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THE CRITICAL ASPECTS OF CO-CREATING AND CO-CAPTURING SUSTAINABLE VALUE IN SERVICE BUSINESS MODELS

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Abstract

Numerous researchers and practitioners emphasize the potential to create value through sustainable business models (SBMs). However, little attention has been paid to how sustainable value is proposed, created, delivered, and captured in the organization and how customers perceive sustainable value in service. The aim of this paper is to explore this research gap empirically through a case study of sustainable value (co-)creation through SBMs of sustainable service innovations as experienced among two hotels' managers, employees and customers. The contributions of the study relate to the development of SBMs in service, where the value processes happen simultaneously and where the element value perception has to be added to the extant SBM literature, which is closely related to the creation and delivery of physical goods as in product-oriented industries. The study also contributes through the dual perspective (providers and customers) on sustainable value proposition, value creation, and value capture. The findings reveal different key aspects in creating and capturing sustainable value through SBMs and sustainable service innovation. The managerial implications for creating and implementing SBM in service stress the need for employee engagement, customer involvement, and targeted and personal communication educating internal and external sustainability ambassadors.

Keywords: *value creation, value capture, co-creation, sustainable business models, sustainable service innovation, service industry, case study*

1. Introduction

The pressing urge for a sustainable society has driven a shift from being reactive and focusing on physical products to being proactive and focusing on value (Carrillo-Hermosilla, del Rio & Könnölä, 2010; Pedersen, Gwozdz & Hvass, 2016). Sustainable value has consequently emerged as an area of large interest, where “sustainable” refers to the three pillars of a sustainable development, economic growth, social inclusion and environmental sustainability (www.un.com). This is seen in the research on Product Service Systems, which in many ways has been driven by sustainability issues (Tukker, 2015), the emergence of the concept of sustainable value creation (Hart & Milstein,

2003), and more recently an evolving area of sustainable business models (SBMs) (Schaltegger, Lüdeke-Freund & Hansen, 2012). The basic idea with shifting from product to service, or rather to a combination of these, is to deliver value that is not only dependent on physical goods with the attached resource consumption and emissions. Therefore, an increased understanding of the processes for developing and delivering sustainable value is needed, and different areas of research need to inform one another. A product logic dominates several areas: research on product service systems tends to have a consistent product focus where adding services is seen as the sustainability salvation, and business model research has clearly emerged from manufacturing industry or been based in technology innovation. While these areas have developed with sustainability as a critical aspect, service innovation is still poorly developed in relation to sustainable values (Hornig, Liu, Chou, Tsai & Hu, 2018). Sustainable services cannot most likely be designed from a product-dominant logic, as research shows that service innovation per se needs its own theories and models (Edvardsson & Olsson, 1996; Fitzsimmons & Fitzsimmons, 2000). Therefore, not only is an increased understanding of developing and delivering sustainable values needed, but research has to have an integrated view on product, services, and sustainability.

Innovation is not a one-organization activity. However, much literature in innovation management relates to the development processes of large mature, single firms and with a focus on physical products or technology. As innovation processes are becoming more and more system oriented, not only in combinations of products and services but also in involved actors, areas such as open innovation and innovation ecosystems become critical to relate to, also for understanding sustainable innovation. Important propositions in this research include that competences from different stakeholders need to be integrated in order to access the full potential for innovation results (Chesbrough, 2006) and that innovation is dependent on ecosystem of innovators (Adner, 2017). A recurrent prescription from innovation management relates to the involvement of customers and users: not only need users to be involved, but innovation should be a *co-creation* process.

For this context we adopt the definition of co-creation from O'Hern and Rindfleisch (2010, p. 86) as "*a collaborative NPD activity in which customers actively contribute and/or select the content of a new product offering.*" Both customer and company values need to be enhanced in co-creation (Schnurr, 2017). In service innovation, customers are involved in a more direct way as production and consumption coincide; however, involvement is variable, so providers must focus on understanding both provision and experience of users (Hilton, Hughes & Chalcraft, 2012). For example, hotels, as service providers, attempt to attract potential customers and join forces to interact with their customers to better learn of and understand their needs, in turn to be able to customize offerings and co-create value (Shaw, Bailey & Williams, 2011). Here, value creation is the customer's creation of value-in-use and value co-creation is a function of interaction between companies and customers (partners) where interaction can be interpreted as the junction between provider and customer spheres of influence (Grönroos & Voima, 2013). However, a number of researchers underline a research gap in value co-creation and urge researchers to study the implications of increasing social interaction for service experience co-creation, and to assist managers in coping with and leveraging the phenomenon (Grönroos & Voima, 2013; Jaakkola, Helkkula & Aarikka-Stenroos, 2015). This in combination with innovation management literature being dominated by a product innovation emphasis makes it interesting to investigate a

service industry (hotels) and to let theory with different focuses reinforce each other. Also, hotels are some of the most energy-intensive buildings (Eras et al., 2016), and with global carbon emissions from hotels alone amounting to about 150 Mt of CO₂ in 2014 (Global Sustainable Tourism Dashboard, 2017), the relevance and potentials of studying sustainable value creation and SBMs in this context are evident. The paper aims to illustrate and examine the development of new and SBMs in two hotel cases, where sustainability has been a clear driver for business development. Since co-creation is critical to innovation, both business creators and consumers are included in the study, and their perceptions of the sustainable value proposition, creation, and capture are highlighted. Building on this, critical actions or aspects of new sustainable service innovation will be identified for managers to learn from.

2. Theoretical Framework

The growing interest in sustainability in business development has facilitated an increased need for knowledge on how sustainable value is created and co-created through innovations in services as well as products (Chou, Chen & Conley, 2015; Lodsgård & Aagaard, 2017) and how this impacts the business model. Sustainability changes the traditional way of doing business (Birkin, Polesie & Lewis, 2009), as more than profit through economic growth is the objective including also aspects of social inclusion and environmental sustainability. Therefore, sustainability cannot just be put into the existing models and frameworks (Carroll & Shabana, 2010). In addition, not only one area of research can be related to. Hotels are service businesses, why service innovation contains logics for developing sustainable service business models. The emerging field of sustainable business models provides an analytical lens for understanding the business development practice of today. Furthermore, literature on co-creation of sustainable values contributes with knowledge of the outmost criticality of value co-creation in developing sustainable services.

2.1 Sustainability in service innovation

The growing significance of services emphasizes the need for a service-oriented approach to value creation (Bitner & Brown, 2008). Significant differences exist between product innovation and service innovation (Lusch & Nambisan, 2015), and numerous researchers have stressed the need for newer sets of theories and models of service innovation (e.g., Edvardsson & Olsson, 1996; Fitzsimmons & Fitzsimmons, 2000; Sheehan, 2006). Services are fluid, dynamic, and frequently co-produced in real time by customers, employees, and technology, often with few static physical properties. Processes are often less formalized, and many service providers have no R&D department (Sundbo, 1997). Also, in service the value proposition, value creation (and delivery), and value capture activities happen simultaneously. Consequently, all of the value processes have to be studied to fully understand SBMs in a service innovation context, and not just value creation as in existing SBM research. Service innovation is created not just by the supplier and customer, but also by a network of activities involving various stakeholders (Gummesson, 2008). In relation to goods, services are used to strengthen the value delivery of physical products, while with a service-dominant logic, services have value unto themselves; value, provided through a joint process of provider and consumer, is simultaneously produced and delivered (Vargo & Lusch, 2008). Thus, value is co-created in service, which requires a dual perspective and exploration of the value processes, and not just from the service providers' side. den

Hertog, van der Wietze, and de Jong (2010) stress the need to define the service concept (value proposition) conjointly by defining, understanding, and interacting in networks, and to define the revenue model of new services. Companies are increasingly focusing on adding value for the customer by offering services rather than producing goods, as services can provide value without generating negative impacts on the environment or conflicting with the needs of customers (Yoon, Kim & Rhee, 2012). Consequently, Chen, Wang, Huang, and Shen (2016) stress that service innovation has become increasingly important to firms, with an emphasis on innovative service initiatives, adoption and implementation of the market concept and its value-added chains, and the goal of sustainability.

Hotels and hospitality industries introduce sustainable innovation when they use new sustainable policies and practices or products (Bansal & Roth, 2000). Horng et al. (2018), as some of the few researchers addressing sustainable service innovation, describe how sustainable innovation in the service industry (referring specifically to hospitality providers such as hotels) depends on understanding both sustainability parameters and innovation diffusion parameters. Finding service that exceeds expectations is obviously critical, as in any innovation; their study also reveals the importance of service providers offering sufficient resources within the organization to ensure a creative environment in which employees can engage in developing new services. To exceed customers' expectations of sustainable service innovations, we need to understand how customers perceive the sustainable value created through the service SBM. However, the sustainability of a service innovation cannot be measured using the same metrics as for product-based innovations, as services are fluid, non-physical, and created in real-time with the customers. Therefore, customer perceptions of proposing, creating, and capturing value are highly relevant in fully understanding how to increase the development of business models for sustainable services.

2.2 Sustainable business models

Business models and business model innovation have gained an increasing amount of attention in management research and among practitioners over the last 15 years. A business model is described as a conceptual tool expressing the business logic of a firm (Osterwalder, Pigneur & Tucci, 2005), or the articulation of the logic of value delivery (Teece, 2010). It is a logic describing interdependent activities that transcend a firm (Zott & Amit, 2010). Foss & Saebi (2016) conclude in an extensive literature review that the literature still faces problems with respect to construct clarity and has gaps with respect to the identification of antecedent conditions, contingencies, and outcomes.

Recent research has also identified business models as a means of creating value through sustainable innovations (Boons & Lüdeke-Freund, 2013). The research addressing SBMs has produced different types of models; some have a more industrial perspective while others deal with community development (Stubbs & Cocklin, 2008); some challenge the sole economic perspective of business models by adding ecological and social aspects, as in Joyce, Paquin, and Pigneur's triple-layer business model (2015), while others specifically add social aspects (Yunus, Moingeon & Lehmann-Ortega, 2010) or define a triple bottom-line business model (Osterwalder et al., 2005). Studies on SBMs are structured at organizational, interorganizational, or societal levels (Boons & Lüdeke-Freund, 2013). They tend to be ad hoc and neither systematic nor systemic (Stubbs & Cocklin, 2008). Consequently, there is a challenge in understanding the area due to its multiplicity (Aagaard, 2018). Bocken et al. (2015) make an important

contribution to this understanding by defining nine archetypes of SBMs that differ in what mechanism is achieving improved sustainability. While service is an important mechanism or part of a mechanism, these archetypes are all based on the value delivered by physical products. Value in the pure service industry also depends on goods, although it does not hold the core value of, for example, hotels. The literature on SBMs has few examples from the service industry, which makes studying the area even more interesting.

Whether a business model is a conceptual tool, an articulation, or a description of interactions, and whether it includes sustainability or not, different sources converge to a few specific elements in a business model. Osterwalder et al. (2005) defined nine dimensions in the business model canvas. Richardson (2008) defined three pillars, later applied by Bocken et al. (2015) in the sustainability archetypes, which are reoccurring in many sources. *Value proposition* is the actual product and service offerings for generating economic return (Richardson, 2008). In a sustainable business, the value proposition provides measurable ecological or social value together with economic value (Boons & Lüdeke-Freund, 2013). *Value creation* emphasizes how businesses act and interact in creating deliverables to customers/users and provide these on a market. The creation means seizing new business opportunities, markets, and revenue streams (Teece, 2010; Beltramello, Haie-Fayle & Pilat, 2013). *Value capture* relates to how a business earns its revenue when providing goods, services, or data/information to customers and users (Teece, 2010). These three elements need, however, to be related to the co-action aspect central to service innovation and this particular *action perspective* will further contribute to the SBM area as this is many times not highlighted.

2.3 Co-creation of sustainable value

Several researchers address the concept of value and sustainable value creation (e.g., Bowman & Ambrosini, 2000; Makadok & Coff, 2002; Surie & Ashley, 2008; Lodsgård & Aagaard, 2017; Bruno & Bruno, 2018). From a classical perspective, the value concept is defined as value derived from value-in-use and value-in-exchange. Value-in-use refers to customers'/end-users' subjective perceptions of the value of a product or service, whereas value-in-exchange refers to the transformation of value in use into the monetary achievement of the company (Bowman & Ambrosini, 2000). In this classic economic perspective, the company and its shareholders are able to capture a certain amount of exchange value as determined by the customers' competitive position and bargaining power (Bowman & Ambrosini, 2000; Makadok & Coff, 2002). Thus, value capture refers to economic value gains and is tightly related to value measures and financial performance from a business logic.

In the context of sustainability, many scholars reframe the value construct, meaning that the one-dimensional shareholder logic of profit maximization is extended to more stakeholders and levels of attention (Pedersen et al., 2016; Schaltegger, Hansen & Lüdeke-Freund, 2016; Upward & Jones, 2016). In sustainable businesses, value propositions go far beyond conventional products, services, and process considerations, and are referred to as the triple bottom-line logic (Bocken, Rana & Short, 2015; Pedersen et al., 2016). Actors and entities at all levels may benefit from the transformation of value-in-use into value-in-exchange, meaning that value beyond purely economic gains may also be captured on more levels (Lepak, Smith & Taylor, 2007).

Several researchers have described aspects of customer involvement in service innovation (den Hertog et al., 2010) and in successful service business models (Bitner, Ostrom & Morgan, 2008). They stress how services are co-created and co-produced in real time by customers, employees, and technology and that techniques for designing physical products are not enough for new services. However, few studies have discussed the propositions of theories, models, or systems in co-creation (Prahalad & Ramaswamy, 2004; Vargo & Lusch, 2008), viewing co-creation as an interactive process between players. Lusch, Vargo, and O'Brien (2007) frame the importance of co-creation in the service-dominant logic, and co-creation is also emphasized as being critical to *sustainable* innovation (Sopjani, Hesselgren, Ritzén & Stier Janhager, 2017) following on the argumentation above. Vargo and Lusch (2008) emphasize that services depend on the competence of the providers and their application of knowledge and skill, and that they are for the benefit of another party. The discussions of service-dominant logic (Vargo & Lusch, 2008) indicate that all value creation is co-creational and that both service providers and customers are always co-creators of value. However, service logic literature underlines that co-creation requires direct interaction between the co-creating parties (e.g., Grönroos & Ravald, 2011) and acknowledges that the components of value co-creation require further study. Yet, in service innovation the value proposing, creating, and capturing happen simultaneously. This stresses the need for exploring the action of both providers and customers in service innovation of the entire value process and not just the value creation.

2.4 Research focus

With the specific notion of what service innovation means and what sustainability requires – simultaneous and joint action by providers and customer – the experiences and perceptions of these key stakeholders are important in order to further build knowledge on sustainable service innovation. In addition, business model research put focus on the key elements in innovating new businesses. Consequently, it makes good sense to apply the business model dimensions in research on sustainable value innovation and the research question of this study are therefore:

What are the critical aspects of co-proposing, co-creating and co-capturing sustainable value by providers and customers for sustainable service business models?

In order to enfold the elements of new business models for sustainable services, the businesses' internal understanding of their sustainable value propositions and value creation together with how the customers/users perceive the sustainable value created, delivered, and captured is explored and described.

3. Methodology

In the study of service innovation and SBMs an exploratory case study design was selected to identify the three elements of business models (Richardson, 2008) in the context of sustainability, thus examining: 1) how sustainable value is proposed, created, and captured by service companies through sustainable service innovations, and 2) how the sustainable value is perceived by customers. The exploratory case study approach was selected to ensure a methodological fit between the research question and the status of prior theory (Edmondson & McManus, 2007). As such, case study methodology is

suitable for acquiring rich, detailed data (Eisenhardt & Graebner, 2007) and for identifying emerging themes and patterns (Eisenhardt, 1989). It is appropriate for creating new knowledge about how and why events occur in situations with little theoretical background (McCutcheon & Meredith, 1993).

3.1 Case and informant selection

The goal behind the selection of the case study design was to explore the concept and practices of SBMs through sustainable service innovation. Two of the most sustainable hotels and hotel chains in Denmark were selected as subjects. The criteria for selection of hotels were derived from Green Key’s 13 metrics for evaluation of sustainable/green hotels, as illustrated in Figure 1. Thus, the selected case companies had to be at the forefront of sustainable hotel services and meet the 13 evaluation criteria by showing relevant sustainable activities in each of the 13 dimensions and thereby have received an official Green Key certification. The informants were selected based on the research objective of exploring the internal and external side of sustainable value creation and value capture of SBMs. Therefore, internal representatives of sustainable value processes carried out in the hotels were selected, with representatives from hotel management and different functions of the hotel (kitchen chef, receptionist, bartender, waiter, and cleaner). The external perspective on sustainable value creation and value capture was explored through interview sessions with hotel guests representing local/national and international guests with a combination of families and couples, younger and older hotel guests represented.

Figure 1: Green Key evaluations criteria



Source: Green Key Global (www.greenkey.global/criteria)

3.2 Data collection

In each of the two case studies, data was collected via documentation studies, semi-structured observation, and qualitative, semi-structured interviews with 22 informants from among the management, employees, and customers at the two hotels to explore the value proposition, value creation and delivery, value capture, and value perception of the case companies’ new and sustainable business models. In order to verify the

findings across the hotel industry, an additional interview was conducted with the head of the Danish Hotel Industry Association, Horesta.

Table 1: Case description and data collection overview

Case description—Case 1	Case description—Case 2
A sustainable hotel chain with 7 hotels in Denmark, Norway, France, and Bali. Founded in 2000; 200 employees.	A traditional hotel and conference center founded in 1966. Completely rebuilt into a sustainable hotel in 2001; 30–50 employees.
Case 1 informants	Case 2 informants
1 manager	1 manager
3 employees	4 employees
7 guests	5 guests

The interviews with the informants were conducted using a semi-structured interview guide to explore how sustainable value was proposed, created, and captured as viewed from both the managerial and employee levels and how sustainable value creation, delivery, and capture were perceived by guests of the two hotel chains. The interview sessions lasted 30–60 minutes and were recorded and subsequently transcribed before being incorporated into a case framework. Some of the statements cited in the article have been translated from Danish to English, as the interviews were conducted in the informants’ native language (Danish or English).

Moreover, semi-structured observations were carried out in the case companies to view the service innovations in action and the verbal communication and storytelling from the employees to the customers. In addition, a document study was conducted to examine the communication (e.g., website, brochures, poster, signs) of the sustainable services provided by the hotels to the customers. Data analysis was carried out, applying the meaning categorization method (Kvale & Brinkmann, 2008), whereby similar statements from the informant interviews and documentary data sources were coded into meaning categories to map the overall key themes related to sustainable value creation and value delivery and capture as experienced by the managers, employees, and hotel guests of the two case companies.

4. Findings

In analyzing the new SBMs of the studied hotels, it is of course interesting to scrutinize these models both from a business perspective and a sustainability perspective, i.e., whether there is a new business and whether it is a more sustainable one. Regarding the business, we rely on the traditional parameter of the hotels themselves to assess their performance in guest attractiveness; consequently, the businesses described in the following are according to the cases successful. In evaluating whether the two case companies’ new services were sustainable or not, the Green Key sustainability measures were applied, as this certification is the leading standard for environmental responsibility and sustainable operation in the tourism industry, and therefore beyond what is expected of traditional hotels. As service innovation is a matter of co-creation,

this study contributes with new knowledge of how service innovations through SBMs are proposed, created, delivered, and captured from the perspectives of the hotels/service providers as well as the customers/service users followed by the analysis of how these new business models have emerged and been developed and implemented.

Table 2: Providers and customers perspective on proposed, created, and captured value Case company 1:

<u>Case</u>	<u>Theme:</u> <u>Value proposition</u>	<u>Quotes</u>	<u>Finding</u>
<u>Case 1</u>	Case company 1's sustainable value proposition is Green Key-certified and contains a sustainable service offering aimed at reducing waste, energy, consumption, and pollution/environmental footprint through, e.g., solar-energy power, no chemicals, food waste programs, and local and organic food products.	The management informant emphasized their value to be "... a special kind of sustainable customer caring" as they make it easy for their customers to leave a smaller environmental footprint when staying at the hotel. Being informed about this is also part of the value as stated: "...feel good about yourself..." requires awareness/ perception and is made easier by providing the guests more sustainable options (e.g., organic cola).	The findings reveal different perceptions of the cases' sustainable value among the hotel guests/customers. About 1/3 of the guests had specifically selected the hotels due to their sustainable and ecological service offerings, while another 1/3 had chosen the hotel due to location or look/feel. The last 1/3 didn't know about any specific sustainable value and didn't care much. Some of these even felt annoyed about not being able to do/choose as they used to (e.g., Coca Cola, conventional food, free toiletries) and two questioned the sustainability prizes as more of cosmetic relevance. However, the majority 2/3 perceived the sustainable service innovations as added value and inspiration for their own daily sustainable activities.
<u>Case 2</u>	Case 2's sustainable value proposition also contains product-based elements, as their emphasis has also been on sustainable buildings and its surroundings, demonstrating a holistic approach to sustainable design. The hotel building has earned a number of awards and certification due to environmental labels, recyclability, use of sustainable resources, safety of compounds, and energy in production—such as recycled glass insulation, air-cleaned carpets, solar panel balconies, intelligent energy use in smart rooms, and natural paints.	This knowledge is presented on an information wall to increase awareness (perception) of the sustainable value proposed. In addition, the customers' own consumption is part of the more sustainable choices offered, and Case 2 also addresses the social elements of sustainability as the #1 goal is "to create jobs for people on (the island) Bornholm," as the manager informant stresses.	

<u>Case</u>	<u>Theme:</u> <u>Value co-creation</u>	<u>Quotes</u>	<u>Findings</u>
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<p>Case 1</p>	<p>Employees (waiters, chefs, receptionists, cleaning personnel) were in both case companies heavily involved in identifying, creating, and implementing the hotel’s sustainable value and offerings for and together with the hotel guests. The specific value added activities included for Case 1: finding organic, local/urban food producers, developing new recipes for using food leftovers, developing own organic or non-plastic/polluting SPA products, installing solar panels and motions controls for energy use reduction.</p>	<p>In Case 1 the manager informant emphasizes how <i>“we literally had to rethink our entire supply chain and partners to make the transition,”</i> emphasizing the engagement of suppliers in the sustainable value co-creation.</p>	<p>The customer perceptions of the value creation also differ in relation to the three categorizations mentioned above. Some guests (30%) cared for, showed interest in (asked for more information), and appreciated the sustainable choices, 50% were positive in a more general way (not indicating further interest), while the last 20% indicated that <i>“it’s just fine, as long as it doesn’t raise costs.”</i></p>
<p>Case 2</p>	<p>And for Case 2: deploying a food mill to recycle food waste into energy, building an onsite algae water purification system, and cleaning without chemicals or with only eco-certified cleaning products. Case 2 has over 75 green solutions and the value creation appears several times to be a joint trial-and-error learning process with staff and the customers.</p>	<p>The restaurant manager at Case 2 explains: <i>“Here, you can present your ideas and they’re listened to. Maybe they work, maybe not.”</i></p>	

Case	Theme: Value capture	Quotes	Findings
<p>Case 1</p>	<p>The price and cost structure of Case 1 is a bit higher than their closest competitors, while Case 2 is similar to other hotels in their area. The growth strategy for Case 1 is to develop the concept further into more hotels globally, and with optimization of larger joint procurement and energy and resource usage across the hotel can create a cost/benefit ratio that will benefit growth and future profits. Both case companies experience an increased cost due to some of the sustainable solutions, such as the local and organic food.</p>	<p>Case 1 emphasizes that <i>“we have a strength in procurement by being a chain of seven hotels,”</i> and they keep prices at a reasonable level at their standard. One of the management informants at Case 1 stressed that <i>“by being at the sustainability forefront, we are able to profit on extensive sustainability branding that attracts a certain segment of demanding hotel guests who only use sustainable hotels.”</i></p>	<p>The customer perception of value capture did not differ visibly between the three categorizations, probably because the cost of staying at the case hotels is comparable to other hotels nearby. The owners of Case 1 have made this strategic choice to ensure that sustainability is perceived as an added luxury without posing an added cost. The customers stress that it is not enough to be sustainable if the other key elements of hotel service are</p>
<p>Case 2</p>	<p>Case 2 also serves as a conference venue to be able to keep business running the whole year (as the hotel is located on an island, primarily</p>	<p><i>To be financially sustainable, we had to build a conference center as part of the hotel. You have to have guests all</i></p>	

	<p>visited during summer months), which is a strength in their value capture. However, in case 2 cost reductions are made through more efficient energy and resource usage, e.g., through solar panels, motion controls, and algae water purifications, which are also long-term cost effective. The growth strategy is primarily to sustain and further develop the existing hotel</p>	<p><i>year ... 40% of our costs are wages, and I can't save in this area if I want to deliver 4-star service and still live up to the collective bargaining agreement."</i></p>	<p>not present: <i>"The feeling of luxury is important—to feel comfortable and that the staff treats you well."</i> This is also stressed by another guest: <i>"You don't check into a hotel because you want to save the environment."</i></p>
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4.1 Co-creation in the value processes of sustainable service

As several of the sustainable services of the hotels SBMs relate directly to the behavior of the customers (e.g., organic food and beverages, use of hot water/light, use of sanitary consumables), there is clearly a requirement of co-creation between providers and consumers in sustainable service innovation and SBMs. Thus, by changing their behavior toward more sustainable behaviors and actions, hotel guests (co-)create and co-capture sustainable value. Also, hotel guests would propose new values/services to pursue, provide ideas for new sustainable solutions that they had seen/experienced at other sustainable hotels, and capture sustainable value through their more sustainable behaviors. To capture value through new sustainable services, a hotel still has to perform on the "old parameters" of great hotel business services delivered by service-minded staff, a great location, delicious food, and luxurious, comfortable service targeting the customers' needs. However, it may be necessary to sacrifice other things for sustainability/sustainable services, which is acceptable, but only to some extent. To change the traditional (and expected) hotel value creation, it is necessary to communicate why to co-capture value through happy guests that assist in minimizing the environmental footprints of hotel business. Thus, co-creation happens across all the value processes and proposing, creating, delivering and capturing sustainable value happens simultaneously and/or overlapping in sustainable service innovations and SBMs.

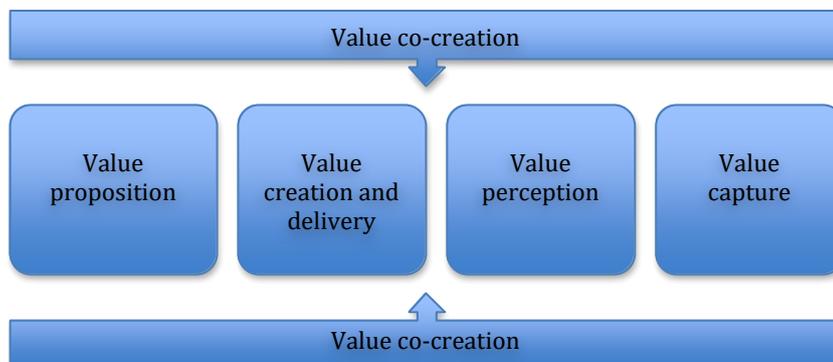
4.2 Value perception and the role of storytelling and communication

As sustainable hotels have to perform service innovative to solve the sustainable issues of running a hotel (energy and water use, waste, CO2 (cleaning) chemicals, etc.), explaining these innovations and the reasoning behind them is important for customers' perception and understanding of the sustainable value. This is of specific importance for non-green customers, who might otherwise not understand or might perceive the sustainable services as less attractive or as a bad alternative to conventional services (e.g., organic toiletries in reusable containers vs. free bags of toiletries). Thus, communication and storytelling are important parts of sustainable value (co-)creation and delivery, particularly in the perception of the sustainability of the value created and delivered. Although both case companies provided their guests with different forms of written communication (posters, leaflets, signs) on their sustainable service innovations (e.g., Case 2 had an entire information wall), the findings from the

customers and staff stressed that one-to-one communication and explanation of the sustainable offerings and solutions was much more effective and believable. Consequently, sustainable hotel staff have new tasks as ambassadors and storyteller, showcasing and explaining the sustainable value creation through actions like, for example: putting up signs on why yesterday's bread is preferable (better for toasting), receptionists and bartenders continuously explaining advantages of organic food choices (Case 1), and staff visualizing explanations of energy savings and purification systems (Case 2). This increase in sustainability awareness not only impacts the hotel, but several employee informants underlined that their work “*creates circles of sustainability*” as they “*bring the sustainable knowledge and habits into their homes*” and other contexts.

Thus, these findings underline the activities of co-creation across all the value processes of SBM as well as an added element, i.e. *value perception*, in sustainable service business models. These findings from the study are illustrated in Figure 2 below.

Figure 2: The sustainable service business model



5. Discussion and concluding remarks

The findings reveal a number of key aspects and activities in proposing, creating, and capturing sustainable value when challenging service innovation with new sustainable values. Three issues are discussed here. They are prevalent throughout the empirical data and relate strongly to the issues in theory of sustainable service innovation and sustainable service business models, which is specifically addressed along with practical implications and future research.

First, findings imply that customers/guests in service companies like hotels play a very potent role in co-creating value and in co-developing the business of the hotel and their sustainable offerings together with the hotel staff through their questions, feedback, and criticism. Thus, hotel guests and their knowledge are an integral part of the sustainable service experience and value co-creation. The findings underline that sustainable value must be co-created with customers, as stated by Vargo and Lusch (2008), and this is a major characteristic of service innovation (Lusch & Nambisan, 2015). A theoretical contribution to the existing research on SBM and co-creation identifies that in service SBM the co-creation happens not only in the phase of value creation, but also in value proposition and value capture. The *sustainable* value will not be achieved if customers and providers do not develop this together – the *consumption* of more sustainable value

is critical to sustainable service business model innovation as the business becomes even stronger, when customers react to providers' propositions and add to these.

However, there is a risk that customers will eventually become the limiting factor as to how (radically) sustainable a hotel/service company can become, if the hotels become too "dependent" on this co-creation. Several of the sustainability improvements in the cases do not affect the value perceived by the customers (e.g., resource efficiency in buildings, water cleaning, reuse of materials) even if they are of major importance for environmental improvements. However, these initiatives may have great advantages on the value capture side if reduced resource consumption can be accounted as cost savings. The service industry is therefore challenged to develop sustainable values that go beyond service creation and delivery. Co-creation of value between providers and customers is critical, but not sufficient to rely on for a innovative sustainable development.

Second, the findings clearly reveal that co-creation takes place - value is created jointly between service providers and customers. There is a fine line here between value proposition and value creation, and the propositions are dependent on the joint effort of customers and providers, as without customers' acceptance the new propositions will have no effect on a sustainable development. Whether a value is developed always depends on customers' acceptance, especially with a value-in-exchange notion, but a business can be successful if there are several choices for customers, which is not the same for a sustainable business (Bocken et al., 2015). Customers need to make (e.g.) resource- and energy-reducing choices that might not add to their initial, and perhaps key, expectation of the service consumed. Ultimately, the customer decides what they consider sustainable value. Thus, although the hotel management and staff may have gone out of their way to create the best possible sustainable solution, the customers eventually determine whether they think a service or business model is sustainable and whether the specific offering or activity creates sustainable value for them. This presents the second theoretical contribution to our understanding of the value processes of BMs. The majority of the literature, as stated before, has a product-dominant logic; however, with sustainable services, (developing and supporting) the element of *value perception* becomes a key element in creating and capturing sustainable value through sustainable service business models. A value perception element stresses the need of awareness of sustainability, which can be enhanced with sustainable communication/storytelling, stewardship/ambassadors and intrinsic/extrinsic motivation toward sustainability through involvement and engagement of the providers' staff and customers.

Finally, hotels need to be more innovative in their sustainable value creation and co-creation, as competition will increase when sustainable hotels are becoming more and more common. This includes the need to educate and inspire hotel staff even more for them to be innovative in their value co-creation with the customers, and to be able to provide solid answers based on valid information, as the informants/hotel guests were slightly critical of sustainability and requested facts and proof of concept. The managerial implications hereof are that new competencies are required. Storytelling abilities are necessary, for example, as the "story" of sustainability must include personal stories and storytelling in explaining the sustainability of the hotel's specific service offerings and business model instead of traditional communication channels like posters, brochures, and sustainability prizes, as these are considered mainstream, and

the latter in particular makes customers skeptical. Hotel employees are key assets in the co-creation of sustainable value and competence development and creation of motivation are key activities. Also, if customers take part in the storytelling, the value capture for the hotels will most likely be strengthened, as they continue to market the hotel and continue co-creation of sustainable value. *Sustainable* value is not only co-created but also *co-captured*.

The one aspect that exceeds others in the analysis is how utterly present the co-aspect is in implementing new SBMs. An implication hereof should be emphasized. Hotels need to make a clear distinction between the different types of customers and how they perceive sustainable value creation and sustainable services differently. Where some customers seek hotels that they perceive to be sustainable, others assign no such value: some are positively surprised and enlightened, while others are annoyed by being unable to get the kind of beef, toiletries, or regular cola they expect. The managerial implications hereof are that companies must diversify their offerings and communication approaches to cater to all segments. The findings also stress that too much information about sustainability may be viewed as “greenwashing” or become a nuisance to hotel guests who are primarily interested in a relaxing vacation and do not want to be “lectured.”

The theoretical contributions from these conclusions relate to how sustainable value is proposed, created, captured, and perceived in SBMs, as stressed by a number of researchers (e.g., Boons & Lüdeke-Freund, 2013; Bocken et al., 2015). The dual perspective in this study (provider and customer) on sustainable value propositions, value creation and delivery, and value capture stresses the necessity of actively evaluating both the service provider and user of SBMs, as sustainable service innovation is co-created in the interaction hereof. Another contribution relates to the development of SBMs in service, as the extant SBM literature is closely related to the creation and delivery of physical goods as in production/product-oriented industries.

Creating and capturing sustainable value through SBMs in a service industry like hotels requires higher levels of employee and customer involvement than is emphasized in literature on business models in the production industry. This obviously relates to the very nature of service, which occurs as it is produced and used (Sundbo, 1997; Lusch & Nambisan, 2015). In SBMs in the service industrial context, the employees become the storytellers creating the sustainable value, while the customers act as the interpreters of the actual sustainable value being delivered and captured. Consequently, customer and employee involvement become key activities in building and creating value through SBMs. The managerial implications of the findings stress the need for diversification of the business model and offerings and targeting the sustainable offerings and the communications hereof toward specific segments to ensure competitive advantages and business performance. Both employees and customers have to be made into living ambassadors and storytellers of the SBM and its unique and sustainable activities and service offerings. Thus, dialogue, training, and knowledge sharing are integral parts of developing service personnel to be able to deliver the value of a hotel’s SBM.

The limitations of the study also provide new venues for further research. For one, the case study is limited to two sustainable hotels. A comparative study between conventional and sustainable hotels might reveal key similarities and differences in business models and identify the key elements in making the transition to an SBM. In

addition, an increased number of guest/customer informants could have provided even more detailed information of the different categories of hotel guests and potential influences on their perceptions of SBMs. The geographical context of the case study—two Danish-owned hotels/hotel chains—might also influence how hotels' SBMs are created, captured, and perceived, as Scandinavian hotels and countries already have a global brand of sustainability and environmentally friendly businesses. A cross-national case study would therefore be interesting in terms of further elaborating the differences in the perception of SBMs and the in sustainable value creation, delivery, and capture across borders.

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