Building a Business Case for Eco-design Implementation: A System Dynamics Approach

Several potential business benefits obtained from ecodesign are consistently reported by academic studies and companies. These benefits comprise increased innovation potential, development of new markets and business models, reduction in risks and costs, improvement of organizational brand, among others. However, there are still significant challenges for adopting ecodesign, specially concerning the capture and measurement of the expected business benefits.

To address such gap, this paper proposes an exploratory concept of a simulation-based business case for ecodesign implementation, grounded on a System Dynamics approach. The study builds upon the Ecodesign Maturity Model (EcoM2) and the related capabilities of ecodesign managements practices, offering an integrative outlook into how ecodesign capability building can potentially affect corporate performance outcomes over time. Preliminary results point towards the potential for managers and key organizational decision-makers to use the business case simulator to assessing ecodesign benefits and testing multiple implementation scenarios (e.g. what-if questions).