

Designing Product-Service-System Applied to Reusable Packaging Solutions: A Strategic Design Tool

Authors : Yuan Long, Fabrizio Ceschin, David Harrison

Abstract : Environmental sustainability is under the threat of excessive single-use plastic packaging waste, and current waste management fails to address this issue. Therefore, it has led to a reidentification of the alternative, which can curb the packaging waste without reducing social needs. Reusable packaging represents a circular approach to close the loop of consumption in which packaging can stay longer in the system to satisfy social needs. However, the implementation of reusable packaging is fragmented and lacks systematic approaches. The product-service system (PSS) is widely regarded as a sustainable business model innovation for embracing circular consumption. As a result, applying PSS to reusable packaging solutions will be promising to address the packaging waste issue. This paper aims at filling the knowledge gap relating to apply PSS to reusable packaging solutions and provide a strategic design tool that could support packaging professionals to design reusable packaging solutions. The methodology of this paper is case studies and workshops to provide a design tool. The respondents are packaging professionals who are packaging consultants, NGO professionals, and entrepreneurs. 57 cases collected show that 15 archetypal models operate in the market. Subsequently, a polarity diagram is developed to embrace those 15 archetypal models, and a total number of 24 experts were invited for the workshop to evaluate the design tool. This research finally provides a strategic design tool to support packaging professionals to design reusable packaging solutions. The application of the tool is to support the understanding of the reusable packaging solutions, analyzing the markets, identifying new opportunities, and generate new business models. The implication of this research is to provide insights for academics and businesses in terms of tackling single-use packaging waste and build a foundation for further development of the reusable packaging solution tool.

Keywords : environmental sustainability, product-service system, reusable packaging, design tool

Conference Title : ICAPSSSSD 2020 : International Conference on Advanced Product-Service Systems for Sustainability and Sustainable Development

Conference Location : Jerusalem, Israel

Conference Dates : April 27-28, 2020