What Project Strategy Really Is: The Fundamental Building Block in Strategic Project Management

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ABSTRACT ■

Strategic project management is gradually becoming a popular and growing trend within the discipline of project management. The general idea is that project management teams must learn how to deal with the business aspects of their projects, as well as better support their company's business strategy and sustainability, rather than just focus on meeting traditional time, budget, and performance goals. Although this approach has been gaining popularity, strategic project management has not yet become an explicit and widely used approach in the practice of project implementation. One of the concepts mentioned as an important element is *project strategy*; however, no universal framework or even a clear definition of what project strategy is has so far emerged. The goal of this article is to fill in this gap and provide a useful definition and a framework for the further study and implementation of the project strategy concept. Specifically, to achieve this goal, we first look at the origins of strategy in military and business research to discuss the question of *what, exactly, project strategy is*; we follow this discussion with an explicit definition of a project strategy. We then outline a framework for building a dedicated project strategy document for an individual project, and show how this framework can guide the project planning and execution processes. Using a case study approach, which included an action research phase, we demonstrate how project teams can adopt the strategy concept in a natural way that would lead their project to better business results.

KEYWORDS: project strategy; strategic project management; competitive advantage; project success

INTRODUCTION ■

With accelerated competition, increased economic pressures, and rapid technological change, researchers and practitioners are continuously searching for better ways to manage projects. Yet, both communities are gradually realizing that many projects are still managed in an ineffective way, thus leading to significant losses in productivity, profitability, and employee morale (Davies & Hobday, 2005; Williams, 2005). It seems that the traditional emphasis on meeting time, budget, and project performance (or scope) goals is no longer sufficient to guarantee the achievement of organizational objectives (Shenhar & Dvir, 2007). A new approach is thus emerging, collectively called "strategic project management" (Cleland, 1998; Davies & Hobday, 2005; Jugdev, 2003; Shenhar, 2004). The strategic project management approach is based on the realization that projects are, most of the time, initiated to achieve business results (Pennypacker & Dye, 2002) and that project management implementation should be better aligned with the higher-level enterprise strategy. What that implies is that organizations, project teams, project managers, and executives must better learn how to focus project execution on achieving the business results of the mother organization—more profits, additional growth, and improved market position, to name a few (Cleland, 1998; Shenhar, 2004). Ironically, however, the traditional approach is still widely ingrained, and is still accepted as the common way of running a project: When project managers and project teams are engaged in day-to-day project execution, they typically are not focused on the business aspects. Their focus and attention, rather, is operational, and their mind-set is on "getting the job done." While this mind-set does contribute to project teams doing their work efficiently, left alone, it may lead to disappointing business results and even failure—when the job was not done effectively.

We support the view that a new mind-set and approach must be built on top of the traditional project management concept. Strategic project management will not discard the traditional mind-set; instead, it will expand it. Meeting operational goals and efficiency has always been and will continue to be important for project success (Shenhar, Levy, & Dvir, 1997). But in the modern organization, project teams should and could be asked to do more. They should learn how to better understand the needs of the higher enterprise and then plan and execute their projects, not just for meeting time and budget goals, but also for creating customer satisfaction and, above all, achieving business results.

Although sometimes challenged by traditional thinkers, these changes are perhaps inevitable and unstoppable. However, they are not trivial, for at least three reasons. First, as mentioned, such thinking represents an

unorthodox view. For more than 50 years, project management development, training, and literature have focused on project planning, scheduling, and resources management. Widely used techniques such as PERT charts, critical path, and bar charts have become almost synonymous with project management. But tools cannot replace thinking. Refocusing attention from tools to strategic thinking will require a great deal of effort and determination. Second, managing the project in a strategic way does not mean abandoning the operational perspective. On the contrary, getting the job done—getting to market on time and within budget—should still be an important goal. Yet the traditional thinking must also incorporate the new, strategic perspective, which will inevitably make project management more complex and more demanding than it was before. Third, the new approach will require building a new framework on top of the traditional "get the job done" frameworks. Such a framework would naturally guide researchers in their studies on what makes projects more effective; but, more important, it would help organizations, executives, and project teams in directing, planning, and executing their projects with the new mind-set in mind for focusing projects on short- and long-term business results, as well as the sustainability of their organizations and stakeholders, beyond simply achieving efficiency goals.

Strategic thinking was quite rare in the traditional literature and terminology of project management. While 40 years of scholarship in the discipline of *strategy* have almost exclusively focused on corporate or business strategies (Mintzberg, Ahlstrand, & Lampel, 1998), projects were often perceived as part of operations that should simply implement strategies into action. For example, Cleland and King (1983, p. 127) described projects as "*a tool for executing overall organizational strategy.*" However, new views are gradually emerging. For example, Slevin and Pinto (1987) suggested balancing strategy and tactics in project implementation; Milosevic (1989) offered a system approach to strategic project management; Cleland (1987, 1989) offered a framework for strategic design in project management; Turner (1999) focused on improving processes for achieving project business objectives; Shenhar (1999) discussed a general framework for strategic project management; Miller and Lessard (2000) discussed the strategic management of large engineering projects; Jugdev (2003) suggested using the resource-based view of organizations to study project management as a strategic asset; Artto, Dietrich, and Nurminen (2004) described strategy implementation by projects; and Morris (2009) discussed the importance of managing the project front-end as part of the implementation of strategy through project management. Some authors have introduced specific frameworks to move the discipline toward a more strategic approach. For example, Shenhar, Dvir, Levy, and Maltz (2001) suggested seeing project success as a strategic multidimensional concept; Artto and Wikström (2005) and Davies and Hobday (2005) introduced the concept of business project strategy; and Shenhar (2004) presented the framework of strategic project leadership, which integrates the operational, business-focused, and human sides of project leadership by delineating five elements: strategy, spirit, organization, processes, and tools. Other writers have focused on strategic portfolio management, where project selection and resource allocation are guided by the need to support the organizational overall strategy (Archer & Ghasemzadeh, 1999; Artto & Dietrich, 2004; Cooper, Edgett, & Kleinschmidt, 2001; Englund & Graham, 1999; Ohara, 2005). In addition, several PMI-funded studies have focused on building and expanding the strategic approaches (Morris & Jamieson, 2005; Shenhar et al., 2007).

One of the central building blocks of strategic project management is likely to be the concept of *project strategy.* Project strategy, as the logic goes, is needed to guide an individual project in its planning and execution processes. Such guidance would lead to better business results and to better support the organization's business strategy and sustainability (Artto, Kujala, Dietrich, & Martinsuo, 2008; Shenhar et al., 2005). In fact, it has been argued that project strategy is the "missing link" in project planning (Shenhar et al., 2005). But what exactly is project strategy? How is it defined? What are its components and constructs? Although some previous definitions were offered (Artto et al., 2008), we contend that thus far the concept has remained highly ambiguous and its implementation not clearly defined. We believe that in order for strategic project management to evolve quickly, the concept of project strategy should be clearly defined, easy to implement, and unambiguous to study. Once this is achieved, project strategy should become an integrated part of project planning and execution, and should be blended naturally with existing traditional components in a project plan.

The purpose of this article is to provide a framework for developing, studying, and implementing the concept of project strategy, guided by the above criteria. We will first discuss the general evolution of the concept of strategy and the need for strategy at the project level. We will then suggest a response to the questions "*What is really project strategy? What are its elements?*" We will demonstrate the project strategy construct using Apple's famous project of building and introducing the iPod/iTunes products. Empirical evidence from several projects will then be provided, showing how specific strategy components can be found in projects, even when not explicitly defined. We will conclude with a discussion on how the elements of project strategy could play a role in controlling project execution.

What Project Strategy Really Is

Ultimately, in addition to suggesting a framework for further research, the goal is to provide a framework and guidelines for organizations and managers on how to plan their projects with a strategic focus in mind, and how to manage them in a more strategic way for better business results.

What Is Strategy?

The concept of strategy in society is not new; its origin was apparently rooted in the early days of writing about war, published in famous works, such as Sun Tzu's *The Art of War* (1994), first written around 400 BCE, and Carl von Clausewitz's *On War* (1989), first written after the Napoleonic wars in the early eighteenth century. Early war philosophers had no difficulties in defining strategy. They saw it as a quest for finding the best way to ensure winning the war or the battle. They typically delineated different strategies and matched them to the conditions that seemed most suitable (Mintzberg et al., 1998). Hence, in the early days, strategy was a clear concept, and it was focused only on one thing: how to win the war.

In the modern era, the concept of strategy has been expanded to additional aspects of life. The term *strategy* is now used in different environments and in much broader contexts, including the organizational arena. Some people see strategy as a direction, a plan, a guide, a course of action into the future, or a path to get from here to there (Mintzberg, 1994). Others see strategy as a pattern of behavior that is consistent with time. In an organizational context, famous works by Selznick (1957) or Chandler (1962) discussed the concepts of "distinctive competence" or the relationship between strategy and structure.

A typical definition of organizational strategy is the plans developed by top management to achieve outcomes that are consistent with the missions and goals of the organization (Wright, Pringle, & Kroll, 1992). In a wider perspective, Starbuck (1965) claimed that when dealing with strategy, everything that has been written about organization could be legitimately discussed. Strategy, therefore, on one hand, has been claimed to be limited to top management's planning, while on the other hand to include everything the organization does.

To cope with the multiple ways of looking at strategy, Mintzberg (1994) offered five different definitions for strategy (the five "P"s). According to Mintzberg, strategy is one or more of the following: it is a *plan*, a direction of how to get from here to there; a *pattern* of consistent behavior over time; a *position,* created by a different set of activities, which typically results in a unique set of products in particular markets; a *perspective*, a fundamental way of doing things; and finally a *ploy*, a deception, a specific maneuver intended to outwit an opponent or competitor. Mintzberg (1987) also argued, correctly, that strategy can involve a deliberate approach, an emergent one, or a combination of both. He added that the most effective strategies were developed by combining deliberation and control with flexibility and organizational learning (Mintzberg, 1987).

Finally, Porter (1980, 1985) established a foundation for the concepts of competitive analysis, a set of generic strategies, and the notion of the value chain. In particular, his generic strategies include *cost leadership, differentiation*, and *focus*. He claimed that an organization must make a choice among these to gain competitive advantage. Porter's work created a continuous debate on the essence of strategy that considered whether companies should focus on one strategy or combine different and sometimes even opposing strategies. In a later work, Porter (1996, p. 68) re-described strategy as "the creation of a unique and valuable position, involving a different set of activities." Porter claimed that strategy is *doing different things, or doing the same things differently,* and emphasized that operational effectiveness is not strategy. It must be a given in the modern organization, and could no longer serve as competitive advantage. This view, however, was strongly criticized by others (e.g., Mintzberg et al., 1998). In addition to Porter's generic strategies, several other typologies have been proposed to describe different strategies (Maidique & Patch, 1988; Miles & Snow, 1978; Mintzberg et al., 1998; Venkatraman, 1989; Venkatraman & Camillus, 1984).

Building the Concept of Strategy in Project Management

Since the 1950s, project management scholars have focused on the development of tools, techniques, and procedures that would assist in managing projects effectively. However, as mentioned, not until recently have studies shifted the focus from traditional project management to new research agendas on the strategic aspects of project management. Researchers realized that even when project management procedures have been carefully followed, a project's business outcomes could still be disappointing (Williams, 2005). How, then, can one inject the concepts of strategy into the project management experience?

Strategy Is About Winning

As also mentioned, the contemporary views about strategy have made the field quite broad, and probably too vague. In the modern organization, every action, every plan, and almost every decision is easily called *strategy*. Yet projects are often about focus and about specific activities to achieve specific goals. In order to conceptualize the idea of project strategy, one must *narrow* the scope and discussion about strategy. Instead of talking about plans to attend outcomes or courses of actions, we propose returning to the original idea—namely, the military arena. In the military environment, strategy simply and unmistakably means *how we are planning to win*. The same principle should apply to projects.

Most modern projects are executed in a competitive environment. Typically, the project outcome—a product, a process, or service—is likely to face competition in the market from other products or services. Thus, for each product or service, one could ask, how is it going to stand out in the face of competition, and how are we going to make it happen? A project's outcome must have some appeal, or, in the common term used in business, it must have *competitive advantage*.

Thus, in today's environment, the project objective is not just to build the product or service, but also to build it in a form that will create competitive advantage. A good project strategy is what will create this advantage well. Therefore, as in war, project strategy is simply about winning—winning the market battle with the specific product or service produced by the project. Hence, project strategy is the specific way the project will make this winning happen. As we discuss later, this way will involve the project's unique approach, direction, and a path that is planned in order to win the business battle.

In Noncompetitive Environments, Strategy Is About Creating Value

One could not ignore, however, that some projects may not be carried out in a competitive environment. They could be internal organizational projects, restructuring efforts, public works, or government efforts. In that case, and given the above discussion, does one still need a project strategy? The answer is, unequivocally, *yes*! Even if a project is conducted in a noncompetitive environment, its owners still want it to bring in value. Project strategy, then, simply becomes the specific way in which the project is going to create or add new value (instead of the way it is going to win). In this definition, all the previous statements are as relevant as before.

Strategy Is Not a Plan

What, then, distinguishes a project strategy from a project plan? Obviously, each project must have a plan for execution—for getting things done. But strategy is not a plan. Strategy, in our view, is at a higher level than a plan. Once the strategy has been established, plans include the tactical decisions about activities that should be carried out, and involve resources, timelines, and deliverables. Strategy is therefore what drives the plan. It involves the critical elements for winning with the project—its "secrets of success." And while distinguished from the routine plan, strategy involves the perspective, the guideline, the attitude, the direction, and the policy, which leads to the actual plan, and which will promote a pattern of behavior that is needed for winning and creating value, leading ultimately to succeeding.

Finally, a good strategy involves both effectiveness *and* efficiency. Obviously, winning the war involves choosing the right battles, but it also involves knowing how to fight them. Thus, in an analogous way, winning project battles means first of all picking the right outcomes (products, services, and processes). But this only represents one step toward winning. Full winning means also doing them right. Project strategy, is, therefore, both about effectiveness—making the right choices by defining the outcome in the best way—and about efficiency—executing these choices in the right way.

The Definition and Framework of Project Strategy

The previous discussion is guiding us to contend that project strategy should be a rich construct that could help organizations and managers initiate, plan, and execute a project with the intention of achieving business results and longer-term sustainability. Using most of Mintzberg's five "P"s model, a project's strategy will include a "perspective" (the background, the reason, and the general idea), a "position" (what do we want to achieve, and how will we know that we have achieved it), and a "plan" (that is, guidelines for what we need to do in order to achieve those outcomes). In simple words, a project strategy will include the "Why," the "What," and the "How" to create the best competitive advantage and value from the project. More formally, we define project strategy as:

> The project perspective, position, and guidelines for what to do and how to do it, to achieve the highest competitive advantage and the best value from the project.

As mentioned, our definition is based on three major parts: perspective, position, and plan, as outlined in the sections that follow. We note that we see project strategy in a wider sense, and not only as a *direction* for success (Artto et al., 2008). The three parts are expanded into eight implementable components: business background, business objective, strategic concept, product definition, competitive advantage/value, success and failure criteria, project definition, and strategic focus (see Figure 1).

As we discuss later, the elements of project strategy are not fixed. Rather, for many projects they may emerge and change as the project progresses. Nevertheless, the framework we present and test here is stable enough to accommodate sufficient guidelines for project planners and provides ample flexibility to be adjusted during the project's learning and development process.

The following discussion describes these elements in more detail. To demonstrate their role in a modern project, we use the famous Apple iPod/iTunes case (Levy, 2006). Additionally, we use empirical data to analyze project strategy in three additional projects.

The Perspective

The first "P" is the perspective part of project strategy. It presents the background, the environment, the reason why we initiate the project, and the overall objective, and defines the concept that will guide the project's experience.
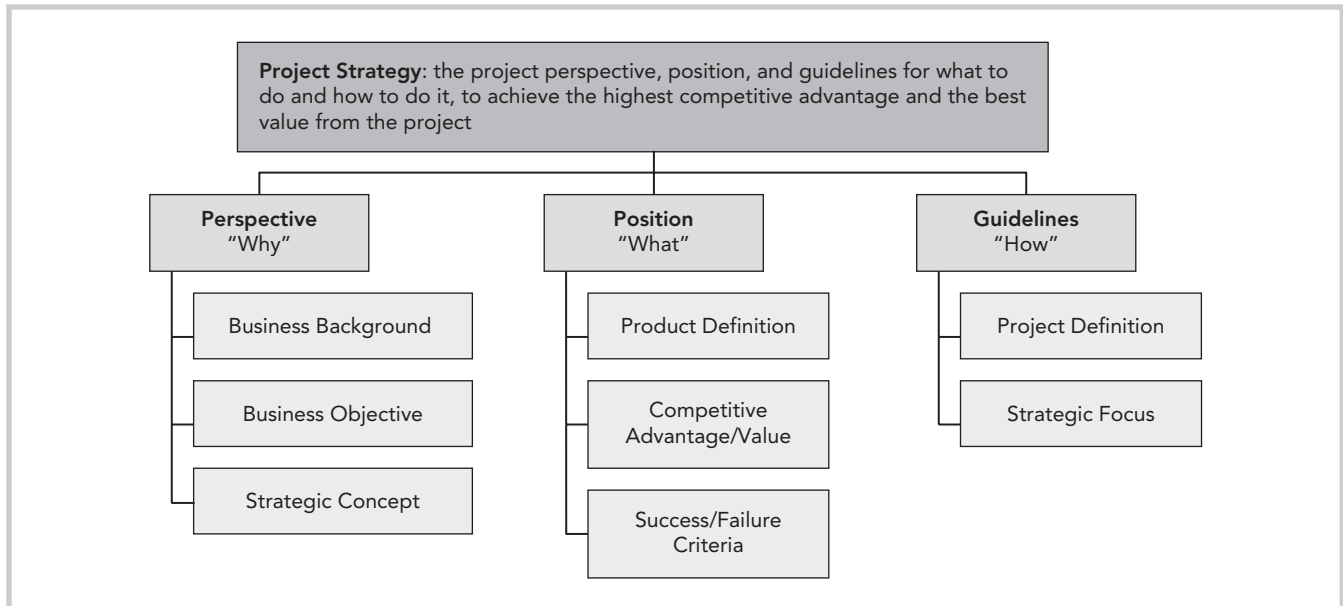
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Figure 1: Project strategy and its components.

It includes the following three elements: business background, business objective, and strategic concept.

The *business background* defines the business environment, reason, and opportunity behind the project. We note that sometimes this is called the "business case" (Project Management Institute, 2008). Business background typically starts with describing the environment and identifying the customer and/or user. It then describes and articulates their need, identifying the problem and delivering a feasible way to solve that problem. Next, the background states how this need could be addressed, and finally outlines the business opportunity associated with this need and solution.

The business background of Apple's iPod/iTunes initiative was the late 1990s environment when people started to use MP3 players to carry their music around and to download music files from the Internet. Apple identified a need for an easy-to-use player that also provided an efficient way to buy music, and saw this as an opportunity to use its strength in well-designed consumer products to create a new business for the company.

Business Objective: This element states the ultimate business goal of the project. Typically, it expresses the long-term business status that will be achieved for the company when the project will be completed. This may also explicitly express the support of the company's vision and mission through the project's outcome. As an organization today may place more emphasis on corporate *sustainability*, in addition to the business or economic aspect, the business objective may be stated in terms of ecological and social aspects as well (Dyllick & Hockerts, 2002; Hardjono & Klein, 2004; Marrewijk & Werre, 2003). In Apple's case, the objective was to penetrate the digital music purchase and usage domain and eventually dominate it.

Strategic Concept: This element describes the general strategic idea behind the project's expected business and how this idea is aligned with the company's business strategy. Specifically, it is the guiding strategic principle that would dominate the project's plan and execution and will guide the project's product creation and deployment. Apple's strategic concept was to integrate an easy-to-use music player, with friendly software to manage files and an Internet-based music store, which would provide the company with a unique market position.

The Position

This is the second "P," the position that will be achieved after the project has been completed. The position part involves what we expect to get once the project has been completed. It is the "state of the world" and the position that the company will achieve in its business environment after the project ends. The position includes the following parts:

Product Definition: This describes the specific outcome that will exist once the project is completed. It defines the kind of product, its scope, and how it will be used. A product definition may include the product's concept of operation, as well as its

functional requirements and technical specifications. We note that we use here the term *product* in its wide sense—namely, the project's outcome, which could involve not just physical products, but also services, processes, or a combination of these. Apple's iPod/iTunes product was defined as an integrated package composed of an MP3 music player, music management software, and an Internet-based music store. The product was defied with its combined features and the ways in which customers would utilize those features.

Competitive Advantage/Value: This is the most important part of the project's strategy. It articulates the specific reasons why the customer will buy the product, and why it is better than alternatives such as competitive products, previous products, or other ways customers have dealt with their problem or need. Competitive advantage may be defined in more than one area and can be based on a combination of product attributes, functionality, performance, quality, reliability, purchasing and operational costs, and so on. In some cases, a map in which the attributes of the product are displayed compared to competitive and previous products could articulate the competitive advantage.

Finally, this component also discusses the value created by the project. First, in noncompetitive environments, competitive advantage will be replaced by the value delivered to customers and users. Second, it will articulate the value created by the project to the performing organization by answering the question of how the project contributes to the organization's business and long-term strategic goals. Apple's iPod/iTunes competitive advantage was an easy-to-use-and-navigate player that could store thousands of songs, user-friendly software to manage consumers' music collections, and a quick and low-cost music store, which allowed access to an enormous database of songs.

Success and Failure Criteria: This element determines the expectations from the project. It defines the metrics that will assess success or failure. It makes things clear in advance: how the project result will be assessed and the difficulties and risks of which project managers should be aware. The criteria will first outline in detail the success dimensions with which the project's outcome will be judged. Typical success dimensions that have been offered include efficiency, impact on the customer, business and direct success, and preparing for the future (Shenhar et al., 2001). In specific cases, projects may need to define their own success dimensions for their unique situation (such as getting FDA approval for clinical trials of a new drug, or getting a city government's go-ahead approval for a new site development). In addition, the expected business success could be described in terms of a business plan: the projected sales and growth pattern of sales over a period of several years. In other cases, it may include more general statements about projected market performance. In addition, since projects present risk and difficulty, this should also outline the constraints faced in the project and the major risks expected—what might go wrong and what will be considered a project's failure. Apple's success and failure criteria in the iPod/iTunes project could involve the number of iPod units the company expected to sell within a specified period of time and the market share they expected to dominate within the MP3 player market or the number of songs downloaded and sold via the iTunes online store. Possible failure could have involved not being able to sell a minimum number of units or seeing customers avoid the use of the online store.

The Plan

The last major part of project strategy involves the "how"—how are we going to make this happen. It is also the last "P," which designates the "plan" of action to achieve the project results, as well as the behavior needed to get there. Continuous team learning during project execution should also be emphasized. This learning will create a feedback loop that will help refine the project strategy and make it relevant to the business and project situation (Bierly & Hamalainen, 1995; Crossan & Berdrow, 2003; Methe, Toyama, & Miyabe, 1997). In addition, the integration of economic, ecological, and social aspects to project management to create sustainability should be part of the guidelines. Mainly, the guidelines include two parts: the project definition and the strategic focus.

Project Definition. This element is defining the project that will be put in place to create the product. Most of the project definition is devoted to a classical definition of a project: The project's scope, which defines the final deliverables of the project and the work that will be done. Typically, it includes a statement of work (SOW), which will later form the basis for a project "work breakdown structure" (WBS), the general time frame it will take, the approximate cost, and the manager and team that will undertake the work. In addition, project definition could indicate the uniqueness of the project based on a possible typology of project types in the organization, as Shenhar and Dvir (2007) did in the "Diamond" project.

In Apple's case, project definition involved the work of developing the iPod (including acquiring the missing technology from the outside), developing the iTunes software, setting up the iTunes online store, and signing the contracts with the music companies that would provide the content for downloadable music. Using the mentioned Diamond

framework, the project novelty level involved a platform product, since similar products existed before; a medium-to-high-tech project, since most of the technology existed; a complexity at an array level, since the project combined a physical product, several software packages, and Internet-based service; and numerous external music companies that became partners in the project. Finally, the pace of the project was fast and competitive, since the project needed to reach the market at a competitive pace while other companies were trying to do the same.

Strategic Focus. This is the last component of the project strategy, and the second most important. It creates the mind-set and guidelines for behavior to achieve the product's competitive advantage and value. The right strategic focus translates the desired competitive advantage into guidelines for project participants. These guidelines help focus activities and foster behavior that will make the competitive advantage a reality. In particular, strategic focus may be reviewed during project execution, through feedback loop learning (Bierly & Hamalainen, 1995; Crossan & Berdrow, 2003; Methe et al., 1997), which will help sharpen the focus and make it relevant to the business and project situation. Ultimately, the right strategic focus should create in the project an environment of *relentless pursuit of competitive advantage* (Poli, 2006). The strategic focus should also address the business, ecological, and social aspects addressed as part of the business objectives. In essence, strategic focus may include, among other things, the following items:
- Guidelines for Behavior—These are the rules and guidelines that direct behavior and decision making. The right pattern of behavior will cumulatively contribute to the expected competitive advantage.

- Policies—The right policy will drive team activities that are consistent with the competitive advantage, and will free managers from day-to-day decisions. The policy will articulate how to manage and leverage company strengths, exploit professional expertise, use internal synergy, and create and take advantage of external alliances.
- Processes—These are specific processes that will consistently support the creation of competitive advantage, including learning through feedback loops and revisions to the strategy.
- Roles and Responsibilities—The specific roles that different team members will take on to foster the creation of competitive advantage should be well defined. They could include responsibility for cost, ease of use, or product performance.

In Apple's case, the strategic focus involved a focus on easy-to-use product design (for example, coming up with the "wheel" concept to navigate quickly among 1,000 songs, instead of the typical up or down buttons), a policy of acquiring as many externally available technologies from outside companies as possible, and a smooth integration of software, hardware, and Internet access.

To formulate a project strategy, all eight elements have to be defined and integrated seamlessly to support one another. Even though some of the strategy elements are not new to the discipline of project management, they may not be effectively defined and integrated to reflect the business perspective and competitive advantage and value. Echoing Mintzberg (1987), the formulation of a project strategy can be done using a deliberate approach, an emergent approach, or a combination thereof. In many situations, flexibility and learning during strategy formulation are particularly needed (Crossan & Berdrow, 2003). Some refer to this as "muddling through" (Lindblom, 1959, 1979). Thus, combining deliberation and control with flexibility and learning

may be the best approach to the formulation of a project strategy.

To demonstrate the role of the project's strategy in actual projects, we present here the findings of a field study on three projects that were not only successfully completed, but also met or exceeded their business objectives.

The Empirical Research

Research Design
To test the project strategy construct in practice and finalize its framework, we have conducted an in-depth study on ongoing projects. Our study combined two research methods in two phases. The first was based on case study research, focusing on the dynamics within single projects (Yin, 1984). That type of research is mostly useful for grounded theory building. Specifically, we have used the process of building theory from case study research as suggested by Eisenhardt (1989). This kind of process is common in cases when an *a priori* specification of a construct exists, and it is triangulated by multiple investigators and within-case and cross-case analyses, and combined with the role of existing literature (Eisenhardt, 1989; Kirk & Miller, 1985; Strauss & Corbin, 1990). During this phase we studied the ongoing project management practices of the planning, execution, monitoring, and problem-solving processes within each project.

The second phase involved action research, which is typically an interactive and reflective data-driven process of progressive problem solving to update the way teams address issues and improve their strategies, practices, and knowledge of the environment within which they practice (Lewin, 1958). Action research is composed of a spiral of steps, each of which is composed of a circle of planning, action, and fact finding about the result of the action (Reason & Bradbury, 2007). During the second phase, we introduced an initial project strategy framework to the project teams we addressed

Project	Network Collaboration	A&G Communication	City Taxation
Company/ Organization	Major telecommunications company	Major defense contractor	Medium-sized city government
Customers/Users	Internal network-maintenance group/ internal and external users	U.S. government/U.S. armed forces	City tax assessor office/city citizens
Need/Goal	Building a quick network-failure detection system for internal and external use	Developing and testing a quick and reliable air and ground communication radio	Property tax reassessment and modernization of an taxation system
Project Duration	18 months	24 months	18 months
Project Budget	$4M	$20M	$1.2M
Project Team	16 people	20 people	2 people + contractor
Research Data Informants	8 people—project manager, team members, executives, users	6 people—project manager, team members, customer	5 people—project manager, team members, executives

Table 1: Case descriptions.

in the first phase, and involved them in actively creating and assessing the validity and applicability of the framework for their projects. We also encouraged them to offer modifications in the framework that may better fit their objectives.

Case Selection and Description
We selected three cases based on the following criteria: All cases must be ongoing projects that have passed their planning phase but have not yet been completed. This allowed introducing modifications in initial plans and decisions, which may influence the final outcome. We were also looking for projects in diverse industries, which represented commercial, military, and government markets, and involved a variety of outcomes such as the creation of new products, processes, and services. Finally, since the area of research was strategic project management, all projects had to be of strategic importance to their performing organizations and to their customers/users. A short summary of the selected cases is provided in Table 1. Each case's background, goal, scope, and main outcome are described in more detail in the sections that follow.

Project 1: Network Collaboration System
The organization that initiated this project was a major telecommunications company that provides network services to thousands of commercial customers, with 80% of the company's business coming from 20% of the high-profile customers. The company's revenue depends directly on the amount of available network uptime and bandwidth that it is able to provide in the dynamic and highly competitive world of telecommunications. The need for this project was accentuated by a major service outage for one of its biggest customers, a major financial institution. The Network Collaboration project was initiated to retire a previous manual intervention process, which was highly unreliable and notably slow, and replace it with an automated programmable software framework that could be used for faster network trouble identification, trouble assignment, and trouble recovery. The customers of this project included internal company employees responsible for network health, but also employees of external corporate customers who would be notified of potential network congestion or failure so they could plan their

continued business operations around such untoward incidents in advance. Finally, the company's managers and executives would also be able to effectively manage their resources and focus their groups' attention on critical problems that affect business profitability. The project execution involved analyzing system needs and requirements, enterprise architecture and system design, hardware and code development, testing, deployment, and production support, and building a customer support organization. The project was executed during a period of 18 months by a team of 16 people, with an introduction of an interim limited-features prototype, which enabled early testing after six months. The final system proved to be highly successful. It saved the company over 85% of problem notification costs and reduced by 50% the mean time to problem repair (MTTR) in addition to producing considerable savings from reducing its network maintenance personnel.

Project 2: Air and Ground Military Communication System
The nexus of this project was based on the desire of the United States Army to upgrade combat capabilities by digitizing

its battlefield information and communication systems. Realizing that its present legacy communication systems suffered from insufficient bandwidth, limited range, limited mobility, and limited interoperability between ground, air, and space systems, the project was initiated to provide troops with increased flexibility, adaptability, and interoperability. The objective was to develop, test, and demonstrate a modern military communication capability by building two interchangeable radios (one for ground and one for air), with multichannel, simultaneous voice, video, and data communication functions that are interoperable with previous legacy field radios. The contractor for this project was competitively selected among several major defense industry companies. The government customer expected to use the demonstrating radios as a basis for a larger contract that would eventually deliver hundreds of units to the armed forces. The contractor had hoped that success in this project was expected to lead to follow-on awards for production systems to satisfy the larger needs of the armed forces. The development and demonstration project lasted for two years and carried a budget of $20 million. The contractor completed the project successfully and became the leading candidate for future orders.

Project 3: City Property Tax Evaluation
This project followed a mandated property tax revaluation by the state government's Division of Taxation. Previous statistical analysis of assessed values displayed that property owners with properties of similar market values had been paying dissimilar property taxes. The city saw this as an opportunity to equitably redistribute the tax burden among its home property owners, to modernize its taxation system, and to increase citizens' satisfaction by demonstrating that all taxpayers are being treated fairly and equitably. Another expected benefit from the project would be a reduction in the rate of tax appeals.

The project involved completing a market value appraisal of every property in town within a period of 18 months. It also involved communicating the assessment results to the tax assessor, city council, and taxpayers; establishing and implementing a review and appeal process; and creating an updated database of all properties and an online system for quick access to tax evaluation data for city residents, real estate agents, and prospective buyers. Finally, the system would enable repetition of the assessments process in future years with increased efficiency and reduced cost. The assessment data results would serve as a base for property tax charges for the next year. To perform the mass appraisal process, the city engaged an external assessment firm, which was contracted to finish the job quickly and inexpensively, and has used dedicated appraisal software and the collection of the city's tax maps. The project's budget was $700,000 and it involved two full-time staff members at the city tax assessor's office in addition to the external assessment firm. The project was completed on time and built the first system of its kind in the state. Its continued service allowed a second assessment within three years, which saved the city hundreds of thousands of dollars in administrative costs and millions in tax refunds. The assessment cycle time was reduced from 18 months to two months and produced more transparency than any other neighboring municipality.

The Case Study Research Phase
With limited previous studies or perspectives on project strategy, we selected a case study research approach for the first phase of this study. In particular, we employed a multiple-case design, which allowed a replication of logic. Cases were thus treated like experiments, so that each case served to confirm or negate the conclusion drawn from others (Yin, 1984). We also employed an embedded design, which allows multiple data sources and multiple levels of analysis, involving reviewing project documents

and data collection through interviews with informants who played different roles in the projects.

For each case, we interviewed at least five people, including the project manager, team members, customers, and executives. Each interview lasted between 60 and 90 minutes. Teams of two to three researchers conducted the interviews, using a semistructured interview format. Questions were asked about the project mission and objectives and the motivation for the project of the various parties involved, including the contractor, customer, and user. Data were also obtained on project organization, managerial procedures, planning and control methods, design practices, software packages, and documentation. Finally, data were also obtained on decision-making processes, information flow, and communication patterns. However, in this phase, we also asked the informants about existing elements that may relate to project strategy in general. We also examined whether those elements were integrated into day-to-day project operations, and whether the project team understood them.

Following a first phase of data collection, a draft report was prepared for each project according to a common set of guidelines. After an interteam reliability test based on thoroughness and detail and an initial integration stage of these drafts, teams were usually asked to obtain additional data to discover new facts (Eisenhardt, 1989; Kirk & Miller, 1985) before a final case study report was prepared. In two of these cases, the field investigators returned to the project to clarify additional questions and cross-check relevant data. Cross-case analysis was then performed to confirm the existence of the project strategy elements across cases. In addition, this analysis was also conducted to identify similarities/dissimilarities of strategy among cases.

The Action Research Phase
Following the first phase of data collection and data analysis, the research teams continued their involvement in

the projects. At this stage, the formal framework of project strategy was presented to the project teams during an overview session of several hours. They were first asked to perform an exercise in which they defined the elements of strategy for a given learning case. They then had to look for specific items in their original project documents that had to do with strategy, and were presented the relevant findings from the first phase. Finally, they were asked to develop a detailed, specific, and explicit strategy document for their own projects. If they found it helpful, they were also encouraged to think about possible modifications in the framework. As we describe later, integrating this step across the studied projects resulted in adding one additional component to the initial framework. Following this process, project teams were offered the opportunity to continue running the project according to the revised strategy document, which was added to the previous plans. All three teams found this process useful and adopted the resulting strategy framework for the remainder of the project execution period.

Findings

We defined project strategy as *the project perspective, position, and guidelines for what to do and how to do it, to achieve the highest competitive advantage and the best value from the project outcome*. According to prior research (Morris & Jamieson, 2005), project strategy has been used in practice either in a formal or an informal way. The data in our research suggested a similar view. We found that some of the project strategy elements did exist in practice and were used in the management of the projects in our study. This finding is encouraging since most of the formal guidelines of the project management discipline typically do not include any specific requests to articulate strategic and business-related issues. Rather, as we mentioned, they are focusing project execution on meeting the three "triple constraint" elements

(PMI, 2008). It seems that many project managers find it necessary to deal with such issues based on their own initiative or their companies' needs. However, we found no formal document of project strategy, and with the lack of formal guidelines, many teams are using their own version of strategy. In addition, many of the strategy elements were used in an informal or implicit way. Furthermore, even though some components of strategy were imbedded in different project-related initial documents, such as business requirement or project scope statement, there was no common thread in project planning and execution in the studied projects.

Following the second phase of action research, project teams seemed to "get it." They quickly adopted the framework we suggested and found it easy for planning and guiding the rest of the project execution. Most parts were straightforward, and teams were comfortable using them as prescribed. However, one modification was added to our initial framework after this phase. Originally, the project strategy framework included seven parts. The discussion and interaction with project teams revealed that the initial "competitive advantage" part should be split into two. The first is the general "strategic concept" behind the project, which articulates the big business idea behind the project, and how the end result would impact the competitive market and its business environment. We added this part to the "perspective" part of the strategy. The second part remained the distinct "competitive advantage," which defines specifically which attributes of the project's outcome (the product or the service created) would attract customers, and how these attributes would be different from the competitive options customers may have. Competitive advantage may thus have more than one component, since customers are typically looking at a combination of variables when they make a product selection.

The detailed articulation of the project strategy for the three projects in this study is described in Table 2. In the Summary section, we provide the resulting strategy framework in the form of questions to each element and the relevant answer.

Discussion and Summary

All the projects we studied found the framework of project strategy useful for updating their project plans and continued to refer to it during the rest of the project execution. More important, they recognized the value of using a strategic approach on top of the traditional methods that were formally applied when they started the project. Although this study's goal was primarily to examine the framework of project strategy, it seems that such an approach in fact contributed to achieving the business objectives of the projects. While further empirical studies are needed to establish the correspondence between a strategic approach and project success, the framework we tested seems to be consistent with project and organizational needs and teams were able to apply it and work with it throughout the remainder of the project. In the following discussion, we briefly review the major elements of strategy and their significance in planning and execution.

Perspective—Why
The *business perspective* defines the reason and the motivation for the project. It defines the environment, the need, and the business opportunity. The business perspective helps teams understand the big picture behind their project and enhances the sense of association with the organization while working on the project. Complementing the perspective is the *business objective*. This element focuses the team on what is really the ultimate goal of the project beyond "just getting the job done." It may be that the goal is to provide a better service, as was the case in the Network Collaboration

Table 2: The articulation of project strategy in studied projects.

Project Name Strategy Components	Project 1: Network Collaboration	Project 2: A&G Communication	Project 3: City Taxation
Business Background	Increased risk of lost revenue, due to network downtime. Need to provide early alert, quick resolution, and network protection. Situation provides an opportunity for creating leadership in network reliability.	Insufficient bandwidth, limited range and interoperability in existing systems, and lack of integration with air and space systems. Need for increased flexibility, speed, adaptability, and interoperability, combined with information dominance and integrated communication. Opportunity to provide larger follow-on orders and market leadership.	Previous analysis demon-strated inequality in similar property valuation. Mandated evaluation by state government creates an opportunity to equitably redistribute tax burden among property owners.
Business Objective	Increase revenue due to increases in uptime and reduced maintenance cost. Establish the company as a leader in network reliability.	Provide information dominance and ground and air integration to U.S. Army. Create a leadership backbone for increased business in the future.	Quick, fair, and accurate valuation of every property in the township within a year, and increase citizens' satis-faction. Build infrastructure for future effective and effi-cient valuations.
Strategic Concept	A new collaborative and automated approach to network reliability that integrates company services with proactive feed-ins and feed-outs to customers and alerts.	Build a modern integrated superior radio, with disruptive abilities compared to previous nonintegrated systems.	Use the opportunity to build revolutionary efficient and effective valuation models for current and future assessments.
Product Definition	Cyber availability and alert software portal that collects, stores, analyzes, and shares data on network events.	A pair of multichannel radio units (for air and ground) to transmit and receive simultane-ous acoustic, video, and radar information, and that is interoperable with existing legacy systems.	A detailed database and assessment tools with the latest property market val-ues of all town properties. New tax maps and data that are easily assessible to town citizens.
Competitive Advantage/ Value	Easy and quick-to-use for customers to express their changing network needs. Significant reduction in MTTR network availability and quick customer integration turnaround resolution time, which will result in reduced customer loss and improved service quality.	Integrated ground, air, and space communication. Information dominance in the battlefield. Increased reliability and reduced life-cycle system cost.	Value of treating taxpayers equitably and maintaining a satisfied community of resi-dents. Maintaining town-ship's positive image and quality of municipal services.
Success and Failure Criteria	Completion in 18 months, with first prototype in 6 months. Be able to handle at least X events per hours and X/2 notifications per hour. Total allowable downtime is Y hours per year. At least 80% of satisfied customers. Risk of launch delays and entry of competition. Threefold scalable system, and ability to consolidate similar solutions in the future. Risk of launch delays, and inability to identify timely or new threats.	Delivery demo units in 24 months. Create outstanding customer satisfaction with in-creased integrated performance and flexibility. Reduce customer operational cost and improve satisfaction. Award of follow-up production contract. Improve experience in communication systems, and prepare for future projects. Risk of unsatisfactory performance, late delivery, and loss of production contract.	Complete evaluation in 18 months. Prescribed devia-tion within the law require-ments. Less than 5% tax appeals results in less than 1% loss in value due to appeals. Less than one in 500 owners complain about process. Risk of failure to complete assessment in time and/or to establish equity. Feeling of inequity among the public. Extra cost to defend above-average tax appeals.

Project Name Strategy Components	Project 1: Network Collaboration	Project 2: A&G Communication	Project 3: City Taxation
Project Definition	Design, develop, purchase, and integrate front- and back-end hardware and software systems. Perform extensive test runs and modifications. Train and integrate major customer personnel. Project type: breakthrough, system, high-tech, fast/competitive.	Design, develop, test, and deliver five prototype sets. Hardware and software development and manufacturing. Project type: platform, system, high-tech, fast/competitive.	Establish vendor selection criteria and select vendor. Establish a communication process with citizens about the process and results. Appraise market value of all properties, and communicate results to tax assessor, town council, and taxpayers. Establish a review and appeal process. Project type: system, assembly, low-tech, fast/competitive.
Strategic Focus	Focus on customer interface and easy-to-use functionality and high performance. Build system to be modular and expandable. Leveraging internal strengths of experience with company's own network. Use collaboration and track requirement techniques and software.	Use team experience in building previous systems and reuse internal design processes. Empower teams to expand knowledge in related new technology. Focus on intimate interaction with Army representatives and potential users.	Concentration on fairness and accuracy. Frequent news releases and explanation to the public. Train staff by assessor to facilitate understanding and proper performance. Frequent coordination and strong cooperation between assessor company and project manager.

project, or to create dominance in the "battlefield" and win future business, as in the A&G Communication project, or to give citizens a sense of equitability and fairness, as in the City Taxation project, which was clearly aligned with the sustainability objectives of the city's government. Finally, the *strategic concept* clarifies what approach is taken to achieve the business objectives, and how the product is going to "win" in the marketplace. It reflects the big-picture strategy of the project and guides the specific elements of competitive advantage and value that will be achieved once the project was completed.

Position—What
The *product definition* defines the end product of the project, the end result that will be delivered to customers or users that did not exist at project initiation. It defines the kind of product and its main requirements, functions, and specifications.

While the product definition defines the end result, the *competitive advantage/value* articulates the unique product attributes that will attract customers to select the project's product and not competing products. When no competition exists, the value created replaces the competitive advantage but serves the same function for the product's customers and users. The competitive advantage of the Network Collaboration product was the ease of use and the reduction of network downtime; the competitive advantage of the A&G Communication's product was an integrated communication system, which allowed interoperability and high reliability. The City Taxation product's value was equitability, satisfied citizens, and a positive city image. Finally, *the success and failure criteria* establish the metrics with which project success or failure will be judged. These criteria articulate the short- and long-term expectations and the measures

that will indicate that success was achieved. Such criteria should be quantifiable as much as possible to allow objective evaluation of success.

Plan—How
The *project definition* is defining how the objectives and the competitive advantage are going to be achieved. A well-defined project definition is a necessary basis for good project management, with the major part involving the traditional project definition. It includes a scope statement, the time frame, and a ballpark budget. It also defines the organization, the team, and the project manager who will perform the project. But since one size does not fit all, it also defines the uniqueness of the project type, using a framework to distinguish among projects (e.g., Shenhar and Dvir's Diamond [2007]). Finally, to complete the "how" part, the *strategic focus* defines the behavior and

Project Strategy Components		Questions	Details
Perspective—"Why"	Business Background	Why should we do the project?	Who is the customer/user?
		What is the business perspective and motivation?	What is the need? How we address this need?
			What is the business opportunity?
	Business Objective	What do we want to achieve?	What is the ultimate goal to be achieved after project completion?
	Strategic Concept	Why will the project support the company's business strategy? What is the general strategic competitive idea?	What is the guiding strategic principle that would dominate the project's plan and execution, and will it support the company's strategy?
Position—"What"	Product Definition	What is the product that will be created or produced by the project?	What are we producing? What kind of product is it?
			What is the concept of operation and its major product characteristics?
	Competitive Advantage/Value	How good is it? Why is it better?	What is the advantage to customer/user over:
		Why would the customer buy it?	– Competitors?
		What is the value for us?	– Previous products?
			– Alternative solutions?
			Product cost/effectiveness— How would we benefit?
	Success and Failure Criteria	What are the expectations? How do we assess success?	What are the success dimensions and measures?
		What can go wrong?	What are the major risks and their consequences?
Guidelines—"How"	Project Definition	How do we do it?	– Project scope
		What is the project?	– Project deliverables
			– Project type—classification
			– Project leader, project team
			– Resources
	Strategic Focus	How to behave?	Guidelines for behavior
		What to do to achieve competitive advantage/value?	Policy for managing and leveraging:
		How to create a relentless pursuit of competitive advantage/value?	– Company competencies – Professional expertise
		How to encourage learning for improving strategy and making it sustainable?	– Internal synergy – External alliances – Ongoing learning
		How to integrate economic, ecological, and social aspects to project management?	

Table 3: The elements of project strategy.

policy that will guide the project execution in order to achieve the desired competitive advantage and or value. The strategic focus of the Network Collaboration project was on customer interface, ease of use, and modularity; the focus of the A&G Communication was on team experience and empowerment and intimate interaction with users; and the focus of the City Taxation project was fairness, accuracy, and frequent contact with the public. In all of these cases, the strategic focus was what really created the desired competitive advantage and value, including long-term sustainability.

The Strategy Questions and Answers
Table 3 provides a summary of the project strategy framework in terms of the questions each component answers and the detailed elements that provide these answers.

Implications and Possible Next Steps
The concept of project strategy has still not become an integral piece of most project plans and execution practices. Although many teams understand the importance of their projects to their company's business success, they often lack a formal framework that could be applied and followed throughout the project.

Instead, many companies and project managers use implicit strategic thinking. In this study, we have proposed, defined, and tested a formal framework of project strategy and outlined its components. However, our study is raising several important implications and open questions that need to be addressed in the future.

To promote project management as a strategic activity with the explicit goal of creating a competitive weapon for organizations, the project strategy concept must to be well understood, defined, articulated, and managed and continuously refined in a formal way. The implication is that each project team will have to select the right strategy at project initiation, make it compatible to the business strategy, carefully articulate the components of project strategy, adjust it according to learning feedback loops, and manage the project according to the specific strategic components. The formal framework of project strategy we propose should help business leaders, project managers, and project teams learn to define and manage their projects' strategies. Using a formal document of project strategy in addition to the traditional plans will train project teams to pay attention to the business perspective, the strategic concept, and, above all, what the competitive advantage is that their project needs to achieve and how they can make it work.

The transition from the traditional approach to the strategic approach requires a shift in mind-set of project teams as well as that of higher-level management. For example, there is currently not always a clear connection between a project charter and the enterprise mission. In a strategic approach environment, such a connection must be made stronger and much more explicit. Subtle and complex business realities should be discussed as part of the challenges of formulating a strategic alignment concept. Although some frameworks have been suggested to deal with this reality, such as the Japanese *P2M,* or also known as *A Guidebook of Project and Program Management for Enterprise Innovation* (Ohara, 2005), few have explicitly shown how an individual project should be managed to focus it on the explicit needs of winning in the market. In addition, there may be cases where the measurement of project success is not tied to strategic measures. The concept of project strategy presented here on the other hand provides a connection between project and organizational strategic objectives and encourages the use of strategic measures. Without strong and explicit support from top executives, it is possible that project teams may not be able to change their focus on more complex and strategic performance measures.

As the research on project strategy is still in its early stages, more work is needed in the future. For example, it may be that not all projects need a detailed articulated project strategy. The framework we proposed may fit major strategic initiatives, but some projects only involve modifications or improvements in previous products, or the fixing of a particular problem. Such projects may not require a detailed project strategy. Some projects may require specific substrategies, which were not addressed in this study. Such strategies may involve technology, funding, or logistics strategy, to name a few. In other cases, business strategy may not always be consistent with customer needs or immediate satisfaction, and more research may be needed to sort such situations out. Future research may also be needed to distinguish between different strategic goals and the optimal strategy for each project type. Another research topic may deal with different kinds of competitive advantages (Porter, 1985), different industries or markets, or strategies for projects that are conducted as a joint effort of multiple companies (Artto et al., 2008).

Finally, research on the perception of senior management on project strategy is worth pursuing. This includes research on the implementation challenges, limitations, and disadvantages of project strategy. Another possible research area is to study the relationships between sponsor strategy and project strategy and to investigate whether the alignment of project strategy and business strategy is always desirable. These investigations should further improve the concept of project strategy, making it more applicable to the dynamics of the modern organization. ■

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