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Sustainable Business Models through Service Design

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Abstract

In the face of growing sustainability challenges, pressure on businesses to decouple environmental impacts from growth is mounting. New sustainable business models can be a systemic driver for change in industry and the wider business innovation literature suggests that strategic design approaches can be at the heart of business model innovation. One such approach, service design, involves solving problems through a service response, which unlocks value for each stakeholder in a value chain. Nevertheless, the value of service design to sustainable business is still often overlooked. Through a literature review and five illustrative case studies this paper systematically analyses how businesses can leverage service design for sustainable business model innovation. The research highlights how service design can support sustainable business model innovation by uncovering strategic as well as operational synergies between these complementary fields.

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1. Introduction

It is estimated that by 2030, three billion new consumers will enter the global economy [1]. Global consumption patterns are already unsustainable [2] and society faces serious environmental challenges, from rising global resource demands, to climate change, water scarcity, threats to biodiversity and air pollution [3]. Urgent action is needed to implement systems that foster technological, social and organizational innovation for sustainability [4].

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In Europe services are an engine for economic growth, contributing two thirds of EU employment and over 70% of gross value added in many member states [5]. Transitioning to services is put forward as a strategy to shift to the so-called circular economy (CE), itself a driver for more sustainable practices in industry [1]. The CE conceives an industrial shift from the current linear economy, which is based on a system of take-make-waste, to a closed loop system, which cycles and cascades resources between industries (as feedstock) to unlock multiple value streams [1]. Indeed, circular business models (one type of sustainable business model) have been discussed that focus on retaining products in a closed loop supply chain through repair, remanufacturing and refurbishment and materials through recycling and upcycling [1]. Such approaches require new types of service offerings and service skills including, product remarketers, sales platforms, remanufacturers and reverse logistics companies.

These grand challenges are often described as ‘wicked problems’, problems with poorly defined parameters, fuzzy boundaries and non-binary solutions [6]. Strategic design approaches, such as service design, are promising methods to grapple with such complexity [7]. Service design is the process of planning and organizing people, technology and material components to enhance the quality of interactions between customers and providers [8]. Nevertheless, while it has been suggested that service design can be a facilitator of service-led business model innovation (BMI) [9] further research is still required to build knowledge of how to deliver such services in the context of sustainable business [9].

In this paper we aim to uncover the synergies and points of divergence between BMI and service design from the viewpoint of sustainability: How can service design thinking, methods and tools contribute to sustainable BMI? The research includes five illustrative case studies of firms at various stages of BMI centered on service integration. The cases are supported by a theoretical framework derived from a literature review on BMI, sustainable business models and service design theory. The research contributes to the fields of service design and sustainable BMI by unpicking the conceptual and practical synergies between these complementary fields.

2. Literature

2.1. Service design

Service design involves solving problems through a service response, which unlocks and magnifies new forms of value for each stakeholder in a value chain. Schneider & Stickdorn [10] describe it as an iterative process of designing, evaluating, measuring and redesigning. Early descriptions of service design focus on the creative yet functional delivery of a service, involving planning and shaping usable and tangible elements of a service experience [11]. Designing for these functional service interactions involves designers translating intangible experiences into tangible forms, through methods such as personas, customer journey maps, service blueprints, storyboards, scenarios and experience prototypes [12]. Taking a service design approach can disrupt traditional channels to market, lead to innovation, increase customer satisfaction, improve firm effectiveness and offer a means for differentiation to ultimately boost competitiveness [8]. While the fruits of a service design process can be tangible and discrete services for clients, an alternative view sees service design as a human-centered design thinking approach [13] to develop people-centered service systems focused on stakeholders [14, 15]. Service design can open up opportunities for systemic innovation, in the absence of a specific service offering [11]. Treating the service system (people, technologies, resources) as a unit of analysis allows for the study of complex configurations of resources, which in turn create value for firms [11]. So doing, service design can foster strong connections to improve the workings of a whole system and therein optimize value for all stakeholders. Indeed, a key element of service-centered businesses involves unpicking intangible and non-monetary value attributes of a service offering [11]. Nevertheless, the suitability of existing service design tools, for more systemic types of innovation remains unclear [11].

2.2. Sustainable business model innovation

A business model is a conceptual tool to describe the interconnected activities that determine business transactions between customers, partners and vendors [16] which can convey how successfully a business creates, captures and delivers value [17, 18]. Boons and Lüdeke-Freund [4] describe a generic business model framework as the combination of: a value proposition; the supply chain; the customer interface; and the financial model. A sustainable business model then, is a template for a sustainable business and considers the triple bottom line (environment, society,

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