

# **THE ECONOMICS OF SUSTAINABILITY IN NEW PRODUCT DEVELOPMENT**

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## **ABSTRACT**

Design for sustainability, or sustainable design is one of the DFX topics that has been studied mostly from the perspective of environmental friendly practice in industry, such as design for recycling, design for remanufacturing, minimize energy/material usage and minimize waste. In this paper, I try to propose an economic model to capture the general trade-offs for complementary and supplementary match between sustainability and consumption utility. The example of complementary match is fuel efficiency in vehicles since the fuel efficiency addresses both the cost of operating and the sustainability. The example of supplementary match is the emission control of the vehicles since emission control does not provide consumers direct consumption utility but instead creates disutility by higher price and inconvenience. Therefore, the strategy of new product development for sustainability should take different approaches depending on the types of matches between sustainability and the consumption utility.