The Competition Behavior of Bike-Sharing Companies and Industry Price Evolution: A Game Theory Approach

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China’s bike-sharing industry has experienced three stages of development: rapid expansion, rapid contraction and a period of stability. The competitive behavior of bike-sharing companies has moved the industry through these stages. This project studies that competitive behavior in different stages of the industry’s development, as well as the factors that have informed that behavior. I use an Evolutionary Game Theory model to analyze companies’ competitive behavior during the early stages of the industry’s development, a period marked by rapid expansion and rapid contraction. This analysis reveals that the probability of a company choosing an aggressive competition strategy built around low prices was 100%. The purpose of this behavior is to attract more customers and become a leader in the industry. As the industry entered its mature stage, there were fewer companies in the market. For this stage, I apply a Complete Information Static Game Theory model to analyze competitive behavior. This model shows that in order to increase profit, bike-sharing companies raised their prices continuously. Therefore, the price curve of the bike-sharing industry is low-to-high, whereas industries typically have high-to-low price curves. The low part of the curve indicates that the bike-sharing industry is very competitive, and companies incur losses to stay in the market. The higher portion of the curve indicates that with fewer competitors surviving in the industry, companies will begin to gain much more profit. The conclusions of this study may contribute to the healthy development of the sharing economy and help companies and the government adopt policies attentive to the particular developmental characteristics of the sharing economy.

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