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Use-oriented business model

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Abstract

In a world of sustainability challenges, use-oriented product-service system seems promising to encourage resource efficiency. For this project, the concept is integrated in a sustainability-oriented interpretation of the business model Canvas. The aim was to identify enabling factors with a use-oriented business model. A case study was conducted on rental business models in the outdoors apparel industry in Scandinavia. The key findings indicate that companies introducing use-oriented services struggle with increased transportation, linear technological systems, large financial capital needs and cultural barriers. To overcome these challenges the case study points to the importance of partnerships. Furthermore, this paper suggests expanding the Business Model Canvas framework with three additional elements: reduced material flows, reverse logistics and cultural adoption factor. The extended Canvas model can be used as a conceptual tool for companies when developing rental services.

KEYWORDS
Canvas business model, outdoor apparel, product-service system, rental, Scandinavia, services, textile

1 | INTRODUCTION

The industrial revolution induced economic growth through efficient manufacturing processes, automation, and economies of scale (Kónya & Ohashi, 2004). However, this product-focused way of doing business assumes an unsustainable use of natural resources with increased consumption rates along with equally high waste generation. In Sweden for instance, the amount of clothes and home textiles put on the market increased by 40 percent in just a decade, 2000 to 2009 (Carlsson et al., 2011, p. 17). The reason for the significant increase is assumed to be a combination of growing prosperity and lower prices on clothing. At the same time, eight kilos of clothing are thrown away in Sweden annually per person (Tojo, 2012, p. 44) which is almost as high as the European average of clothing disposal, eleven kilos annually per person (EC, 2022). Global textiles production almost doubled between 2000 and 2015. It is evident that production of consumer goods contributes significantly to resource depletion and global warming in the world (Schor, 2010; Shuk, 2016).

1.1 | Needs for business model development

Business models are traditionally designed according to a linear take-make-dispose logic, which motivates companies to maximize profit by selling large quantities of products that are manufactured to minimal costs (EMF, 2013). However, business models that shift focus from selling products to providing services enable firms to create values with less resource usage (Charter & Polonsky, 1999), which can potentially decouple the satisfaction of consumer needs from environmental impacts (Tunn et al., 2021). It assumes multiple material loops of reusing, repairing and remanufacturing a product before it is turned into waste (EMF, 2013). The phenomenon of making more use of

products through services is referred to as product-service systems (Baines et al., 2007; Mont, 2004; Tukker, 2015; Tukker & Tischner, 2006). This system entails a mix of products and services that together fulfill customer needs. Businesses profit by maximizing units-of-services delivered.

Use-oriented product-service systems are commonly founded on principles of leasing, renting or pooling (Tukker, 2004), which is not a novel phenomenon; for some product types it is the norm. For instance, outdoors associations commonly offer rentals of ski equipment (Klingelhöfer, 2018). However, renting out a wide range of consumer goods for casual use in large scale is a new trend (Åkerlund, 2018; Batat, 2019; Eidse, 2022). Start-ups are emerging that offers rentals and subscription-based leasing services. New actors that take the lead with innovative service offerings may pressure established manufacturing companies to follow the rental trend in order to stay competitive (Bessant & Davies, 2007). Already established manufacturing companies that currently sell products may, however, find it challenging to shift focus to services (Kindström, 2010). Bocken et al. (2014) advocate that it requires fundamental changes of the core business, its purpose and daily processes.

Due to the challenges in terms of organizational changes required, there are few examples of a product manufacturer that has fully transit into a service provider (Oliva & Kallenberg, 2003). Rarely, if ever, is an example presented of a company that previously sold products and have succeeded in shifting to merely renting out or leasing products. There are not sufficient guidelines and tools for practitioners to transit from a product to a service dominant logic business model (Baines et al., 2007). Integrating services into an existing product offer requires changes to the organizational structure, management and culture (Barquet et al., 2013; Kindström, 2010). If these elements are not considered carefully, businesses risk falling into "the service paradox," which entails that the firm has invested heavily in service offerings, the operations require high costs and no returns are realized (Gebauer et al., 2005). Reim et al. (2015) argue that companies seeking to make the shift towards services must engage in an organizational transformation in the way it creates, delivers, and captures value.

From a theoretical point of view, most business models assume that profit is made on sales of a product and the ownership by the consumer after the transaction is taken for granted (Bocken et al., 2014; Lewandowski, 2016). Little emphasis is placed on service aspects in the business model that enables other ownership structures of products. Meier et al. (2010) argue that more investigation is needed on how businesses may capture values that are co-created with consumers meanwhile retaining the ownership of a product. This calls for alternative views of meeting consumer needs, such as that of what the product-service system epistemology offers.

1.2 | Use-oriented logic

The concept of product-service system has been widely discussed in research during the past decade. However, most studies have focused on its design, environmental benefits, and strategic business advantages (Tukker, 2015). Commonly for most existing studies is their conceptual nature. Boehm and Thomas (2013) argue that many studies present vague results, and the research field inquires empirical studies and in-depth investigations in order to deliver concrete outcomes. To stimulate wider diffusion of product-service systems, investigation is needed on the implementation process and how to best manage the transformation from selling products to providing services (Azarenko et al., 2009; Baines et al., 2007; Mont, 2002; Reim et al., 2015). The transition is often perceived as a gradual process (Oliva & Kallenberg, 2003) and there is limited research of what constitutes a successful business model within this shift (Kindström, 2010). Business models and product service systems are two bodies of knowledge that have not been discussed extensively together (Meier et al., 2010; Reim et al., 2015).

Studies that use a business model framework, such as Barquet et al. (2013) and Kindström (2010), tend to discuss several types of product-service systems, which provides breadth and a general understanding. However, knowledge about the use-oriented product-service system is scattered in many different places in literature and few studies presents an in-depth investigation. Certain areas of use-oriented product-service systems have previously been studied such as the use of balance scorecards (Tu & Ngo, 2018), consumer adoption (Armstrong et al., 2016) and financial scenarios, product design and supply chain (Mont et al., 2006). By combining theory on use-oriented product-service systems and business models, this study contributes with a more holistic view of the use-oriented business logic.

1.3 | Aim, research questions and delimitations

The aim in this project is to identify enabling factors for a use-oriented business model. It explains the identified prerequisites for a business to introduce use-oriented services into their existing product offer. The following research question guide the analysis of the Scandinavian outdoor apparel industry:

- What are the perceived challenges for companies to introduce use-oriented services in combination with their existing product offer?

Focus has been placed on business model development as part of a use-oriented service system. Despite the nature of a business model transition to service orientation, the empirical data represent a snapshot where communicated ambitions and perceived challenges provide process understandings. The Business Model Canvas was selected because it is commonly used. Additional research design choices are accounted for in the following sections.

2 | METHOD

Choices made in the flexible research design of a case study in the apparel industry in Sweden are presented below. Prior to carrying out

TABLE 1 Data collection in the case study

Role and company	Type of interview	Interview date	Validation date
Project Manager Circular business models, Fjällräven	Personal	2019-02-07	2019-02-08
Sustainability Manager, Fjällräven	Personal	2019-02-19	2019-04-18
Business Developer, Fjällräven	Personal	2019-02-22	2019-02-26
CEO, Its Re:leased	Phone	2019-02-25	2019-02-26
CEO, Fjällräven	Phone	2019-03-05	2019-03-05
CEO, Aktivt Uteliv	Phone	2019-03-13	2019-03-13
Sustainability Developer, Bergans	Phone	2019-03-21	2019-03-22
CEO, Naturkompaniet	Phone	2019-03-28	2019-03-28
CEO, Rent a plagg	Phone	2019-04-02	2019-04-02
Retail Manager, Houdini	Email	2019-04-02	
Business Developer, Houdini	Seminar	2019-04-04	

the empirical study literature investigations were carried out to identify the research forefront, focusing on business models and use-oriented services.

2.1 | Case companies as *one* unit of analysis

Case companies were selected as *one* unit of analysis, with the three primary selection criteria: a use-oriented business model which means that renting, leasing and or pooling as defined by Tuuker (2004), operations in the Scandinavian outdoor apparel industry and corporate management support to contribute to the project. To assure inclusion of multiple views from actors in different positions in relation to a value system, both manufacturers and retailers were contacted. Seven companies agreed to contribute in the empirical study: Fjällräven, Houdini, Bergans, Naturkompaniet, Rent-a-plagg, Aktivt Uteliv and Re:leased.

Data collection was carried out through secondary empirical corporate material and in personal interviews (February–April 2019). In-depth interviews were carried out to provide details and rich descriptions of experiences of a use-oriented business model. Interviewees were informed of the descriptive research aims with ambitions to comprehend implications for service business models. Interviewees were informed of their rights, GDPR and ethical guidelines, as well as the theme of the dialogue in terms of two central illustrations.

A pilot study was carried out in an initial corporate document analysis and interview. This pilot study provided information about selecting interview persons in the other companies. Key informants (Table 1), with insights of the business model and experiences of use-oriented services of each company were interviewed and given a chance to validate the transcription of the interview.

In addition to interviews, data were collected through secondary sources to enable triangulation, to increase internal validity. These secondary sources consist of CSR-reports, corporate evaluation reports, web pages and newspaper articles.

2.2 | Data analysis and research quality assurance

A content analysis, carried out in three steps as proposed by Elo et al. (2014), was used in the analysis of the empirical material. The three steps, preparation, organization, and reporting may appear linear but, the process, should be seen as iterative. In the preparation step, the pilot study serves as a test of the interview guide. Interviews were carried out parallel to writing up analytical texts that were gradually refined in line with what Miles and Huberman (1994) refer to as an inductive research process. The organization step refers to transcribing and coding the interview material in an iterative process. The last step in the analysis is that of reporting, which is part of the analysis process.

Grounds for quality assurance are created throughout the research process. Credibility, being confident that the findings are true and valid (Lincoln & Guba, 1985) is in this project seen in triangulation and validation of interview transcripts. Transferability refers to findings being applicable in other contexts (*ibid.*) is closely related to generalization. Case studies cannot be statistically generalizable to a large population. That is not their role. However, they can provide grounds for making a transfer given contextual understandings.

3 | A CONCEPTUAL FRAMEWORK

The two key concepts for this study, product-service system (PSS) and business model (BM), are briefly presented in this section. It also includes a description of a particular kind of PSS-based BM called a use-oriented business model (UO BM), which is of particular significance to this study.

3.1 | Product-service systems

A PSS includes a combination of products and services (Boehm & Thomas, 2013), where the product is just a means to deliver the service. PSSs allow businesses to make profit from offering product

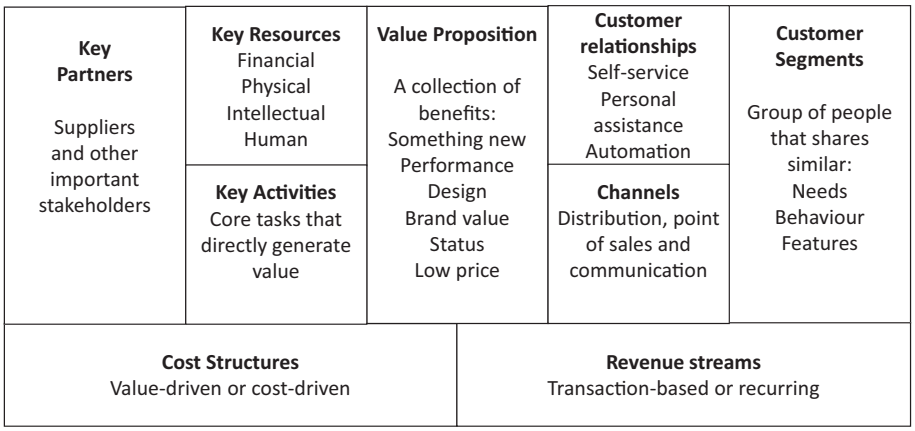

FIGURE 1 Canvas business model, the nine components with some examples. *Source*: Based on Osterwalder and Pigneur (2010, p. 40).

utility or selling a finished result, rather than selling ownership (Baines et al., 2007). It creates initiatives for the firm to maximize the number of services delivered rather than to maximize the number of sold units, which may lead to micro-level resource efficiency (Halme et al., 2004). Since the producer owns PSS products, it creates incentives to use them intensively, prolong their life cycle and to take responsibility for the products after life. This means, in theory, that fewer products are needed to meet customer needs. PSSs can reduce value chain material flow due to closed-loop material management (Tukker & Tischner, 2006), which in the long run may lead to a dematerialized future (Cook et al., 2006).

PSSs do not inherently lead to environmental improvements, despite their resource-efficiency potential (Blüher et al., 2020; Tukker, 2004). How consumers use the products (in terms of frequency and tear), how the PSSs are used as substitute to purchasing and how consumers travel to access the products are considerable factors (Gofetti et al., 2022; Johnson & Plepys, 2021). From a business point of view, Bocken et al. (2014) note that an organization's ability to minimize production volume and remove waste dedicates its environmental performance. There are inconsistencies in the literature regarding PSSs and sustainability (Tukker, 2015). Some studies incorporate environmental improvements in the definition of a PSS (Mont, 2004; Moro et al., 2022), while others do not to ensure the term applies in other areas (Boehm & Thomas, 2013). Tukker and Tischner (2006, p. 1552) define a PSS as "a mix of tangible products and intangible services designed and combined so that they are jointly capable of fulfilling final customer needs".

Research shows that adding services to a product-focused business affects its core by altering value generation, money flows, marketing principles, manufacturing processes, organisational structure, and corporate culture (Boehm & Thomas, 2013; Mont, 2002; Tukker, 2015) which points to needs for altered BM.

3.2 | Business models

Although BMs have been discussed for years, the literature offers conflicting definitions (George & Bock, 2011). Despite variances in definitions, scholars seem to agree that BMs frames how an organization creates value from its business activities (Chesbrough, 2007; Zott et al., 2011). BMs is defined in this study as "the rationale of how an organization creates, delivers and captures value" (Osterwalder & Pigneur, 2010, p. 14). Osterwalder and Pigneur (2010) operationalized this idea in the so-called Business model Canvas (BMC).

Figure 1 shows BMC's nine blocks. The BM's value proposition is a collection of customer-focused values (Osterwalder et al., 2005). It includes a collection of benefits, for example something new, increased performance, design, brand status or low prices. To tailor the offer, various consumer segments may receive somewhat different value propositions. Each customer category has unique distribution, sales, and communication channels. The channels enable different types of customer relationships, which may range from automation to dedicated personal assistance. Providing value to client segments generates revenue streams that can either be transactional generated at one point of time or recurring.

Delivering the value proposition successfully requires certain key resources and activities that directly generate value, for example manufacturing or problem-solving tasks (Osterwalder et al., 2005). Since corporations rarely possess all resources or undertake all operations alone (Amit & Zott, 2001), they build partnerships with suppliers and other stakeholders. Resources, activities and partnerships results in cost structures that may be developed via a value- or cost-driven paradigm.

3.3 | Use-oriented business models

PSS are commonly categorized as product-, use-, or result-oriented (Mont, 2002). Tukker (2004) expanded this further by deriving eight PSS-based BM archetypes (Figure 2). These models differ in the level of servitization, ranging from pure product to pure service. This study focuses on leasing and renting/sharing, in use-oriented BMs.

Use-oriented PSS (3–5 in Figure 2) are BMs where the company retains the ownership of a product and sell its utility (Charter & Polonsky, 1999). These BMs may be categorized into leasing (unlimited and individual access), renting (limited and shared access) and pooling (simultaneous usage) (Tukker, 2004). Product lease offers

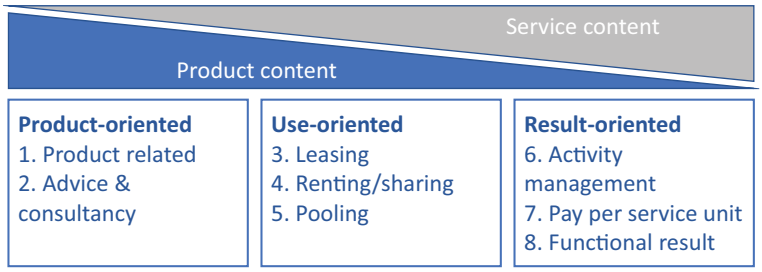

FIGURE 2 Eight types of product-service system business models. *Source*: Based on Tukker (2004, p. 248). [Colour figure can be viewed at wileyonlinelibrary.com]

unlimited access to a product used individually by a customer in exchange for a recurrent fee. Rental implies that customers pay per use for limited product access to a product used by other consumers at other times. Product pooling means other consumers use a product simultaneously, such as car-pooling (Williams, 2007).

A use-oriented BM is characterized by its focus on *access* rather than ownership. Therefore, Tukker and Tischner (2006) argue that the market needs to be segmented by user behavior, not product attributes. Ownerless consumption may be unappealing when possessing a specific product is vital for status and control. As pointed out by McEachern et al. (2020) it may be necessary to find creative methods to change consumer behavior, such as upcycling workshops. The service provider must also incorporate activities that previously were conducted by customers, for instance, installing, maintenance and storage (Grönroos, 2011). Trust difficulties regarding quality, maintenance, and hygiene of used items (Catulli, 2012; Rexfelt & Ornäs, 2009) may necessitate different commercial operations and an expanded network. Mont (2004) points put that use-oriented BMs may also require new accounting practices to support the use-oriented cash flow.

4 | RESULTS

4.1 | Previous experiences of use-oriented business models

Previous research in this century concerning use-oriented business models suggests that despite the many advantages relationship marketing use-oriented business models may offer, they are associated with challenges:

- lacking support in the institutional context (Gao et al., 2011; Mont, 2002)
- high initial investments (Mont, 2004)
- may require a separate business unit (Barquet et al., 2013) and collaboration (Evans et al., 2007)
- difficulties to communicate the values created (Parida et al., 2014)
- financial actor requirements (Reim et al., 2015; Tu & Ngo, 2018).
- cultural barriers (Ceschin, 2013)
- need to partner with other actors (Schoonover et al., 2021)
- change of customer emotions towards use-oriented PSS due to the COVID-19 pandemic (de Medeiros et al., 2021)

Much of the challenges are explained by a shortcoming in the current institutional economy system in which the use-oriented business model needs to be a part of. The findings also suggest that altering the business model to a use-oriented one requires a long-term perspective which may not be compatible with corporate traditions, expectations, or requirements from financial actors.

4.2 | User oriented Canvas business model

Despite the fact that the literature suggests that use-oriented business models are associated with a number of institutional challenges, some companies are actively pursuing a development of their business model in this direction. A synthesis of the respondents' understandings of the UO BM for outdoor apparel is provided in Figure 3.

4.3 | Relationship marketing

Knowing your customer is key in relationship marketing and especially for making service offers. In this particular study, the service is that of access to equipment to enjoy sports and experiences in nature: "The relationship is thus not just about selling goods, but sharing experiences in nature" (Respondent F). The focus on experiences indicates that the value is co-created or even co-produced with customers. Offering a rental or leasing service is an opportunity to collect information about customer preferences and user behavior to a greater extent than traditional retailers normally have access to. All the respondents in this study agree on the importance of nourishing the collaboration with customers and relating to consumer needs for a specific activity with a customized solution. They identify customer types that are associated with certain preferences (Table 2).

Close contact with customers opens for customizing the current service offer. The investigated outdoor facilities companies in this project (Table 3) vary in their service offers and how the service is distributed.

Respondents from the *established* manufacturers Fjällräven, Bergans and Houdini claim that they rent out their products in

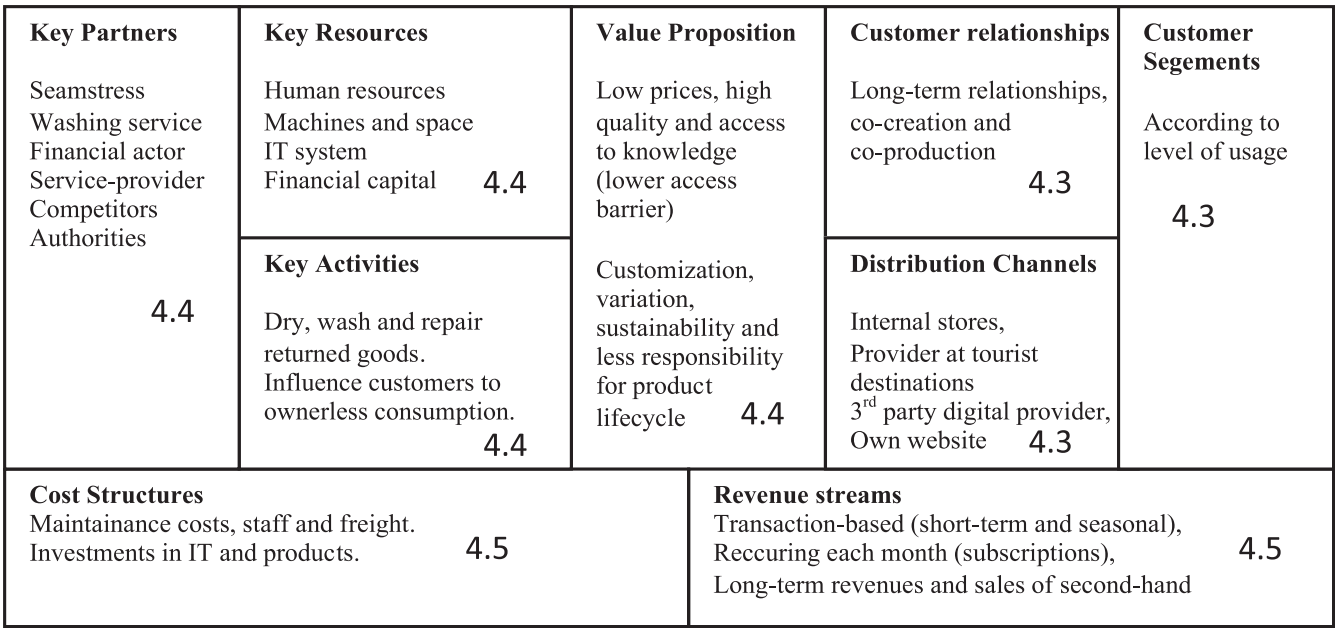

FIGURE 3 Use oriented business model perspective in the Canvas Business Model based on the case study of Swedish outdoor apparel. The nine components of the model are further discussed in the following text (Sections 4.3–4.5).

TABLE 2 Customer type and preferences

Customer type	Preferences
Seldom users and people participating in activities in different environments	Customization
Beginners with less willingness to pay	Lower prizes, access to premium quality, spreading knowledge, decreased entry barriers
Experienced and recurrent customers	Variation, trying new models and styles
Stressed families	Simplicity and solutions to ease their life situation
Younger generation	Ownerless consumption, less responsibilities for maintenance and sustainability

physical stores: their own brand stores or via retailers. *The start-ups* Re:leased, and Aktivt Uteliv offers rentals through their websites. Rent a Plagg aslo collaborates with several travel agents that offer rental service in combination with their trips.

4.4 | Resources, activities, and partnerships

Putting a user-oriented business model in practice requires access to resources, willingness to provide certain activities and an organizational structure that supports this (Figure 4). The current financial system is based on selling products and credit institutions still use models that account for inventories that quickly are converted into money in a linear flow. Financial capital is therefore needed in a rental model since revenues are generated during a longer time, which points to needs development of alternative depreciation rules.

Respondents in the project provide an intricate context for use-oriented business models that is seen in Figure 4 in terms of access to resources, willingness to conduct activities, and partners in the process. Consumers as co-creators of value is given. The importance of other partners, mentioned by the interviewees, vary depending on what kind of service that is offered.

4.5 | Cost structure and revenue streams

All companies in this study appear to have a value-driven cost structure, as proposed by Osterwalder and Pigneur (2010) when offering a premium value proposition. The empirical result indicates that management of the rental process requires additional costs for labor, storage and maintenance. Since there will be 100 percent returns, there are substantial freight costs. Respondents from both established and start-ups point out that rentals entail substantial financial investments due to a long back-back time until the capital costs of buying the products are fully covered. This supports Mont's (2004) argument that cost structures need to be rearranged through new accounting practices to support the cash flow. Moreover, if the rentals would be fully integrated on corporate websites it would require high IT costs.

A firm may either receive transaction-based revenues that are generated at one point of time, or recurring revenues that are ongoing (Osterwalder & Pigneur, 2010). The empirical result indicates that the revenues from rentals are generated in both of these ways. First, all companies offer short-term rentals or seasonal rentals that

TABLE 3 Use-oriented services and distribution channels in the studied outdoor retailer companies

Company	Type of company	Use-oriented service	Distribution channels
Aktivt Uteliv	Retailer Start-up (2014)	Short-term, monthly and seasonal rental	Store and Website
Bergans	Established manufacturer (1908)	Short-term rental	Brand store Oslo and Gjendesheim's cottage
		Leasing subscription	3rd party provider
Fjällräven	Established manufacturer (1960)	Short-term rental	Brand stores and Naturkompaniet
Houdini	Established manufacturer (1993)	Short-term rental	Brand stores
		Leasing subscription	Headquarters
Naturkompaniet	Retailer	Short-term	Majority of stores
Re:leased	Retailer Start-up (2019)	Leasing subscription and short-term rental	Website
Rent a Plagg	Retailer Start-up (2014)	Short-term, monthly and seasonal rental	Website and Travel Agents

FIGURE 4 Activities, partners and resources as interpreted from interviews. [Colour figure can be viewed at wileyonlinelibrary.com]

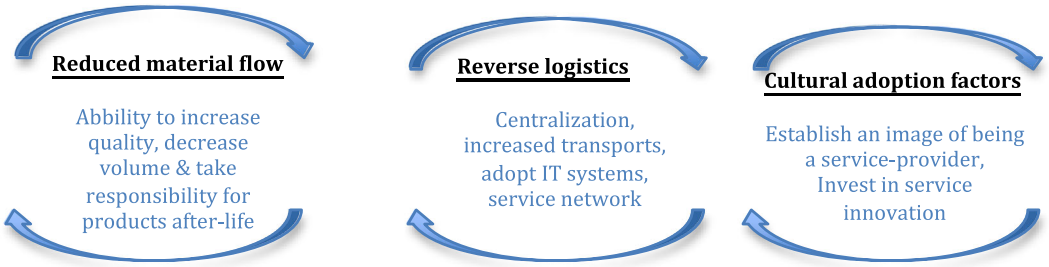

FIGURE 5 Three additional dimensions to a use-oriented product system service business model. [Colour figure can be viewed at wileyonlinelibrary.com]

are paid at one point in time. Second, the subscription concept offered by Re:Leased, as well as Houdini and Bergans' pilot, generate recurring income each month. Common for both types of rental concepts are that the revenue streams are generated during a long time period, which challenges companies to think long-term. Before the products are worn out completely an additional income can be generated from selling the products as second-hand.

5 | DISCUSSION

The results in this empirical study point to needs for expanding the Canvas business model with three additional dimensions in the for it to be of use as an UO BM. These elements are illustrated in Figure 5 and further discussed below.

PSSs are supposed to lead to reduced material flow in the value chain (Tukker, 2015). Since products are transported back and forth between companies and customers, it is important to manage reverse logistics (Mont et al., 2006). Moreover, changes in consumption patterns may require cultural changes (Barquet et al., 2013).

5.1 | Reduced material flow

UO models creates incentives to prolong the product life cycle by producing more durable goods that are easily maintained and remanufactured (Azarenko et al., 2009; Mont et al., 2006). However, the empirical result indicates that manufacturers attitudes to the rental concept is not always positive since it intrudes on their way of doing business. A cooperation agreement stating that suppliers are

responsible for maintaining the products may create incentives for manufacturers to substantially increase quality.

Since the responsibility of products shifts to producers in a rental model (Tukker, 2004), some of the companies in this study worry about wear and tear. The theoretical understanding is that UO BMs encourage companies to use the products as intensively as possible during its whole life cycle (Tukker, 2015). All respondents agree that that there is a balance between striving for maximal utility of products and ensuring that the product is of high performance. For the case companies, producing premium quality products has been their value proposition as manufacturers. Before products are worn out completely, they are therefore likely to be sold as second hand. Thus, the responsibility for products after-life is transferred back to customers, similarly to linear BMs.

Both the empirical and theoretical findings agree that a rental BM breaks the link between profit and production volume. However, Bocken et al. (2014) highlight that the environmental benefits depends on the organization's ability to reduce production volume. Respondents in the case study claim that reducing production volume might be challenging. When ordering products from the factories, one must consider minimum quantity requirements. Drastically reducing quantities on products that are sold large-scale is therefore not possible. Manufacturers may have to change their purchasing routines and order products less frequently, in low season and from fewer suppliers to reduce the production costs.

5.2 | Reverse logistics

When companies gain customers in a linear BM, the physical inventory decreases with each purchase. In a rental model the warehouse increases when the customer base grows. This entails logistical challenges, both to physically and technologically.

First, it is crucial to create a service network that both link companies to customers, but also provide a route backwards from the user to the provider (Parida et al., 2014). An under-developed infrastructure in both of these two directions forces companies to extend their network and create new partners to compensate for the lack of in-house competences and resources (Williams, 2007). When scaling up the rental process, the empirical result indicates that centralization is key. However, transportation to and from a central warehouse is a challenge since one has to account for 100% returns.

Second, today's IT systems are designed for the product to be purchased and then sold. It is not designed to handle several transactions that a rental model requires. This force established companies to either invest heavily in IT to create a new platform and digitalize rental in-house or as advocated by Tukker (2004) collaborating with a third-party service provider. Experiences by the businesses in this case points to how rental services can be challenging for a third party to handle since it requires a lot of work. Mont et al. (2006) clarifies that it is important that the provider can manage the reverse logistics. Hence, it is beneficial for manufacturers to collaborate with start-ups retailers that build all their systems according to the reversed logistics from start. Collaboration with the start-up service provider works well and they consider continuing their collaboration to offer subscription rentals in the future.

5.3 | Cultural adoption factors

Prevailing norms among consumers as well as in business reflect the traditional understanding of relating to personal ownership. Cultural adoption factors therefore relate to managing barriers to trust regarding quality issues, maintenance and hygiene of used goods (Catulli, 2012; Rexfelt & Ornäs, 2009) . This is especially so for soft products that are worn close to the skin and products that are associated with status and control (Tukker & Tischner, 2006). To overcome the cultural barriers, it is crucial to establish the company as a trustworthy service provider in the eyes of the customer (Armstrong et al., 2015; Kindström, 2010; Reim et al., 2015). This case study points to challenges for communicating the values with a premium rental service since customers normally associate rentals to something less exclusive than owning. In this case, collaborating with third-party providers and other partners to influence consumer behavior, has been a solution. In agreement, Ceschin (2013) advocates that finding innovative solutions for a PSS may require collaborating with stakeholders that are not directly involved in the company. Since there is no global network for the development of sustainable services, respondents in this study argue that companies may have to collaborate with competitors to find common solutions. Moreover, policy makers can provide legitimacy and support during the scaling up phase of eco-efficient innovations (Ceschin, 2013; McEachern et al., 2020) and authorities have a significant role to influence consumer behavior.

5.4 | Product system services transitions

This empirical study is a short snapshot in time. However, the case material and respondents account for the transition supports Grönroos (2011) understandings of successful product system services, that the service provider must include customer-performed operations including installation, maintenance, and storage. During the product's use phase, companies interact with customers and employees have a key role to deliver the service. The PSS experiences in this case are in line with Mont's (2004) proposition, that use-oriented PSS involves a longer, more intense interaction with clients than product-oriented BMs. Furthermore, the transition to use-oriented BMs demand new skills, staff, and relationship-building competencies as reported by Cook et al. (2006). Due to increased client involvement, launching a new service is more challenging than a traditional new product that is sold (Kindström, 2010), and sales actors may resist (Barquet et al., 2013). Thus, establishing the organization as a service provider and gaining new partners is vital (Reim et al., 2015).

Our findings indicate that it is difficult for an isolated actor to create, capture, or deliver value in a PSS, which supports earlier research

(Gao et al., 2011). A successful strategy has been to collaborate with external actors if they have distinctive skills which is missing in the organization which also is in line with previous research findings (Evans et al., 2007). The use-oriented BM relies on a successful service network. Such a network should link the firm to the customer, but also contain actors that give a path backwards from the user to the supplier, for example regarding repairs and product take-back. Firms can also partner with a third-party leasing, renting, or pooling service provider, as suggested by Tukker (2004). This may help companies reach new customers and expand.

6 | CONCLUSIONS

The case study of rental providers in the Scandinavian outdoor apparel industry may at first come across as an ideal setting for a PSS transition given the industry's intimate relation to the natural environment and, in many cases, customers with well-developed societal awareness of sustainability challenges. Despite these contexts bound factors, the transition requires continued cultural changes in businesses and in society at large.

Theoretical contributions of this case study are presented in terms of enabling factors for a use-oriented business model. Alternative interpretations of Canvas business model building blocks and three additional dimensions (reduced material flow, reverse logistics and cultural adoption factors) have been suggested in the re-interpretation of the model.

The practical implications are presented as enabling factors in three points below relating to the use of the Canvas business model relating to time perspectives, customer segmentation and organizational aspects for a PSS transition.

First, the UO rental BM is characterized by long-term revenues that, in combination with high initial capital costs of purchasing products, results in requirements of financial resources. There is a long pay-back time in a rental BM, which can be difficult to manage financially. Due to doubts about profitability internal resistance represent another set of challenges to manage the firms.

Second, the customers are segmented according to level of usage. Lower access barrier is a value proposition that attracts seldom users while variation and customization attract frequent users. Since unique information about usage behavior can be collected through a rental service, customers are perceived as co-creators of value. To assure convenience and decrease transaction costs associated with booking, pick-up and return, digital channels are beneficial. Delivering a rental service implies a new set of core activities, including influencing customers in ownerless consumption, where partners and external service-providers are key.

Finally, the result indicates that these challenges are met to a large extent through partnerships. The financial income gap due to long-term revenues may be supported by financial actors or by signing contracts with suppliers that allocate responsibilities, investments, and ownership rights. Multiple actors in society are needed to encourage ownerless consumption and to build the infrastructure needed to support the reverse logistics. By delivering personal meetings prevents wear and tear and choosing sustainable transportation partners, positive environmental gains can be assured. Moreover, companies in this study show that conducting pilot project is key to get the circular business ideas up and running and to increase the organizational learning.

This project contributes to the academic field in several ways. The two bodies of knowledge PSS and BM have not been investigated extensively combined and it enables a holistic view a business that applies the UO concept. Most business model theories assume that profit is made on sales of a product and the ownership by the consumer after the transaction is taken for granted. The result in this study indicates that a rental BM differs substantially from a PO BM in the way it creates, delivers, and captures value. The BMC offers a simple framework and critics advocate that it lacks dynamics and mainly account for economic values. One may question whether the model is suitable to understand sustainable BMs that also create environmental and social values. Accordingly, the result of the case study indicates that not all aspects of the UO business are covered by the BMC. Hence, this study intends to contribute to the research field by illustrating a UO BMC and suggest adding three more elements to manage its circular features.

This study indicates that even though a rental service enables increased utility of resources and contributes to a CE to some extent, material flows are not managed in complete closed loops. At the end of the products' life cycle products are sold as second-hand, which transfers the responsibility for recycling back to consumers. There are few examples of complete PSS and further research is needed on factors that create incentives for firms to make use of old materials and remanufacture products instead of extracting new resources.

The possible usefulness of the lessons learned in this study and the Canvas business model with additions (reduced material flow, reverse logistics and cultural adoption factors) in *other* industrial sectors depends on the context. The general acceptance of rental as an alternative to ownership is connected to societal acceptance. The companies that are willing to move to rental solutions or other UO BMs are probably not able to increase social acceptance on their own. Authorities at different levels in society must take the lead in this work through, for example, changes in legislation or information campaigns aimed at consumers. One example is the European Commission's strategies for sustainable and circular textile, aiming to foster a transition that supports a lifecycle understanding of use of textiles (EC, 2022) in actions like: new design requirements for textiles, clearer information on textiles, tighter controls on greenwashing, addressing the unintentional release of microplastics from textiles, harmonized EU-rules and support for innovations. These policy plans are seen as a precursor to the development of a transition in consumption. In our view, all these actions would enhance the development of rental markets.

A gradual transition to a wider acceptance of co-ownership, pooling resources, and rental is clear in the case of automobiles, formal cloths, and rental of homes. However, these market and industry transitions are also depending on development of enabling technologies,

for example, for signing up for rental and checking the item that is up for lease or rental. The conducted case study points to the importance for practitioners to find successful partnerships in this transition. This recommendation may also apply for other industries to overcome challenges such as long pay-back times, reluctance to ownerless consumption and to build the infrastructure needed to support a reverse logistics. Macro economy factors, seen as context-bound institutional economy factors, such as taxation, subsidies and other means guide production and consumption may also enable industrial transitions that stimulate business model adaptation to a wide range of practitioners. Suggestions for future research include an investigation that proves the profitability with remanufacturing could, in turn, contribute to a wider diffusion of the rental BM. Moreover, the BM framework offers a static approach and the result in this study shows a snapshot of the rental business model at one point in time. Hence, it says little about the transition from selling products to renting products. Future research could adopt a longitudinal approach to explain the various stages of this transition as well as differences between industries and cultural contexts.

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