). Caring for the commons: Using psychological ownership to enhance stewardship behavior for public goods. *Journal of Marketing*, 85(2), 33-49. https://doi.org/10.1177/0022242920952084.
Peer, E., Rothschild, D., Gordon, A., Evernden, Z., & Damer, E. (2021). Data quality of platforms and panels for online behavioral research. *Behavior Research Methods*, 54, 1643-1662. https://doi.org/10.3758/s13428-021-01694-3.
Pierce, J. L., Jussila, I., & Cummings, A. (2009). Psychological ownership within the job design context: Revision of the job characteristics model. *Journal of Organizational Behavior*, 30(4), 477-496. https://doi.org/10.1002/job.550.
Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. *Academy of Management Review*, 26(2), 298-310. https://doi.org/10.5465/amr.2001.4378028.
Pierce, J. L., Kostova, T., & Dirks, K. T. (2003). The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology*, 7(1), 84-107. https://doi.org/10.1037/1089-2680.7.1.84.
Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2016). Recommendations for creating better concept definitions in the organizational, behavioral, and social sciences. *Organizational Research Methods*, 19(2), 159-203. https://doi.org/10.1177/1094428115624965.
Polites, G. L., Roberts, N., & Thatcher, J. (2012). Conceptualizing models using multidimensional constructs: a review and guidelines for their use. *European Journal of Information Systems*, 21(1), 22-48. https://doi.org/10.1057/ejis.2011.10.
Porter, M. E., & Kramer, M. R. (2011) Creating Shared Value. *Harvard Business Review*, January-February.
Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of Interactive Marketing*, 18(3), 5-14. https://doi.org/10.1002/dir.20015.
PHAS (Public Health Agency of Sweden). (2024). När hände vad under pandemin? Available at: https://www.folkhalsomyndigheten.se/smittskydd-beredskap/sjukdomsutbrott/arkiv-for-sjukdomsutbrott/covid-19-pandemin-2019-2023/nar-hande-vad-under-pandemin/ [Accessed 23 Jan 2026].
Rådman, E., Johansson, E., Bosch-Sijtsema, P., & Raharjo, H. (2023). In search of member needs in coworking spaces. *Review of Managerial Science*, 17(3), 881-907. https://doi.org/10.1007/s11846-022-00546-4.
Ramaswamy, V., & Ozcan, K. (2018). What is co-creation? An interactional creation framework and its implications for value creation. *Journal of Business Research*, 84, 196-205. https://doi.org/10.1016/j.jbusres.2017.11.027.
Ramirez, R. (1999). Value co-production: intellectual origins and implications for practice and research. *Strategic Management Journal*, 20(1), 49-65. https://doi.org/10.1002/(SICI)1097-0266(199901)20:1<49::AID-SMJ20>3.0.CO;2-2.
Raykov, T., & Marcoulides, G. A. (2012). A first course in structural equation modeling. 2nd ed. Routledge.
Reichheld, A., Peto, J., & Ritthaler, C. (2023). Research: Consumers' Sustainability Demands Are Rising. *Harvard Business Review*, 18.
Rihova, I., Buhalis, D., Gouthro, M. B., & Moital, M. (2018). Customer-to-customer co-creation practices in tourism: Lessons from Customer-Dominant logic. *Tourism Management*, 67, 362-375. https://doi.org/10.1016/j.tourman.2018.02.010.
Ritzer, G. (2014). Prosumption: Evolution, revolution, or eternal return of the same?. Journal of Consumer Culture, 14(1), 3-24. https://doi.org/10.1177/1469540513509641.
Ruggerio, C. A. (2021). Sustainability and sustainable development: A review of principles and definitions. *Science of the Total Environment*, 786, 147481. https://doi.org/10.1016/j.scitotenv.2021.147481.

Schultz, P. W. (2001). The structure of environmental concern: Concern for self, other people, and the biosphere. *Journal of Environmental Psychology*, 21(4), 327-339. https://doi.org/10.1006/jevp.2001.0227.
Seltman, H. J. (2013). *Experimental Design and Analysis*. Available at: https://www.pmtutor.org/resources/course_resources/Designed_Experiment.pdf. [Accessed 23 Jan 2026].
Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha. Psychometrika, 74, 107-120. https://doi.org/10.1007/s11336-008-9101-0.
Small, M. L. (2009). How many cases do I need?' On science and the logic of case selection in field-based research. Ethnography, 10(1), 5-38. https://doi.org/10.1177/1466138108099586.
Smith, G. T. (2005). On construct validity: issues of method and measurement. *Psychological Assessment*, 17(4), 396-408. https://doi.org/10.1037/1040-3590.17.4.396.
SolAbility (2025). *The Global Sustainable Competitiveness Index 2025*. 14th ed. Solability. Available at: https://solability.com/pdfs/The%20Global%20Sustainable%20Competitiveness%20Index%20Report%202025.pdf. [Accessed 23 Jan 2026].
Sonenshein, S. (2014). How organizations foster the creative use of resources. *Academy of Management Journal*, 57(3), 814-848. https://doi.org/10.5465/amj.2012.0048.
Sparkman, G., & Walton, G. M. (2017). Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychological Science*, 28(11), 1663-1674. https://doi.org/10.1177/0956797617719950.
Spinuzzi, C. (2012). Working alone together: Coworking as emergent collaborative activity. *Journal of Business and Technical Communication*, 26(4), 399-441. https://doi.org/10.1177/1050651912444070.
Spinuzzi, C., Bodrožić, Z., Scaratti, G., & Ivaldi, S. (2019). "Coworking is about community": but what is "community" in coworking?. *Journal of Business and Technical Communication*, 33(2), 112-140. https://doi.org/10.1177/1050651918816357.
Spreitzer, G., Bacevice, P., & Garrett, L. (2015). Why people thrive in coworking spaces. *Harvard Business Review*, 93(9), 28-30.
Statista. (2025). *Value of the sharing economy wordwide from 2021 to 2024 with a forecast for 2027 and 2030*. Available at: https://www.statista.com/statistics/830986/value-of-the-global-sharing-economy/?srsltid=AfmBOormSPKqkcrn-iMg_8Hya-XuT-NvYjLbfgPfr5fFw5mg9xQ1sNXg. [Accessed 23 Jan 2026].
Swami, V., Maïano, C., Morin, A. J. (2023). A guide to exploratory structural equation modeling (ESEM) and bifactor-ESEM in body image research. *Body Image* 47, 101641. https://doi.org/10.1016/j.bodyim.2023.101641.
Tapia-Fonllem, C., Corral-Verdugo, V., Fraijo-Sing, B., Durón-Ramos, M. F. (2013). Assessing sustainable behavior and its correlates: A measure of pro-ecological, frugal, altruistic and equitable actions. *Sustainability* 5(2), 711-723. https://doi.org/10.3390/su5020711.
Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.
Tremblay, D. G., & Scaillerez, A. (2020). Coworking spaces: New places for business initiatives?. *Journal of Innovation Economics & Management*, 31(1), 39-67. https://doi.org/10.3917/jie.pr1.0063.
Trudel, R. (2019). Sustainable consumer behavior. *Consumer Psychology Review*, 2(1), 85-96. https://doi.org/10.1002/arcp.1045.
Toffler, A. (1980). *The Third Wave*. William Morrow.
United Nations (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. A/RES/70/1.
Van Dyne, L. & Pierce, J. L. (2004). Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behaviour. *Journal of Organizational Behavior*, 25(4), 439-459. https://doi.org/10.1002/job.249.
Vargo, S. L., & Lusch, R. F. (2016). Institutions and axioms: an extension and update of service-dominant logic. *Journal of the Academy of Marketing Science*, 44(1), 5-23. https://doi.org/10.1007/s11747-015-0456-3.

Vargo, S. L., & Lusch, R. F. (2008). Service-dominant logic: continuing the evolution. *Journal of the Academy of Marketing Science*, 36(1), 1-10. https://doi.org/10.1007/s11747-007-0069-6.
Vargo, S. L., & Lusch, R. F. (2014). Service-dominant logic: What it is, what it is not, what it might be. In: R. F. Lusch, & S. L. Vargo (Eds.). *The service-dominant logic of marketing* (pp. 43-56). Routledge.
Vargo, S. L., & Lusch, R. F. (2004). The four service marketing myths: remnants of a goods-based, manufacturing model. *Journal of Service Research*, 6(4), 324-335. https://doi.org/10.1177/1094670503262946.
Vargo, S. L., Wieland, H., & Akaka, M. A. (2015). Innovation through institutionalization: A service ecosystems perspective. *Industrial Marketing Management*, 44, 63-72. https://doi.org/10.1016/j.indmarman.2014.10.008.
Vass, C., Rigby, D., Payne K. 2017. The role of qualitative research methods in discrete choice experiment: a systematic review and survey of authors. *Medical Decision Making*, 37(3), 298-313. https://doi.org/10.1177/0272989X16683934.
Viswesvaran, C., & Ones, D. S. (2000). Perspectives on models of job performance. *International Journal of Selection and Assessment*, 8(4), 216-226. https://doi.org/10.1111/1468-2389.00151.
Wang, X., & Cheng, Z. (2020). Cross-sectional studies: strengths, weaknesses, and recommendations. *Chest*, 158(1), 65-71. https://doi.org/10.1016/j.chest.2020.03.012.
Waters-Lynch, J., & Potts, J. (2017). The social economy of coworking spaces: a focal point model of coordination. *Review of Social Economy*, 75(4), 417-433. https://doi.org/10.1080/00346764.2016.1269938.
WCED (Word Commission on Environment and Development). (1987). *Our Common Future*. Oxford University Press.
Weijs-Perrée, M., Van De Koevering, J., Appel-Meulenbroek, R., & Arentze, T. (2019). Analysing user preferences for co-working space characteristics. *Building Research & Information*, 47(5), 534-548. https://doi.org/10.1080/09613218.2018.1463750.
Whetten, D. A. (1989). What constitutes a theoretical contribution?. *Academy of Management Review*, 14(4), 490-495. https://doi.org/10.5465/amr.1989.4308371.
White, K., Habib, R., & Hardisty, D. J. (2019). How to SHIFT consumer behaviors to be more sustainable: A literature review and guiding framework. *Journal of Marketing*, 83(3), 22-49. https://doi.org/10.1177/0022242919825649.
Whittaker, T. A., & Schumacker, R. E. (2022). *A beginner's guide to structural equation modeling*. 5th ed. Routledge.
Wolfson, A., Mark, S., Martin, P. M., & Tavor, D. (2014). Sustainability and service. In: A. Wolfson, S. Mark, P. M. Martin, & D. Tavor (Eds.). *Sustainability through Service: Perspectives, Concepts and Examples* (pp. 31-48). Springer International Publishing.
Wright, A., Marsh, D., & Wibberley, G. (2022). Favours within'the tribe': Social support in coworking spaces. *New Technology, Work and Employment*, 37(1), 59-78. https://doi.org/10.1111/ntwe.12214.
Yi, Y., & Gong, T. (2013). Customer value co-creation behavior: Scale development and validation. *Journal of Business Research*, 66(9), 1279-1284. https://doi.org/10.1016/j.jbusres.2012.02.026.
Yin, R. K. (2014). *Case study research: design and methods*. 5th ed. Sage Publications.
Zakoth, D., Mauroner, O., & Emes, J. (2024). The role of makerspaces in innovation processes: an exploratory study. *R&D Management*, 54(2), 398-428. https://doi.org/10.1111/radm.12594.
Zhang, Y., Liu, G., Zhang, L., Xu, S. and Cheung, M. W. L. (2021). Psychological ownership: A meta-analysis and comparison of multiple forms of attachment in the workplace, *Journal of Management*, 47(3), 745-770. https://doi.org/10.1177/0149206320917195.