

# **Time Value of Commercial Product Returns**

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## **ABSTRACT**

Manufacturers and their distributors must cope with an increased flow of returned products from their customers. The value of commercial product returns, which we define as products returned for any reason within 90 days of sale, now exceeds US \$100 billion annually in the US. Although the reverse supply chain of returned products represents a sizeable flow of potentially recoverable assets, only a relatively small fraction of the value is currently extracted by manufacturers; a large proportion of the product value erodes away due to long processing delays. Thus, there are significant opportunities to build competitive advantage from making the appropriate reverse supply chain design choices. In this paper, we present a network flow with delays model that includes the marginal value of time to identify the drivers of reverse supply chain design. We illustrate our approach with specific examples from two companies in different industries and then examine how industry clockspeed generally affects the choice between an efficient and a responsive returns network.