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Conceptualizing the Dynamic Capabilities for Information Systems Development Teams

Yuan Li
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Abstract

In this study, we propose a theory to explain the development of dynamic capabilities, called Team Dynamic Capabilities (TDC), for Information Systems (IS) development teams. We define TDC as the abilities of IS development teams to reconfigure team resources, such as team structure and division of labor, to cope with the rapidly changing IS development environment. Drawing upon the dynamic capability theory from the strategic literature, we argue that TDC consists of two underlying components: sensitivity and agility. Sensitivity refers to the team's ability to sense opportunities for change, and agility refers to the team's ability to carry out the change. We further argue that TDC is influenced by a number of antecedents, including strong team leadership (e.g., inspirational and transformational leadership), strong social network ties (both internal and external), heterogeneous knowledge distribution, and effective communication and coordination. The immediate outcomes of TDC are enhanced team routines dealing with knowledge creation, including knowledge variation, selection, replication, and retention, and these routines determine team performance such as speed-to-market and market success. The theory helps IS development teams (and other new product development teams as well) to find ways to enhance their performance.

Keywords: information systems development teams, team dynamic capability, sensitivity, agility, team performance

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