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Operational IT Failures, IT Value-Destruction, and Board-Level IT Governance Changes

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Abstract

This paper presents an empirical study of changes that firms implement in their board-level IT governance (ITG) upon experiencing operational IT failures. Consistent with the separation of oversight from management decisions, board-level ITG is responsible for monitoring managerial IT decisions and policies for controlling IT resources. We expect that operational IT failures indicating inadequacies in board monitoring of controls over IT resources would result in a negative stock market reaction and, in turn, induce firms to improve their board-level ITG. Our expectation is confirmed based on a sample of 110 operational IT failures from U.S. public financial firms. Specifically, our results demonstrate that subsequent to experiencing operational IT failures firms make improvements to the IT competency level of their boards, and the improvements are proportional to the degree of negative market reaction. However, those improvements are only on the executive side of the board, namely: an increase in the IT experience of internal (executive) directors and an increased turnover rate of CIOs serving on the board. Furthermore, the likelihood of CIO turnover is lower in IT-intensive firms where such turnover could be more disruptive. Our results contribute to understanding the critical connection between operational IT failures and board-level ITG.

Keywords: Operational IT failure, board-level IT governance, IT governance monitoring, board IT competency, IT governance mechanisms, board of directors, financial services.