

Open Source Software Projects as Virtual Organizations: Competency Rallying for Software Development

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Abstract

The contribution of this paper is the identification and testing of factors important for the success of Open Source Software (OSS) projects. We present an analysis of OSS communities as virtual organizations and apply Katzy and Crowston's (2000) competency rallying (CR) theory to the case of OSS development projects. CR theory suggests that project participants must develop necessary competencies, identify and understand market opportunities, marshal competencies to meet the opportunity and manage a short-term cooperative process. Using data collected from 7477 OSS projects hosted by the SourceForge system (<http://sourceforge.net/>), we formulate and test a set of specific hypotheses derived from CR theory. The empirical data analysis supports the majority of these hypotheses, suggesting that CR theory provides a useful lens for studying OSS projects.

Keywords: OSS, virtual organizations, competency rallying (CR), coordination and competencies