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Impact of product and service-related reviews on perceived counterfeit and product ratings: A machine learning approach

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Impact of product and service-related reviews on perceived counterfeit and product ratings: A machine learning approach

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Abstract

The emergence of user-generated blogs, content, and other platforms has allowed freedom of expression of broad information sharing and creating content and ideas (Tsao et al., 2020). In the information era, potential customers refer to online consumer reviews before buying products. Such reviews are influential, credible, trustworthy, and useful (Li & Hitt, 2008). Also, online reviews influence consumers in many ways, such as product and service loyalty (Awad & Ragowsky, 2008), dissemination of word of mouth (Klaus & Makhlan, 2012), and willingness to pay (Pavlou & Dimoka, 2006). In addition to the opinions expressed by consumers in the form of online reviews, consumers also receive counterfeit products in which they express their concern through online reviews. Counterfeit products are packaged and labeled to replicate the original brand and generic products (Mukherjee et al., 2015) and are a threat to consumers, retailers, companies, and producers. Counterfeit products in online platforms are identified when a consumer receives a product classified as defective, damaged, or fake.

Although past research has enriched our understanding of the factors that predict perceived counterfeit products, investigating such factors in the context of e-commerce-platform is scarce. Hence, through the lens of attribute based model and language expectancy theory, we study the impact of product-focused and service-focused reviews on the perceived counterfeit product, which, in turn, impacts product review ratings. We do so by coding 200 out of 900 Amazon reviews about headphone product manually as product-focused, service-focused, and perceived counterfeit and employ a neural network machine learning algorithm to predict the rest of the reviews. We then test our model using regression. We classify online consumer reviews into two aspects: product-focused, i.e., the consumers express their opinions about product-related issues, and service-focused, i.e., the consumers express their views about service-related topics on the online platform they have ordered the product through. When the online reviews discuss services provided by the online marketplace, such as late delivery of products, poor customer care service, incomplete information of the seller, etc., the perception of the counterfeit product increases. On the other hand, when the reviews focus on product-related issues such as functionality of the product, quality of the product, and price of the product etc. the perception of the counterfeit product increases. Moreover, increasing product variety on e-commerce platforms has removed the barrier between original and counterfeit products (Bupalan et al., 2019). This counterfeit product perception, in turn, influences the ratings of the product. However, an important aspect of online reviews is to reduce the uncertainty and risk that the online buyers perceive related to purchasing a product (Yang et al., 2016). This counterfeit product perception, in turn, hinders the ratings of the product. Therefore, this study examines the impact of product and service-focused reviews on consumers' perception of counterfeit products and, ultimately, on product ratings. In addition, we investigated the moderating effect of text length on the relationship between perceived counterfeit products and product ratings. We found that longer reviews fueled the negative impact of perceived product counterfeit on the ratings of the products, possibly due to information overload. Theoretical and practical implications are discussed.

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