

MANAGING INHERENT CONFLICTS IN AGILE DISTRIBUTED DEVELOPMENT: AN AMBIDEXTROUS PERSPECTIVE

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ABSTRACT

Up until the 1980s, organizations developed software using a plan-driven approach, with big up-front requirements exercise, followed by well-demarcated design, coding, testing and rollout stages. This waterfall model had several drawbacks; chief among them was a reluctance to admit and implement changes, which frustrated project sponsors. At the turn of the century, organizations began to seek and embrace 'better ways of developing software' (Agile Alliance 2001). Agile as a philosophy was expressly conceived to address the twin demands of accommodating volatile requirements from the customer while delivering working software in quick increments. A strong emphasis on team collaboration necessitated extensive face-to-face communication; initially, agile practices assumed the context of a single, collocated team. Over time, internet bandwidth became ubiquitous and inexpensive, which made way for powerful video conferencing and group collaboration tools; the restriction of collocation for agile software development has since been vastly relaxed.

Over the last two decades, organizations are progressively executing software projects from geographically dispersed centres. Distributed teams rely on ICT-mediated interactions to coordinate their tasks. Consequently, they prefer to seek stability, in terms of a push for clear specification of requirements and design, and a big picture product definition upfront. In contrast, an agile setting is typically characterized by flexibility, in order to meet customer demands for continuous delivery of business value. Therefore, implementing agile projects in a distributed setting results in an inherent conflict that needs to be reconciled (Lee et al. 2006; Ramesh et al. 2006; 2012).

In this dissertation, we focus on the model where multiple agile teams operate from respective sites that are separated by geographical boundaries. We attempt to provide nuanced clarity on the notion of conflict between flexibility and stability across variants of such a setup. Through multiple case studies, our findings suggest that the mode of agile project engagement, i.e. indirect versus direct customer, drives the response to demand for flexibility, whereas specific distributed team configuration, autonomous versus inter-linked split, drives the response to need for stability in the setting.

We also investigate the coping mechanisms adopted by software teams to manage the flexibility-stability conflict within their respective setup. This research adopts an ambidexterity perspective to study the phenomenon. In particular, the contextual approach to ambidexterity (Gibson & Birkinshaw, 2004), which demands a suitable project context for simultaneous handling of the competing demands, provides guidance in this regard. Our investigation reveals different kinds of managerial patterns, which involve a mix of performance and social elements, that shed light on conflict management across project scenarios.

This study contributes to the literature by providing insights beyond the earlier conceptualization of flexibility-stability conflict for the agile distributed development setting. It considers contextual elements to understand the dynamics of conflicting forces. Our research also has implications for the ambidexterity literature; it elaborates various elements of the project context for an agile distributed development setting. An empirical contribution of this research is the managerial framework that should assist practice in future implementations. The coping mechanisms that are identified are expected to aid managers, developers, and other members of the software team.