

Cooperative Competency as an Input Factor for Project Success

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Summary

Executives rely more and more on projects to marshal the cooperative behaviors needed for fast-tracking innovation and improving organization performance (Eisenhardt and Brown 1998). Although the central driver of performance is the quality of inputs like cooperative behavior, most organizations are focused on outputs like cost control and resource optimization (Liebowitz 1999, Devinney 2000, Hamel and Valikangas 2003).

An objective of the article is to widen debates from the relative merits of 'soft' behavioral skills versus 'hard' control skills. It engages debates about improvements in project practices for making informed decisions through lifecycles of product innovation in construction, telecommunications, defense, and financial services. Its discussion will interest people in the fields of organizational learning, knowledge management, project-based management, project integration management, and development of project professional standards.

Discussion in this article will explore a compelling question. If senior executives continue to favor 'soft' cooperation skills more than 'hard' skills for managing projects, and if management-by-projects becomes part of organization strategy, then how could the alarming rate of project failures be rectified? Tackling this question may contribute to advancing standards published in mainstream project bodies of knowledge and national competency standards.

Introduction

Senior executives frequently initiate projects for improving organization performance. Generally they know how to manage projects. Generally too, they cannot fully recognize how project benefits directly improve performance (Thomas et al. 2002). Perhaps lack of recognition is symptomatic of widely reported rates of project failures. For instance, the Standish Group surveyed 280,000 projects in large, medium and small companies. Twenty-three percent of surveyed projects were cancelled before completion or never implemented. Half of all projects surveyed exceeded budget and schedule, and had fewer features than originally scoped (Drummond and Hodgson 2003). Coincidentally, half of all new products introduced each year are unsuccessful (Sivadas and Dwyer 2000).

Problems associated with managing cooperation in new product development (NPD) projects have persisted for more than a quarter century. In the 1970's, anecdotal evidence concluded that perceived project 'success' depends more on behavioral skills than technical skills (Zmud 1980, Schuler and Jackson 2001). Recent evidence substantiates earlier conclusions. It finds that cooperative behaviors are predictive of successful outcomes in two-thirds of all projects surveyed (Monczka et al. 1998). Complementary research into project career development identifies differences between senior managers' and project managers' perception of effective performance on projects (Crawford 2005). Perhaps why lessons from so long ago remain unlearned is attention devoted by researchers in project management. Research typically investigates outputs of what people and teams do, rather than the inputs they bring into projects (Cooke-Davies 2002). Some researchers contend a technical research focus has become excessive (Lycett et al. in press). The contention was a theme of an address by the keynote speaker at the 16th World Congress in Project Management.

"We can already manage projects well – not always, but we know how to do it. One route is for us to let the science [of project management] stabilize and concentrate on broadening its range of applications – applying currently defined best practice. Choosing ... [this] route is likely to lead to the end of project management." (Parker 2003).

Exploring how currently-defined project best practice could be improved is the objective of this paper. It presents a review of the marketing and engineering literatures to advance notions about project Cooperative Competency, a behavioral 'soft' competency. It questions widely believed but unproven assumptions that technical 'hard' skills for controlling projects and optimizing resources lead to successful project outcomes. Behavioral skills generally, and cooperation specifically, often motivate exchanges of knowledge required for making informed decisions. Yet very little is known about how cooperation affects knowledge exchange and project outcomes (Tyler 2001).

Success and failure affects projects and programs alike; and thus, this article treats the two classes synonymously under the single banner of 'projects'. Likewise, the article treats product development and organization change projects alike, because all projects fundamentally require planning, resource allocation, and control processes for a finite period.

Discussion in this article will be presented in two parts. Part One will summarize important conclusions from a Delphi survey and industry forum titled *The Future of Project-Based Management*. Part Two will leverage these conclusions to argue that existing assumptions limit project managers from effectively delivering new product innovations for product managers.

Part One: Future of Project-Based Management Forum

Widespread assumptions treat project management as a 'hard' discipline for rationally controlling and optimizing resources (Lycett et al. in press). Taking the treatment a step further, it is often mistakenly assumed that technical competencies lead to project success (Crawford et al. 2003). Still to be well understood are how project practices evolve when emphasis is placed on goals for learning and innovation that characterize many NPD projects.

The *Centre for Management Innovation and Technology* (CMIT) in Sydney, Australia hosted a series of debates about the Future of Project-Based Management in September 2004. Debates were lead by speakers from the *International Council of Project Management Advancement* (ICPMA), IBM, the *Australian Institute of Project Management* (AIPM), and the *Project Management Institute* (PMI).

Debates centered on four central questions about the importance of project ‘soft’ skills, which then became subjects of two iterations of Delphi interviews.

Central question 1. In what year will project management become a core competency in the majority of knowledge-based organizations like construction, defense, telecommunications, and financial services? Two different debate positions were taken. Firstly, widespread adoption of project practices by industry depends on generalized knowledge and experiences, which allows fairly unrestricted entry into the profession of project management. Conversely, standards-setting bodies can only apply rigorous performance criteria when entry into the profession is restricted to people with specific knowledge and experiences.

Central question 2. In what year will project management become just another management fad? One position debated it may become a fad once its practices effectively resolve persistent problems related to NPD projects. An opposing view argued that project management will never become a fad because its practices help clarify risks of uncertainty inherent in new product development activities.

Central question 3. In what year will project management become a process universally applicable across all industries? Being universally applicable, the processes, tools, and techniques of project management may be codified into generalizable best practices. Conversely, the processes, tools, and techniques of project management may arise from path dependent tacit learning that leads to innovative change; and therefore may be situationally specific to organizations.

Central question 4. In what year will project management become an essential part of strategies for developing new products and services? One debate viewed Project Integration Management as a key positive link to strategy management. In opposing debates, tolerance of ambiguity in strategy will clash with the underlying rational approaches of project management.

Description of Delphi Respondents

The four central questions outlined above were presented verbally by speakers at a symposium attended by about 80 MBA students studying a course in project management at Macquarie Graduate School of Management.

Seventeen and twenty-three surveys were returned from iterations 1 and 2, respectively. The authors acknowledge that the Delphi technique and the convenience sample are not designed to produce statistically rigorous results. On the other hand, these results suggest general agreement among an informed audience concerning subjects of the Delphi survey.

Survey Findings

The four central questions were discussed at two interview iterations using a Delphi methodology. Table 1 reports results from both interview sessions.

Table 1: Delphi Interview Results

Central Questions		Percent Responses in Delphi Iteration 1			Percent Responses in Delphi Iteration 2		
		0% to 25%	26% to 75%	76% to 100%	0% to 25%	26% to 75%	76% to 100%
In what year will project management become:							
1	a core competency in the majority of organizations?	2010	2010	2020	2010	2010	2015
2	just another management fad?	2020	Never	Never	Never	Never	Never
3	a process that is universally applicable across all industries?	2004	2010	2015	2007	2012	Never
4	an essential part of strategies for developing new products and services?	2004	2006	2010	2005	2008	2010

Replies to question 1 from Table 1 suggest that Delphi respondents believe a majority of organizations will view project management as a core competency by 2010 to 2015. When asked to rank confidence, 67% of respondents judge themselves to be sufficiently informed to state an educated opinion. Importantly, Delphi achieved a stronger agreement between the two iterations (from 2010 - 2020 in Iteration 1, to 2010 - 2015 in Iteration 2).

Stronger agreement is apparent in question 2, with Iteration 2 respondents agreeing that project management will never be perceived as a fad. When ranking confidence, 81% of respondents felt sufficiently informed to state an educated opinion.

Replies to question 3 are marked by some disagreement. Respondents in Iteration 2 postponed their estimates about when project practices may become universally applicable across industries. Doubts arose about the assumed best mix of ‘hard’ and ‘soft’ skills for managing successful projects. 75% of respondents felt confidently informed to state an educated opinion.

Also, question 4 shows some disagreement. With additional probing, several respondents believe that acceptance by senior executives of projects as an NPD strategy would depend on when project practices become a core competency in organizations. Anecdotally, then, respondents delayed estimates in question 4 to align closer with estimates in question 1. 79% of respondents felt sufficiently informed to state an educated opinion.

A subtle observation arose from discussions about repositioning the definition of project management with an alternative. Is the future of project based management effectively described by current definition of managing projects to *create unique solutions*? Or is a more effective alternative definition for NPD projects to *solve problems in a unique manner* (Kooyman 2004)? This observation sparked renewed research interest by the authors. This new research is suggesting that the widely accepted definition of project management, *to create unique products, services, or results* (PMBOK 2003), has lead to assumptions that over-emphasize reliance on tools, techniques, controls, and measures. Hence, the authors benefited from using the Delphi approach because it helped us clarify objectives for a program of original research.

Before continuing discussions, we should comment on the limitations of conducting group interviews using a Delphi approach. Its purpose is to pretest research intuitions about phenomena prior to operationalizing survey instruments. Researchers use pre-established questions with limited response categories and record responses with pre-established coding structures. A key benefit is bringing together groups of informed individuals to debate merits of pre-defined research problems. A key limitation is defining future research questions before ramifications of current assumptions are comprehensively recognized (Fontana and Frey 1994).

Data reported in our current article reflects limitations of a Delphi approach. When drafting the four central questions, our assumptions proved somewhat limiting as we began concluding interviews with fresh viewpoints. Buoyed by refreshed viewpoints, our project research is underway to advance notions of Cooperative Competency and learning as critical input factors of NPD project success.

Part Two: Re-examination of NPD Project Assumptions

The Delphi survey discussed in Part One and a review of the project literatures highlight four important conundrums pointing to a rethink needed for managing NPD projects.

Firstly, excessive project research attention is devoted to ‘hard’ rational methods, tools and techniques of measuring and controlling outcomes (Lycett et al. in press, Drummond and Hodgson 2003). Secondly, assumptions underlying mainstream bodies of knowledge like PMBOK, Prince2, and the Australian National Competency Standards implicitly favor acquisition of ‘hard’ skills (Crawford et al. 2003). Thirdly, knowledge gaps result from separate debates in different project journals about the contributions of ‘hard’ and ‘soft’ skills. Different debates jeopardize efforts to standardize knowledge about project management (Themistocleous and Wearne, 2000). Fourthly, program and project managers frequently lack relationship ‘soft’ skills needed to bring perceptions of success for NPD projects (Elonen and Artto 2003, Alfi 2002, Leban 2003, Thiry 2002, Pellegrinelli 2002).

The four conundrums just mentioned point to necessary re-assessments of project definitions. Yet the proposed alternative definition, *to solve problems in a unique manner*, could re-ignite long-standing contentions in the project management community (Parker 2003). Threads of contention spin around the different viewpoints of autocratic-centralized versus participatory-decentralized styles of managing projects. Firstly, autocratic-centralized viewpoints typically emphasize outcome-related factors like predictive models, optimization methods, standardized practices, and critical factors of project success. An excessive emphasis often

reduces willingness of project teams to cooperate, to escalate issues, and to voluntarily comply with standards (Nelson and Sampat 2001, Sivadas and Dwyer 2000).

Secondly with participatory-decentralized viewpoints, sparse numbers of investigations examine project success and input factors in organizational contexts. For instance, receiving research attention are 'new economy' organizations that rely on information-intensive operations for fast-tracking projects, for dynamic capabilities, and for prototyping (Eisenhardt and Brown 1998, Eisenhardt and Martin 2000, Matta and Ashkenas 2003).

Irrespective of contentions, recent evidence points to a bottom-line problem. If neither generalized practices nor contextual detailed plans improve chances of project success, then what assumptions are entrenched and need re-examination (Boddy and Macbeth 2000)? Entrenched assumptions influence considerations of what practices are sufficiently important to be included in – or excluded from - bodies of knowledge (Howard 1998, Schein 1992). Literature cites two key examples of "blinkered" assumptions. Firstly, surveys find limited 'hard' skill use of project tools and techniques other than Gantt Charts (White and Fortune, 2002). Importantly, such limited use is contrary to the standards of best practice as defined by mainstream project bodies of knowledge. Secondly, literature searches uncover scant discussion of 'soft' skill innovation processes and practices other than the use of pilot projects (for instance Matta and Ashkenas, 2003).

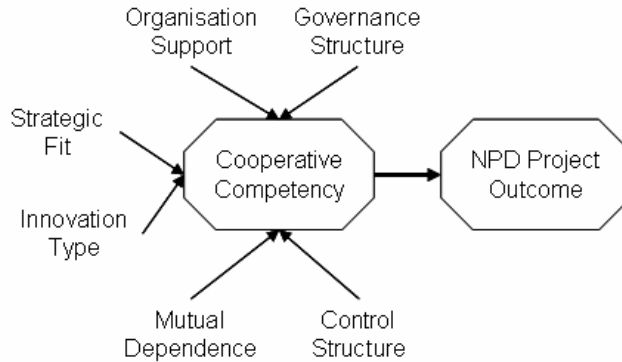
The bottom-line problem justifies the proceeding overview of project Cooperative Competency.

Cooperative Competency

Cooperative Competency means a project capability that facilitates organizational learning by managing information, relationships, and interdependencies (Tyler 2001, Sivadas and Dwyer 2000). It encompasses three skills of communicating, cooperating, and building trust. Communicating information, particularly in ambiguous NPD project contexts, is vital for revising project goals and re-establishing task interdependencies. Coordinating skills involve a specification of project roles with minimal redundancy among resources, and verification that tasks are completed according to project requirements. Building trust reduces a sense of uncertainty because people are able to understand and predict each other's behavior (Child and Faulkner 1998).

Previous research finds that Cooperative Competency exhibits greater predictive power when it is embedded in a framework with six antecedent factors. The framework is illustrated in Figure 1.

Figure 1: Cooperative Competency and Project Capability



(Sivadas and Dwyer 2000)

Each of the six antecedents shown in Figure 1 is explained next.

Organization support. Project benefits realization may be fostered in organizational climates characterized by cohesive teamwork, top management endorsement, control of opportunistic behavior, and clarification of roles and responsibilities.

Governance structure. Hierarchical management structures are put in place when coordination costs are expensive, and project integration is an organizational capability.

Strategic fit. Resources are acquired when losing intellectual property needed to commercialize new products is a perceived high risk (Barney 1999, Das and Teng 1999).

Innovation type. In NPD contexts, radical innovation may require more aptitudes than what is known because prior experience may be obsolete.

Mutual dependence. When dependence is high or low, communication occurs more or less frequently. Project knowledge may or may not be transferred into organizations (Gibson 1999).

Control structure. Most organizations control outputs and behaviors. Left relatively neglected are controls for learning, negotiating, and socializing (Das and Teng 1998, Child and Faulkner 1998).

Next Step

Research by Sivadas and Dwyer (2000) concludes that Cooperative Competency is predictive of NPD success in strategic alliances in the Health Care and Semiconductor industries. Research described in this article seeks to test its predictive capabilities in the construction, telecommunications, defense, and financial services industries.

The next phase of this research will be completed with a mass survey through 2005 and early 2006. Please contact the corresponding author to participate in this aspect of furthering the professionalism of project management.

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