

# Implementation of project strategy to improve new product development performance

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## Abstract

Poor project strategy is one of the major causes of project failure. However, many projects do not adequately develop strategy leading to a poor basis in subsequent phases. Thus, implementation of project strategy is critical to the success of any project. The primary purpose of this study was to validate a model for assessing the relationships among implementation of project strategy, new product development (NPD) project outcomes, and market performance. The analyses suggest that implementation of differentiation, operational, and quality strategies may improve NPD project outcomes. The research results also imply that improvement in NPD project outcomes may enhance market performance, while it helps accomplish the market share and sales goals.

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## 1. Introduction

Project strategy is a direction in a project that contributes to success of the project in its environment (Artto et al., 2007; Milosevic, 1989; Samset, 2003). Many studies have shown that project strategy may contribute to project performance in terms of cost, schedule, and operational characteristics (Anderson and Merna, 2003; Srivannaboon and Milosevic, 2006). Thus, project strategy is critical to the success of all types of projects. The development of project strategy is one of the major tasks during project planning. As the strategy of a firm relates to the firm's aspirations to achieve a desired position in its competitive external environment, the strategy of a project relates to the project's aspirations to achieve a desired position in its competitive stakeholder environment (Artto et al., 2007; Chaffee, 1985). Additionally, development of project strategy is the stage where project risk assessments are undertaken and the specific project execution methods are analyzed. Success during the subsequent phases of a project is highly

dependent on the level of effort expended during this stage (Cho and Gibson, 2001).

A project strategy should concern not only operative and tactical levels, but also the institutional level, and thereby enable a project's significant interaction with its context (Artto et al., 2007; Morris, 1982). However, the literature has largely ignored the impact of project strategy on project success. In recent years, there has been a growing trend towards development of project strategy on new product development (NPD) projects. Some high-tech firms adopt the best industry practices for project strategy development in the attempt to reduce the cost and schedule of a NPD project. These companies also examine their operations for ways to improve innovation performance. However, since the importance of strategy can be rather intangible, this has slowed the implementation of project strategy. Accordingly, the importance of project strategy development has been one of the major issues for both industry and academic fields. Project strategy in many cases is not developed well for large and complex projects (Artto et al., 2007; Chaffee, 1985). In other words, the large and complex projects suffer from poor strategy. Many studies indicated that one of the major challenges in NPD is also the development of project strategy. In order to understand the issue, there is a need for

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quantification of the associations among project strategy, NPD project outcomes, and market performance. Research on the relationships should offer guides to development of project strategy.

The primary objective of this study was to validate a model for assessing the relationships among implementation of project strategy, NPD project outcomes, and market performance. A data collection tool was developed to assess project strategy adoption, NPD project outcomes, and market performance in Taiwan and Mainland China. The data analyzed in this study are project-specific, meaning the data are representative of the level of strategy adoption within a project. This research was designed to include strategies that were thought to have substantial impact on NPD projects. Based on previous studies (Anderson and Merna, 2003; Ansoff and Stewart, 1967; Arto et al., 2007; Dietrich and Lehtonen, 2005; Hauc and Kovač, 2000; Qureshi et al., 2009; Subramanian et al., 2007; Thompson et al., 2007) and interviews with new product development practitioners, four types of strategies (differentiation, cost, operational, and quality) were used to investigate the association between project strategy implementation and NPD project success.

## 2. Conceptual framework and research hypotheses

The concept of project strategy refers to the strategy of a single project. Previous studies using the project strategy concept mostly assumed that there is one strong parent organization for a project; indeed, the parent is assumed to dictate an image of its strategy to the project, and the project is assumed to take an obedient servant's role, to serve as a tactical vehicle that becomes a mere part of its parent organization and the parent's strategic scheme (Arto et al., 2007; Griffin and Page, 1996). The prior research considered that project strategy is mostly about goals and plans and argued that such goals and plans are aligned with a parent organization's strategy. However, it is not always appropriate that one parent organization dictates a project's goals or sets the success criteria from outside the project (Arto et al., 2007; Loch, 2000). Individual projects may have different kinds of environment, goals, and strategies. For a NPD project, success refers to how well the project is able to accomplish its goals from the perspectives of project outcomes (including schedule performance, cost performance, quality performance, and innovation performance) and market performance. In addition, environment refers to the world outside the project's boundaries with which project as an open system must continuously interact (Arto et al., 2007; Dzung and Wen, 2005; Miller and Lessard, 2001). Based on the literature analysis (Arto et al., 2007; Morris and Jamieson, 2004; Turner, 1999; Wheelwright and Clark, 1992), the study concludes a project strategy definition for NPD projects:

“Project strategy of a NPD project is a direction in a NPD project that contributes to project goals (from the perspectives of market performance and project outcomes in terms of schedule performance, cost performance, quality performance, and innovation performance) in its competitive

stakeholder (including customer, R&D, marketing, and production) environment.”

Three dominant tracks of project literature, referring explicitly or implicitly to the concept of project strategy, were identified by Arto et al. (2007). For the first track, project strategy is derived from more significant business strategies of the parent organization (Wheelwright and Clark, 1992). This track contended that project strategy is composed of a static plan or predetermined goals for the project (Anderson and Merna, 2003; Cleland, 2004; Griffin and Page, 1996; Jamieson and Morris, 2004; Milosevic and Srivannaboon, 2006). In the second track, projects have been considered as autonomous organizations linked to the parent organization (Bettis and Hitt, 1995; Loch, 2000; McGrath and MacMillan, 2000). These projects develop their own strategies and plans independent of the surrounding organizational context (Arnaboldi et al., 2004; Lam et al., 2004). In the third track, projects were considered as organizations that are not subjected to clearly defined governance or authority setting in relation to their surrounding organizations or stakeholder organizations (Dzung and Wen, 2005; Eden and Ackermann, 1998; Miller and Lessard, 2001). These projects interact with uncertain and complex environment and adapt to the changes (Flyvbjerg et al., 2003; Williams, 2002).

Most of the project management literature concentrates on the execution tools and techniques rather than the effective development and deployment of project strategy within a total process concept (Anderson and Merna, 2003). Arto et al. (2007) reviewed literature from multiple viewpoints to develop a definition and interpretation about the project strategy concept. The study suggested empirical research and further conceptual research on detailed contents of different project strategies. Previous studies indicated that project-based strategy implementation may improve efficiency of the entire process of strategic management. The efficiency of management activity in the whole company is increased by introducing the project plan of business strategy implementation (Hauc and Kovač, 2000). In addition, how to implement strategies successfully through projects is also an important issue in project management. For example, Dietrich and Lehtonen (2005) developed measures for successful management of strategic intentions in a multi-project context. The findings indicated that the linkage between strategy process and project management is identified as a success factor. Project management plays a strategic role in a company. Project management is expected to impact the adaptation of business strategy if the operating conditions of a project detect significant threats from environmental changes (Srivannaboon and Milosevic, 2006). On the other hand, other recent works developed project management models and provided an in-depth analysis of project strategy. A model and its deployment to place project strategy in the context of business development have been developed by Anderson and Merna (2003). The model can assist and allow a customized project strategy to be created. Additionally, Qureshi et al. (2009) also presented project management performance assessment (PMPA) model. They concluded that project management

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