ELSEVIER
Journal of Retailing xxx (xxx, 2016) xxx–xxx
Journal of Retailing

An Empirical Investigation of Online Gray Markets

Kexin Zhao[a,*], Xia Zhao[b,1], Jing Deng[c,2]

[a] Department of Business Information Systems and Operations Management, University of North Carolina at Charlotte, 9201 University City Blvd., Charlotte, NC 28223, United States
[b] Department of Information Systems and Supply Chain Management, University of North Carolina at Greensboro, PO Box 26170, Bryan 479, Greensboro, NC 27402, United States
[c] Department of Computer Science, University of North Carolina at Greensboro, 167 Petty Building, Greensboro, NC 27402, United States

Abstract

A gray market is an unauthorized distribution channel of genuine branded products. Worldwide gray markets compete with authorized distribution channels of branded products and pose significant challenges to brand owners on the management of global supply chains. Therefore, it is important for brand owners to understand sellers' and buyers' behavior in gray markets in order to better address this threat. In recent years, online gray markets, a rapidly growing form of gray marketing, have seen significant growth and provide us an unprecedented opportunity to empirically investigate this phenomenon. In this study, we tracked the number of online gray market sellers and transactions on the largest Internet retail website in China for a 34-week period. We focus on two channel control strategies that brand owners can proactively adopt to manage online gray market incidents: controlling product availability and pricing. The results show that less expensive styles are offered by a larger number of gray market sellers and have more transactions. While product availability is positively associated with the number of online gray market sellers, its impact on online gray market transaction quantities is insignificant. This study provides important implications on managing global supply chains that are relevant for researchers and practitioners alike.

Keywords: Online gray markets; Unauthorized channels; Luxury goods; Product availability; Pricing

Introduction

Customers purchasing multiple units of the same Coach handbag style may be questioned or banned from making future transactions at a particular retail store (Sherman 2011). The reason is that Coach, like many luxury brands, has a policy on quantity limits that restricts the number of similar items that an individual customer may purchase. It is odd that retailers envision the need for such a policy of limiting purchases of designer handbags because a single consumer would rarely want to buy multiple units of the same handbag style. This policy is actually devised by brand owners as a means to control gray market incidents (Wilson 2008).

Gray markets refer to "the sale of genuine trademarked products through distribution channels unauthorized by the manufacturer or brand owner" (Antia et al. 2006, p. 92). In this study, we investigate the case of designer handbags having official prices in the origin country that are lower than prices in the export country. Specifically, gray market sellers buy handbags at the retail price from the origin countries such as the US and then resell them in Asia via e-commerce websites to make a handsome profit. One example of this phenomenon has been seen on Taobao.com, China's equivalent of Amazon, where the top two guests on the VIP list of LV's Galeries Lafayette location regularly resell LV handbags (Wilson 2008). Gray market incidents are not limited to designer handbags; they thrive in a wide variety of product categories, ranging from lumber, electronic components, broadcast signals, IPOs, automobiles, heavy construction equipment, watches, cosmetics, health and beauty aids to prescription drugs (Antia, Bergen, and Dutta 2004). In fact, worldwide gray markets were estimated to run over $40 billion in revenue each year (Kotler and Keller 2008).

* Corresponding author. Tel.: +1 704 687 7637.
E-mail addresses: kzhao2@uncc.edu (K. Zhao), x_zhao3@uncg.edu (X. Zhao), jing.deng@uncg.edu (J. Deng).
[1] Tel.: +1 336 256 8588.
[2] Tel.: +1 336 256 1112.

http://dx.doi.org/10.1016/j.jretai.2016.05.002

Advances in information technology have been fueling the growth of online gray markets (Bandyopadhyay 2010). Unlike offline gray marketing, the online form has very low entry barriers—individuals can easily establish online retail stores and reach out to a wide range of consumers to sell gray market products. For example, it is free to start a business on Taobao.com. Online gray markets considered in this paper differ from the traditional offline gray markets in two additional ways. First, sellers in online gray markets are typically individuals who buy the products from authorized retailers at retail prices in the origin country. By contrast, traditional offline gray marketers tend to be wholesalers or retailers who buy the products from manufacturers at wholesale prices. Consequently, there is no contractual relationship between brand owners and online gray marketers. Second, the online gray marketers list the products on an e-commerce website, directly targeting individual consumers in the export countries, whereas the traditional offline gray marketers normally divert or transship products into the export countries and sell those products to local retailers for resale to local consumers.[3]

There are two main sources for price gaps across different geographic regions. First, imported products are subject to duties and taxes imposed by the import countries. Second, brand owners strategically set prices according to varying local conditions, such as local competition, customer heterogeneity, and perceived premium brand positioning (Onkvisit and Shaw 1989). For example, in our dataset, the Coach Madison Sophia Satchel handbag was sold at $298 in the US in 2011. Taking account of an import duty rate of 10% and a value-added tax rate of 17%,[4] the same handbag would have been priced at $383.5. However, its official Chinese price was around $603 (3800 CNY) during the same time period, based on the exchange rate between US and China. The price difference of $219.5 is higher than the average handling and international shipping costs that Coach would incur for a handbag, reflecting that Coach intentionally differentiates the prices across different geographical regions. This example suggests that there is still room for online gray marketers to arbitrage these products.

Online gray market incidents may negatively impact brand owners in both the original country and export country. First, in the origin country, branded products often have limited supply and regular legitimate customers may have difficulty in acquiring the products from the authorized channels because of the competition from gray marketers. Second, in the export country, online gray market products could cannibalize the market of authorized channels. Brand owners, however, cannot apply standard sanctions to online gray marketers due to the lack of contractual relationships between these two parties. As a result, the rising of online gray markets may lead to a financial loss to the authorized distributors and subsequently damage brand owners' relationship with their authorized distributors. Therefore, it is critical for brand owners to closely monitor and control online gray market activities (Antia, Bergen, and Dutta 2004).

Despite the rising practical relevance of online gray marketing, related academic research is quite limited (Antia et al. 2006). Our research aims to expand the understanding of online gray market behavior. Prior studies suggest that gray market incidents are most likely to occur under two conditions. First, the product has a prominent brand name (Bucklin 1993); and second, the price gap is large between two geographic regions (Onkvisit and Shaw 1989). Luxury handbags satisfy both conditions, making them an excellent choice for our study. We developed a web crawler to automatically track the number of gray market sellers and transactions on the largest Internet retail website in China for a 34-week period. To the best of our knowledge, our paper is among the first to collect online gray market data on a large scale and to empirically examine market dynamics.

Prior literature largely considers the price gap as the primary cause of gray market incidents. However, in addition to pricing decisions, brand owners could also control product availability by strategically selecting products sourced to the export country. Although a key proactive strategy that brand owners could adopt, the approach of controlling product availability has been under-studied. For instance, it is unclear whether or how online gray market buyers and sellers would react to the product availability decision made by brand owners. Moreover, for products not available in the export country via the authorized channel, the price gap is non-existent. Without explicit price arbitrage opportunities, what are the drivers of online gray market activities for those products? To answer these questions, we explore two strategies available to brand owners, pricing and controlling product availability, and their joint impact on online gray markets.

Our analyses reveal some interesting empirical findings. We find that product availability only affects the market entry decisions of online gray market sellers but not buyers. Specifically, product availability is positively associated with the number of online gray market sellers, but its impact on online gray market transaction quantities is insignificant. We then separate the data into two subsamples, one for products available via authorized channels in the export country and one for unavailable products. For products available in the export country, our results confirm the arbitrage theory in prior literature (Ahmadi and Yang 2000; Antia et al. 2006): sellers make their online gray market entry decision based on the arbitrage potential suggested by the price gap. However, for products unavailable in the export country, price gaps no longer exist and official prices in the origin country become an important reference in sellers' online gray market entry decisions. Online gray market sellers are more likely to offer less expensive products among those of the same brand. Interestingly, neither price gaps nor official prices in the origin country directly affect transaction quantities in the online gray market. Nevertheless, the results show a positive reinforcement effect between the supply and demand sides of the online gray market. That is, more online gray market sellers in the previous period lead to more online gray market transaction quantities in the current period, and vice versa. Our findings suggest that brand owners can control the online gray market

[3] We would like to thank one anonymous reviewer for the insightful comments on the differences between the traditional offline gray market and the online gray market.

[4] The duty and taxes rates were obtained from www.dutycalculator.com.