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Research on the introduction of private brand for e-commerce platform under mixed channels of manufacturer

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1. INTRODUCTION AND RESEARCH QUESTIONS

With the rapid development of e-commerce and the intensified competition between platforms and between platforms and manufacturers, private brand strategy has become the key for e-commerce platforms to gain competitive advantages. Through the diversified integration of e-commerce platforms with social applications, their operating models have become increasingly rich[1]. Previous studies have confirmed that the introduction of private brand will lead to great changes in the market performance of manufacturers and retailers in the channel competition. The research on the channel competition of private brands in the sales system can be carried out from multiple perspectives such as the game between private brands and manufacturer brands, retailers' overall profits and consumers' preferences[2-4]. Although the study of introduction of private for e-commerce platform has attracted scholarly attention, less research to date has focused on the effect of product quality on private brand introduction strategy under mixed channels of manufacturer.

Therefore, this paper discusses the introduction decision of private brand and the impact of private brand product quality on the revenue of e-commerce platform under mixed channels competition. Our research questions are as follows: (1) Under what circumstances are e-commerce platforms inclined to introduce private brand? (2) What is the impact on the manufacturer and the e-commerce platform after the introduction of private brand? (3) How does the product quality of private brand affect the revenue of e-commerce platform?

2. THEORY AND RESEARCH FRAMEWORK

Based on the manufacturer's mixed sales channels and e-commerce platform's private brand introduction strategy, the hypotheses and research framework are proposed herein (Figure 1).

![Fig. 1 Research framework](image)

The following are the main assumptions of this paper.(1) Product quality. the degree of consumer sensitivity to the quality of the commodity is used as the perceived value. Suppose that the quality of the NB commodity is \( q_n \) and the quality of the EB commodity is \( q_e \). In general, NB commodity has higher quality than EB commodity. (2) Channel preference. In reality, the e-commerce platform will provide a higher level of logistics, after-sales and other service quality
for products in wholesale channel, so that consumers have a greater preference for wholesale channel than platform channel. In addition, as a channel for new entry, the private brand is unfamiliar to consumers, so it is assumed that consumers have the lowest preference for private brand. The consumer's preference for wholesale channel is normalized to 1, consumer's preference for platform channel is \( \beta \) \((0<\beta<1)\), and consumers' channel preference for private brand is \( \gamma \) \((0<\gamma<\beta<1)\). (3) Commission rate. In the manufacturer's platform channel, the commission rate extracted by the e-commerce platform is \( \lambda \) \((0<\lambda<1)\). (4) Commodity price. The wholesale price of NB commodity in the wholesale channel is \( p_w \) and the selling price \( p_a \) is determined by the e-commerce platform. The selling price of NB commodity in the platform channel is \( p_b \). The selling price of EB commodity is \( p_c \).

3. RESULTS AND MAJOR FINDINGS

This study observes some valuable and interesting findings: (1) When consumer’s platform channel preference is high or the commission rate is high, the e-commerce platform will introduce private brand to enhance its competitiveness and increase revenue; (2) After the introduction of private brand into e-commerce platform, the wholesale price, sales price and revenue of manufacturer will be reduced; (3) After the introduction of private brand into e-commerce platform, with the improvement of the quality of private brand commodity, the revenue of e-commerce platform may decrease.

4. CONTRIBUTIONS

Our study not only enriches the research on the introduction strategy of private brands on e-commerce platforms, but also emphasizes the impact of the product quality of private brands on the revenue of e-commerce platforms, which promotes the theoretical exploration of private brands. There are main managerial insights as follows:

(1) The complex relationship among product quality, channel preference and commission rate can affect the private brand introduction decision of e-commerce platforms. When the consumers' private label preference is high or the commission rate is high, e-commerce platforms should introduce private brand to enhance its competitiveness and increase revenue. In particular, in order to increase their total revenue, e-commerce platforms can pay more attention to the income sources of other channels, such as the sales revenue obtained from the manufacturer's wholesale channel and the commission revenue obtained from the manufacturer's platform channel.

(2) For manufacturers, the introduction of private brands on e-commerce platforms will lead to a decrease in manufacturers’ revenue. Therefore, in order to maintain their revenue, manufacturers can prevent e-commerce platforms from introducing their own brands by various means, such as developing direct selling channels to enhance user stickiness, and improving product quality to increase competitiveness.

(3) After the introduction of private brand, with the improvement of product quality, e-commerce platforms’ revenue may not always increase. Therefore, in order to obtain more revenue, e-commerce platforms should avoid excessive pursuit of product quality. In fact, e-commerce platforms can also gain profits by choosing OEM products with medium quality as their private brands.

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