# THE FOUR BASES OF SUCCESSFUL PROJECTS

# NOVELTY

NOVELTY, THE FIRST DIMENSION of our adaptive project management model (and the first base to be visited by managers), is determined by the nature of the project's product—how new the product is to the market, the customers, and the potential users. Novelty represents the extent to which buyers and users are familiar with this kind of product—its benefits and the way they can use it. It indicates the level of uncertainty in the market, or external uncertainty, and it also reflects the project's goal uncertainty—how well the end result or the project goal can be defined.

# TECHNOLOGY

IN THIS CHAPTER we explore one of the most important dimensions for distinguishing among projects: technology—or, more accurately, technological uncertainty—and its four levels: low-tech, medium-tech, high-tech, and super-high-tech. As you will see, assessing a project's technology level can be tricky, even in low-risk industries such as construction. To illustrate this situation, we return to the story of Denver International Airport, which badly missed its completion date and target budget.[1]

# COMPLEXITY

IMAGINE YOURSELF managing an organizational reengineering project. The project involves streamlining the operational processes of the organization and installing new information technology (IT) software to control these processes, manage the databases, and offer online information to managers and decision makers.

Although these tasks seem basic, they differ greatly depending on the organization. For example, in one kind of organization you might be dealing with the work flow of only one department, one functional group, or a single process within a local unit (such as a bank's branch office). In these cases the effort would be relatively modest; people know each other well, the processes are simple, and the IT involved is limited.

Now suppose your reengineering project involves an entire business, with various integrated functions such as design, manufacturing, marketing, sales, and distribution. This project would be bigger, or perhaps more complex, than the preceding one. In this case, coordination would be much more critical, and you would need to employ formal tools, extensive documentation, and more sophisticated software.

Now suppose your task is to manage the reengineering project for a large multinational corporation spread all over the world. It would be an

enormously complex project. Most people involved wouldn't know each other, and their work would have to be coordinated in a coherent way. This project would have to be carried out in a highly formal and bureaucratic way, with many subprojects devoted to various parts of the company.

The difference among these three projects is their degree of complexity. In this chapter we discuss such differences and explore the *C* dimension—complexity—of our NTCP model. As before, because one size does not fit all, different levels of project complexity require different project management styles—and applying the wrong style may lead to project failure. You have seen this situation illustrated in chapter 3 with the FCS project, which treated a complex system using a management style better suited to a subsystem. This chapter further conceptualizes the notion of complexity and describes in detail its impact on project management.

Although project complexity depends greatly on the complexity of the product (or outcome) of the project, note that this chapter focuses on the complexity of the *project*, not the product. Note too that even though people often tend to confuse complexity with uncertainty, these concepts are not the same. You can find highly complex projects with low levels of uncertainty, and vice versa.

What, then, is the best way to define and distinguish between levels of project complexity? One option might be the size of the project (measured, for instance, in terms of budget, people, etc.). But size alone may not be enough. A very large and expensive project in one industry—say, construction—might be less complex than a smaller project in another industry, such as biotechnology. Complexity also depends on, among other things, the various elements that make up a project—their number, their variety, and the interconnections among them.

The idea is to find a simple, universal way to conceptualize complexity in a context-free framework, regardless of the industry or technology involved. To address this problem we choose to differentiate between the outcome of the project (the product) as a whole and the product in its parts; we use a hierarchy of systems and subsystems as a natural way to distinguish among the various project complexities.[1]

# PACE

IN THE COMPETITIVE WORLD, good ideas must get to market as soon as possible, and companies must keep introducing new products quickly and fix the flaws of old ones as soon as they find them. The accelerating pace of technological development, the shortened project life cycle, and the diversification of markets around the world continuously increase the demands on project teams to find better ways of speeding up project execution.

Accordingly, pace, the fourth dimension of the NTCP model (and the final base of the diamond), involves the urgency and criticality of meeting a project's time goals. Each project is time constrained, but this constraint may differ from project to project. Time constraints may come from market needs, competitive pressures, and management strategies, and from environmental, natural, or enemy threats that prompt immediate action. The time available to complete a project has a substantial effect on how a project is managed. The same goal but with different time frames may require different project structures, processes, and management attention. In this chapter we explore the impact of project pace on project management and discuss what managers can do to successfully run projects having different pace levels.