Counterfeit Risk: Supply Chain Drivers and Mitigation Strategies

Abstract

Counterfeit parts are a growing and costly problem in various B2B (business-to-business) settings. We study the supply chain drivers for their occurrence, and show empirical evidence that three specific operational strategies mitigate counterfeit risk for electronic components. We base our analysis on a dataset of 6,905 FPGA (field programmable gate array) parts, made by 19 manufacturers and sold through 37 authorized distributors and 51 unauthorized sources. We find that significant increase (positive trend) in lead time, higher price difference between authorized distributors and unauthorized sources, and higher number of customer-driven part changes lead to an increase in the counterfeit risk for the part. We introduce the concept of distribution flexibility, which captures the ease with which customers can find an electronic part or a good substitute for it in the market, and show that increasing distribution flexibility, managing lead time, and sharing information are effective strategies to mitigate counterfeit risk.