

# Social Networking Aspects of Project Management Teams for Effective New Product Development

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## Abstract

The aim of this dissertation is to contribute to scientific knowledge on the impact of social networking aspects of project management (PM) teams to the effectiveness of new product development (NPD) projects. Both qualitative and quantitative approaches have been used. Interviews have been done and questionnaires have been given to project managers and members of new product development teams in Denmark, Greece and USA. Experimental data have been collected, and interviews and questionnaires have been administered to the final year students of the bachelor of business administration degree of the Technological Educational Institute of Larissa in Greece undertaking the final year project using the Osterwalder and Pigneur business model innovation approach for new product development group projects.

The dissertation is divided in six chapters. The first chapter describes the justification of the research. The second chapter provides the identification of key terminologies and the literature review. The third chapter is an essay proposing the research model to be evaluated. The fourth chapter is an essay that uses the Critical Success Factors (CSF) methodology and a number of non-parametric comparison tests to investigate the expert opinions of project team managers and members of new product development teams on the importance of social networking team attributes in relation to knowledge and capabilities' individual attributes and team diversity on NPD project effectiveness for projects of varying complexity. The fifth chapter is an essay that uses Social Network Analysis (SNA) to analyze selected social networking attributes of project team formations and correlates them with project outcomes using the project complexity as intervening variable. Each essay includes conclusions and proposals for further research. The sixth chapter is a integrative review of the conclusions and propositions for further research. A References section is added at the end and also an Appendix with three papers published during the PhD project timeframe.

The research contributions of thesis could be summarized as follows.

1. An improved model for NPD projects that incorporates both the critical general team attributes and the critical social team attributes. The proposed model incorporates [a] the explicit models of the relationship between NPD project effectiveness based on statistical analysis of team members' individual attributes with [b] the implicit model that describes the impact of social attributes on the effectiveness from the literature review based on the social network analysis of their relationship links. This appears to be the first systematic study that combines the two approaches into one integrated model.

2. Identification and ranking of critical general team attributes using a critical success factor (CSF) approach. There has not been a model that has combined all the categories of attributes in one model. The validation and the ranking of the critical team attributes as a combined set of both attributes types appear for the first time in the literature.
3. Identification and ranking of critical social team attributes using the CSFs methodology. The set of critical social team attributes has been produced from the relevant literature review on organizational effectiveness. The list, the validation and the ranking of these attributes appear for the first time in the literature.
4. A comparative analysis of the critical general and social team attributes by involving different categories of NPD project experts from research and industry for different levels of complexity. The existing literature has not validated the possible impact of the diversity of the experts who participated in similar research studies. The comparisons have been done in relation to project success, effectiveness and successful bidding in order to see whether there are variables that vary when the outcome is being evaluated by the project owner (success), the project stakeholders (effectiveness) or a committee of experts (bidding) and for three levels of perceived project complexity in order to test for the complexity as moderating variable in those expert perceptions.
5. Testing out of the proposed model for instances of critical social team attributes. The conclusions from the test regarding friendship, external advice network and business collaboration provides answers that are in line with existing literature on the impact of social attributes on project effectiveness and provides additional insights that cannot be found in the literature.