

When Your Problem Becomes My Problem: The Impact of Airline IT Disruptions on On-Time Performance of Competing Airlines

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Abstract

In this study, we examine the effect of an operational disruption of a firm on its competitor's performance. Specifically, we put forth that when a disruption occurs to a firm that uses a common-pool resource (CPR) disproportionately more than others, the competitors that also depend upon the CPR will experience performance degradation due to challenges in adapting operational routines and accompanied information processing burden. We also propose that the impact of disruption over the CPR is moderated by the operational complexity of the disrupted firm as well as the competitor. We test this theory in the context of the U.S. airline industry. In doing so, we leverage four large-scale information technology (IT) outages in 2011-2016 and investigate the impact of the outages on the competitors' on-time performance at the disrupted hub airports. We find that during these incidents, the competitors' flights that originated from one of the disrupted hubs suffered from longer delays. Surprisingly, however, we find that during the disruption of a low-cost carrier (LCC), the competitors' flights at its hubs experienced a performance improvement; but during the disruption of a full-service carrier (FSC), the competitors' performance has deteriorated. In addition, during the disruptions, the on-time performance of the LCCs has improved significantly, while that of the FSCs has declined.

Keyword: IT Disruption, Common-Resource Pool, Operational Complexity, Airline, On-Time Performance