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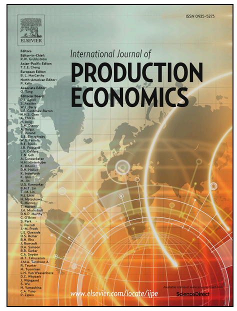

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Supply Chain Coordination with Customer Returns and Retailer's Store Brand Product

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Abstract

We examine a retailer's Stackelberg supply chain, in which the retailer sells a product in the two brands: its own store brand (SB) and a national brand (NB) supplied by a well-established manufacturer. The two brands both face customer returns, and they differ in product quality. We examine the retailer's decision on returns policies for the two brands (either Money Back Guarantee (MBG) or No Refund) and the effects of returns policies on the competition between the two brands. We identify the condition when the retailer should offer MBGs for both brands and we show that MBGs mitigate price competition between the two brands. MBGs are found to enhance the retailer's profit and reduce the NB manufacturer's profit. We examine coordination mechanisms and find that a centralized supply chain intensifies the competition and pushes the NB to reduce its retail price. A simple coordination contract that can achieve supply chain coordination to ensure a win-win for both the retailer and the NB manufacturer is proposed.

Keywords: Supply chain management; customer returns policy; store brand.

1. Introduction

It is an increasingly popular practice for retailers to sell both store brand (SB, also called private label) and national brand (NB) products, as their interest in developing and selling SB merchandise grows (Ganesan *et al*. 2009). Recently, the Private Label Manufacturers Association (PLMA.COM 2016) reported that SBs are "popping up everywhere, even outside the grocery channel," and in fact SBs are a significant player in today's U.S. retail landscape, reaching $112 billion out of $643 billion in total retail sales in 2013 (Hale 2014). SB products, both grocery and non-grocery, are usually manufactured by independent suppliers who specialize in particular product lines, and may even be produced by NB suppliers who have excess plant capacity (Kumar *et al.* 2010). As PLMA points out, specialty chains that previously carried primarily NBs – such as those selling home office products, hardware, and other retail items – are taking advantage of the increasing availability of SB manufacturers to introduce a variety of SB products that compete with NBs. Retailers often have a direct impact on the price and quality positioning of SBs, and use them to attract customers who value the low price of SB products (Desmet 2014).