Large-Scale Agile Methodology Acceptance

TREO Talk Paper

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Abstract

The software industry is still trying to achieve the twin goals of agility and discipline, which were proposed by Boehm and Turner (2004). The Agile Manifesto (Fowler & Highsmith, 2001) spawned agile methodologies, which have delivered agility but not discipline; conversely, the traditional methodologies had delivered discipline but not agility (Nerur & Balijepally, 2007). A survey of agile development literature (Dybå & Dingsøyr, 2008) revealed that agile development had found success only in small projects. The step toward achieving the twin goals has come from the agile practitioners, who have proposed large-scale agile methodologies (LSAM), e.g., see (Knaster & Leffingwell, 2017; Larman & Vodde, 2016). According to a VersionOne 2016 survey, the agile methodology has become the preferred software development approach while the large-scale agile methodology (LSAM) approach has lower but steadily increasing adoption. However, recent studies such as (Dikert, Paasivaara, & Lassenius, 2016) have reported some challenges in employing large-scale agile methods.

Vijyasarathy and Turk (2012) studied the adoption of the agile methods (but not LSAM) and found that subjective norm was the dominant construct. In a study of structured methodologies, Riemenschneider, Hardgrave, and Davis (2002) found that perceived usefulness, mandatoriness, compatibility, and subjective norms jointly contributed to the adoption. LSAM is closer to agile but still has aspects of structured methodologies. The inconsistency and the lack of knowledge point to the need for research. The literature gap raises two research questions: 1) what are the key factors that affect adoption of large-scale agile methodologies (LSAM)? And 2) what are the antecedents to these key mediating factors? A structural model will be evaluated using the PLS method. The mediating factors are subjective norm, perceived usefulness, and mandatoriness. Two potential antecedent factors are external behavioral support and compatibility.

The researcher expects to collect and analyze data and present key results. A large agile project will be defined as an agile project that has more than 20 engaged members. The essential purpose of the study is to compare the relative effects of three constructs: perceived usefulness and mandatoriness from the Riemenschneider et al. (2002) study on structured methodologies and subjective norm from the Vijayasarathy and Turk (2012) study on agile methodologies. It is hypothesized that because of the larger size in LSAM projects, perceived usefulness will have a stronger relationship than subjective norm, while mandatoriness will have the weakest relationship due to its conflict with agile values.

References


