Value uncaptured perspective for sustainable business model innovation

Yang, Ma, *; Evans, Sa; Vladimirova, Dd; Rana, Pp

a University of Cambridge, Department of Engineering, Institute for Manufacturing, 17 Charles Babbage Road, Cambridge CB3 0FS, United Kingdom
E-mails: my306@cam.ac.uk, se321@cam.ac.uk, dkv21@cam.ac.uk, pr296@cam.ac.uk

Abstract

Sustainability has become one of the key factors for long-term business success. Recent research and practice show that business model innovation is a promising approach for improving sustainability in manufacturing firms. To date business models have been examined mostly from the perspectives of value proposition, value capture, value creation and delivery. There is a need for a more comprehensive understanding of value in order to promote sustainability. This paper proposes value uncaptured as a new perspective for sustainable business model innovation, and develops four forms of value uncaptured: value surplus, value absence, value missed and value destroyed. This paper also proposes a framework of using value uncaptured for sustainable business model innovation. This framework has been validated in case studies in six product-service systems firms with advanced manufacturing technologies. The empirical studies identify 26 main sources of value uncaptured throughout the product life cycle. The findings show that (a) the new perspective of value uncaptured can help manufacturing firms understand the negative aspects of their business models; (b) the four forms and 26 sources can assist firms in identifying value uncaptured in a structured way; and (c) the identified value uncaptured can trigger the discovery of new value opportunities which lead to new business models with higher sustainable value. This paper extends the existing studies on business models from the perspectives of value proposition, capture, creation and delivery, to value uncaptured. The proposed framework has helped firms identify value opportunities that trigger the innovation of sustainable business models. Therefore, this paper contributes to both theory and practice in the field of sustainable business models innovation.

Keywords: value uncaptured; business model innovation; sustainable business models; product-service systems

1. Introduction

Advanced manufacturing uses emerging materials and technologies that coordinate information, computation, automation, and sensing in manufacturing to improve products or processes (Boyer et al., 1996; PCAST, 2011). Advanced manufacturing could significantly improve quality and flexibility, and at the same time reduce cost when compared to conventional manufacturing (Bülbül et al., 2013). It has the potential to influence the shape of the future of manufacturing and is essential to improving sustainability (Foresight, 2013). Technology innovation plays a key role in affecting advanced manufacturing for sustainability, because it can bring radical changes to the manufacturing process in which material, energy consumption and carbon emissions could be hugely reduced. However, technology innovation alone cannot succeed in the market (Chesbrough, 2010; Zott et al., 2011), and is unlikely to deliver sustainability (Chesbrough and Rosenbloom, 2002; Giesen et al., 2007; Girotra and Netessine, 2013). Technology always needs suitable business models to achieve its commercial potential (Chesbrough, 2010) and to improve its sustainability (Foresight, 2013). There is a growing research interest in developing new business models to improve advanced manufacturing, for example, the proposal for consumer-centric business models for additive manufacturing (Bogers et al., 2016) and focused-flexibility manufacturing systems (Copani and Urgo, 2012). There is also strong practical evidence that advanced manufacturing firms are already developing new business models to improve sustainability, for example, Tesla Motor’s switching station model for electric vehicles (Girotra and Netessine, 2013) and ZETA’s build-to-order model (Girotra and Netessine, 2013).

Recent research and practice show that business model innovation is a promising approach for improving sustainability in manufacturing firms. Most of the existing research on business model innovation only focuses on value proposition, value capture, creation and delivery (Amit and Zott, 2012; Richardson, 2008). Some new concepts, such as value destroyed, have emerged from recent research into business model tools, such as the Value Mapping Tool (Bocken et al., 2013; Rana et al., 2013) and Sustainable Value Analysis Tool (Yang et al., 2014). These concepts have been effectively used in sustainable business model innovation in practice; however, how they theoretically explain the innovation of business models is not well understood. The authors identify a need for a more comprehensive understanding of the value system in order to promote sustainability. This paper proposes a new perspective, value uncaptured, as a means to study business model innovation for sustainability, in the context of PSS firms with advanced manufacturing technologies.
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو سیستم
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات