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Pricing Strategies in Dual-online Channels Based on Consumers' Shopping Choice

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Abstract

Besides an official website mall (OWM), retail stores on the third party e-commerce platform(3PEP) is an another important online channel that manufacturers adopt to sell online. How to properly price products in these two channels simultaneously is a tough problem to firms and gains much attention by researchers. In this paper, we analyze their channel choice, and give demand functions of the two channels based on the consumers' segmentation and preference. Then we design a sale model including two online channels: OWM and a retail store on 3PEP. According the Stackelberg game theory, we calculate and discuss the optimal pricing strategies of the manufacturer and retailer in three feasible regions. The result shows that manufacturers emphasizing channel sales prefer to choose pricing strategies that helps two online channels share the online market. But some manufacturers think adjusting the OWM's price and the wholesale price to control the retailer's pricing strategies is reasonable and necessary, even if nobody will prefer the OWM.

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Keywords: dual-online channels, pricing strategies, Stackelberg game, consumers' segmentation and preference

1. Introduction

An official website provides a good chance for manufacturers to satisfy their consumers. With the development of the internet, many companies start to exhibit products by colorful pictures and detailed descriptions on their official website, some of them even try to sell products through this new channel. Actually, the official website Mall(OWM) is not the only way selling online. Before the birth of OWM, some retailers have brought kinds of products to the third party e-commerce platform (3PEP), such as e-Bay, Taobao, etc.

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3PEP is often the first stop that people learn to shop online, on which they know how to search for aimed goods, make a purchase, and evaluate a purchased good. With the accumulation of shopping experience online, people become more and more experienced and sensitive about price. So when discovering an OWM, they prefer to compare it with the 3PEP, and choose a cheapest sale channel to purchase. To avoid being eliminated by consumers and the channel price conflict, OWM's managers and 3PEP's retailers usually have to make price strategies reasonably.

In this paper, we consider two online-selling channels with a direct channel named by OWM and a retail channel located on 3PEP. Then we study three kinds of price strategies that OWM's managers and 3PEP's retailers might adopt, and analyze how consumers with different experience make their final decision under the three strategies. Finally, we aim to characterize what types of pricing strategies are optimal for OWM's managers and 3PEP's retailers in their market competition.

The rest of this paper is structured as follows. Section 2 provides a brief review of the related pricing literature. Section 3 shows the basic model and donations of dual online channels. Section 4 describes the competitions and pricing strategies between these two online channels. Finally, Section 5 draws the conclusion and discussion.

2. Literature review

Multi-channel operation tends to make companies to face dilemmas, for it not only helps them to expand the market share and brand influence, but also bring channel conflicts and confused management. Economists have given lots of study on multi-channels pricing and production strategies. Channel optimization in multiple-channel systems is a basic problem in marketing (Corstjens and Doyle 1979, Jørgensen and Kort 2002)[1,2] Xu (2009)[3] explores the optimal pricing and product quality decisions in a distribution channel. Rodríguez and Aydın (2015)[4] characterizes the pricing decisions in a dual-channel structure. With the development of the electronic commerce, some researchers gradually pay attention to the online channel. Brynjolfsson and Smith (2000)[5] compare pricing behavior at 41 Internet and conventional retail outlets, and conclude that there is lower friction in many dimensions of Internet competition. Chiang et al. (2003)[6] point out that the online direct channel can increase the manufacturer's negotiated share of cooperative profits. Overby and Forman (2015)[7] study how the diffusion of an e-channel affected the geographic trading patterns and price dispersion of the wholesale. When a manufacturer try to expand her market through two online channels, she meets the same questions in these traditonal researches. One of key questions is to price simutaneously in two online channels.

Up to now, there are two wide-applied methods for pricing: one is cost-based pricing, the other is value-based pricing, and the latter is usually much better for companies (Nagle et al. 2008)[8]. Consumers' behavior is another critical factor that managers consider in pricing decision. Strategic consumers wish to maximize individual utility. At each time point, they may purchase the product at current price, remain at a cost to purchase later, or exit[9]. Understanding the difference and similarity among consumers in diverse regions is significant for businesses to sustain in the competitive market (Lim and Cham 2015)[10]. Effective retail management strategies are often linked to the creation of consumer experience (Rose et al. 2012)[11]. We can get that manufacturers' pricing strategies are closely dependent on consumers' behaviors. In this paper, we try to find the optimal pricing strategies for manufacturers setting two online channels based on consumers' behavior.

Economists have realized the difference and relationship between online and traditional channels, and mainly discuss some hybrid channel design problems when a company introduces the online direct channel, such as consumers' behaviors, managers' strategies, and channels' competition (Moon et al. 2010, Vinhas and Heide 2015)[12,13]. But most of them usually overlook the conflicts of online channels. Actually, before a company set a direct channel on the internet, a lot of retailers have sold their products on the 3PEP. Besides the OWM, these retail stores are also important sale channels for companies. This paper extends the literature related to the manufacturers' dual-online-channel problems by addressing following questions. How do consumers with different online shopping

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