

A Business Model Framework for Product Life Extension

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Product life extension is an increase in the utilization period of products, which results in a slowdown of the flow of materials through the economy. Design research on product life extension strategies has so far mainly focused on technical aspects of products, like ‘prevention engineering’ [Stahel, 1994] or ‘design for repair, maintenance and upgradability’ [Nes, 2003], and on individual consumer-product relationships, like ‘design for emotional durability’ [Chapman, 2009]. The viability of product life extension in a business context and the associated consequences for product design, have however remained largely unexplored. In this paper we provide a starting point for this exploration, by outlining the development of a business model framework for product life extension, using strategies for product life extension based on Linton and Jayaraman [2005] and mapping these against common elements of contemporary business model theory [Osterwalder and Pigneur, 2010]. The last few years, there has been a renewed interest in product life extension strategies, motivated by a growing unease over ever-shortening product life spans. A recent study by Huisman et al. [2012] showed that material flows through society are accelerating. The average lifespan of products like ICT, white goods, etc., has decreased by 10% between 2000 and 2010, implying an increase in the associated waste streams. The EU flagship initiative for a resource-efficient Europe [2011] states: “continuing our current pattern of resource use is not an option”. The EU proposes the development of “new products and services and new ways to reduce inputs” and the optimization of “management and business methods.” In this paper, we’ll map such new business models for product life extension. The framework we present can be used for exploring alternative business models built around a strategic choice of creating longer lasting products. We will provide examples of how the framework can be used in practice by designers and business developers, drawing on case studies of the “Products that Last” project that currently runs at Delft University of Technology.