PROBLEM SOLVING IN SMALL INNOVATIVE FIRMS (INTERACTIVE PAPER)

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INTERACTIVE PAPER

PROBLEM SOLVING IN SMALL INNOVATIVE FIRMS

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Principal Topic

Problem solving is a fundamental process in the development of new products. This especially holds for small firms, which have to be creative given their limited resources. This paper addresses the questions: how do small innovative firms solve the technical problems that they face? And: how does the type of problem matter? In a first empirical test, Atuahene-Gima (2003) found support for the view that problem-solving capabilities “enable a firm to perform critical product development activities better than its competition” (Atuahene-Gima, 2003, p.363). To improve our understanding of problem solving proficiency in new product development (NPD) projects of small innovative firms, we build and test theory about whether the effects of organizational project characteristics on problem-solving proficiency are contingent on the type of problem a project team is confronted with. We make a distinction between autonomous problems and systemic problems. Autonomous problems are technical or operational problems that are related to individual components and that have no implications for other components. Systemic problems, on the other hand, are problems that have implications for multiple, interdependent components. Project teams can strongly differ in terms of the extent that they are confronted with one type of problem or the other, and this might demand different organizational approaches.

Method

We have collected survey data on NPD projects from 92 different small Dutch firms. These projects come from a well-defined population, from which we were able to obtain a response rate of 60%. These projects involve the development of web applications. Our respondents were project managers, thereby ensuring that data was obtained from the most knowledgeable actors involved. We use stepwise regression analyses to test our hypotheses, complemented with slope analyses and polynomial regression analyses.

Results and Implications

Our results indicate that the organizational form of NPD projects in small innovative firms explains the proficiency of their problem-solving efforts. Especially a free flow of information between team members has a positive effect. We also find that the impact of a team’s organizational form depends on the type of problem a team is confronted with. For instance, reaching out to customers and suppliers is more beneficial when systemic problems are involved.

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