

GLOBAL
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Project Management

Achieving Competitive Advantage

FIFTH EDITION

Jeffrey K. Pinto



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PROJECT MANAGEMENT

ACHIEVING COMPETITIVE ADVANTAGE

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- c. To deliver maximum value to the organization
 - d. To deliver the agreed upon scope of the project within the time and budget constraints
- 4.21 The best way you can help your project as its leader is to:
- a. Manage an open and active communication network among all key stakeholders
 - b. Present your team with a clear vision of the critical nature of the project and your goals for it
 - c. Develop motivational techniques that match the needs of each of your team members
 - d. All of these are critical leadership skills that should be used
- 4.22 What is the most important function the project manager serves?
- a. Communicating
 - b. Staffing
 - c. Motivating
 - d. Rewarding
- 4.23 An emotional intelligence trait that is critical to effective leadership is:
- a. Gate-keeping
 - b. Empathy
 - c. Conflict avoidance
 - d. Team member awareness
- 4.24 Sarah is a senior manager who, although not part of the project team, has worked actively with members of a critical project, helping them acquire additional resources, coordinating their activities with other senior executives from different departments, and at times serving as an emotional cheerleader to keep the energy and enthusiasm high among the team. What would Sarah's role on the project be considered?
- a. Project manager
 - b. Chief Executive Officer
 - c. Champion
 - d. None of these are her role

Answers

- 4.15. e—Remember that stakeholders are defined as any group, either internal or external, that can affect the performance of the project.
- 4.16. c—Leadership requires allowing workers to have flexibility, providing them with all relevant information, and communicating project status and other pertinent information.
- 4.17. e—All of these are necessary characteristics in promoting partnership between the project manager and the team.
- 4.18. c—Energizing people to overcome obstacles is a critical component of leadership, as opposed to a philosophy of management.
- 4.19. d—Although results orientation can be a useful element in a project leader's skill set, it is not an example of emotional intelligence, which is often manifested through relationship building with others.
- 4.20. d—your job as project manager is to complete the project scope within the constraints of time and budget.
- 4.21. d—the leadership behaviors of vision development, communication, and motivation are all critical to effective project team management.
- 4.22. a—communicating is the most important function because research suggests that project managers spend 90% of their time communicating.
- 4.23. b—empathy is a critical trait of emotional intelligence.
- 4.24. c—Sarah would be considered a project champion.

Notes

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Scope Management

Chapter Objectives

After completing this chapter, you should be able to:

- 5.1 Understand the importance of scope management for project success.
- 5.2 Understand how conceptual development serves as a critical first stage in scope management.
- 5.3 Identify the steps in developing the scope statement.
- 5.4 Identify the elements in the work authorization phase of scope development.
- 5.5 Identify the various types of information available for scope reporting.
- 5.6 Demonstrate how control systems and configuration management relate to scope development.
- 5.7 Discuss why effective scope management includes a project closeout stage.
- 5.8 Understand how project practices can support the critical goal of sustainability.

PROJECT MANAGEMENT BODY OF KNOWLEDGE CORE CONCEPTS COVERED IN THIS CHAPTER

1. Develop Project Charter (PMBok sec. 4.1)
2. Plan Scope Management (PMBok sec. 5.1)
3. Collect Requirements (PMBok sec. 5.2)
4. Define Scope (PMBok sec. 5.3)
5. Create WBS (PMBok sec. 5.4)
6. Validate Scope (PMBok sec. 5.5)
7. Control Scope (PMBok sec. 5.6)

PROJECT PROFILE

Berlin's Brandenburg Willy Brandt International Airport

With the fall of the Berlin Wall in late 1989, the West German government began to relax travel regulations to East Germany. After a year of political upheaval, East Germany became a part of the Federal Republic of Germany. This reunification was intended to be formalized not only in spirit but also in mutually beneficial development of infrastructure to further cement the reunification of the country. With Berlin resuming its role as capital of Germany, the government decided that a large, modern commercial airport closer to the capital was a critical need. The plan rested on the belief that the currently active airports, Tempelhof, Tegel, and Schönefeld, were all currently outdated or soon would be obsolete and were not equipped to support the rising levels of air passenger traffic. In addition, these three airports placed Germany in a uniquely awkward position. They had a total of six runways and were owned and operated by different organizations, each in competition with one another. The reunification project proposed to create a single centralized airport that could support rising air traffic and allow the demolishing or repurposing of the three older airports.

The initial proposal for the airport included a completion date of 2011 and the capacity to handle up to 27 million passengers a year, ensuring that Berlin would become an international hub for Europe. By 2020, it was projected that annual passengers through the airport would reach 35 million. In 2017, Berlin officials announced that the opening was being delayed for a *sixth* time, and the new projected opening date for the airport is sometime in mid-2018. The latest reason for the delay is faulty wiring and problems with the control system for nearly 1,200 automatic doors

throughout the terminal. Coupled with recurring problems with the fire sprinkler system, officials determined that the risks in pushing to open prematurely were simply too high. As a result, an airport that took 15 years of planning and has been in construction for over a decade is still at least a year from opening for air traffic. The original \$2.1 billion budgeted cost estimate to complete the airport has tripled to over \$7 billion. How did this state-of-the-art project lose its way and become an embarrassing white elephant?

The Berlin Brandenburg Willy Brandt Airport project (named for former German Chancellor Willy Brandt) has suffered from multiple problems during its long development process. One critical problem was the impact of several changes in leadership since the airport's conception in the 1990s, but the most troubling problem with the project team is that the board of directors has not been run by infrastructure specialists. Instead, it has been run by politicians concerned with projecting positive messages and upbeat estimates. Berlin's Mayor Klaus Wowereit was one of Germany's most popular politicians and a prominent fixture in the initial stages of the project. First elected to office in 2001, he resigned his position in 2014, stating that a major reason was due to the embarrassment related to delays in the project, and calling the persistently delayed airport the "biggest failure" of his term in office. Matthias Platzeck replaced Wowereit but soon retired due to health reasons. Rainer Schwarz, the former CEO of the FBB and a U.S.-trained economist known for cost-cutting techniques, was dismissed following a major flaw in the fire detection systems that delayed the first grand opening of the airport. Schwarz was replaced by Hartmut Mehdorn. However, Mehdorn also issued his resignation after speculations about his character that he could no longer tolerate. Currently, Dr. Karsten Mühlenfeld acts as the Chief Executive Officer of the organization developing the airport, the Flughafen Berlin Brandenburg GmbH (FBB). Dr. Mühlenfeld was a former Chief of Engineering at Rolls-Royce Germany, and there are high hopes he will be able to revitalize the project.

Major Cause of Delays: Faulty Wiring, Bad Judgment, and 800 Fire Spotters

In 2011, as it seemed that the airport was rapidly approaching the point where it could be opened, a team of inspectors conducted a system test of all the electronic wired components, including simulating a fire within the terminal. The results were catastrophic, as some alarms went off, others remained silent, some fire monitors indicated fire in the wrong locations, and smoke evacuation fixtures designed to suck out smoke and replace it with fresh air failed to do either. In an actual fire, the inspectors determined, the main smoke vent might well implode. Confronted with the fire system fiasco, Rainer Schwarz, then chief executive officer of the FBB, downplayed it. Schwarz and his staff told the airport's board of oversight, as well as Stephan Loge, the commissioner who had the final authority to issue the airport an operating license, that they were "working through some issues" but that the situation was under control. Schwarz also appointed an emergency task force to propose solutions that would allow the airport to open on time. In March 2012, the group came up with its unique short-term solution: hiring 800 low-paid workers equipped with cell phones, who would take up positions throughout the terminal. Anyone smelling smoke or seeing a fire would alert the airport fire station and direct passengers toward the exits. Never mind that the region's cell phone networks were notoriously unreliable, or that some workers would be stationed near the smoke evacuation channels, where in a fire temperatures could reach 1,000F.

It was, says Martin Delius, "an idiotic plan." Delius is a physicist and member of Berlin's parliament who has conducted an extensive investigation of the airport's troubled infrastructure. "They thought that this would at least eliminate the need for wiring," he says, "because [the spotters] could see with their own eyes if there is a mass of smoke lower than 6 feet above the ground." Nevertheless, less than four weeks before the 2011 grand opening, Rainer Schwartz met with the commissioner, Stephan Loge, to finalize the project's completion. Schwartz admitted that their best idea still involved hiring workers to watch for fire threats while the airport began operations and worked to fix the problems. Loge's response, according to minutes from the meeting, was not positive. "Professor, let me understand this," Loge said, "You are talking about having 800 people wearing orange vests sitting on camping stools, holding thermoses filled with coffee, and shouting into their cell phones, 'Open the fire door?'" Loge refused to issue the airport an operating license, and the fire spotter idea was finally shelved. The next day, Schwartz announced what would become the first of a series of ongoing messages: the airport would not open as scheduled.

Ironically, one of the key problems with the faulty wiring in the fire alarm systems may come down to a simple case of a careless hiring decision. *Stern Magazine* revealed through an investigation that the man who designed the malfunctioning smoke extraction system at Berlin Brandenburg Airport was not a trained engineer. Alfredo di Mauro, 52, was in the job from 2006 up to May 2014, when he was fired. The investigation found that he did not have the engineering qualifications for developing this complex system, but was instead an engineering draftsman. This multi-billion enterprise had hired someone with no experience or engineering qualifications for the critical task of designing the fire control systems. Authorities are still unclear how such a person could have held a key position at Berlin's new airport for nearly eight years.

Although the Berlin Brandenburg Willy Brandt Airport is expected to finally open at some point later in the decade, from a credibility point of view the damage to Berlin's reputation is likely to remain for years to come. A series of poor decisions, political interference and corruption, questionable operating choices, and poor resource hiring have all contributed to a grossly over-budget and delayed project. Lately, as the city continues to wait for the signal that it is finally time to welcome the arrival of aircraft, it and the airport commission have raised small amounts of revenue by offering bicycle and bus tours around the still-unfinished airport. The two-hour tour includes a drive around the unfinished buildings and down the length of the runways. In the end, is it any wonder that after its latest delayed opening, Germans have sarcastically been calling the project not "Flughafen" (airport) but "Fluchhafen" (cursed-port)?¹

Introduction: The Importance of Scope Management

LO 5.1 Understand the importance of scope management for project success.

The **project scope** is everything about a project—work content as well as expected outcomes. Project scope consists of naming all activities to be performed, the resources consumed, and the end products that result, including quality standards.² Scope includes a project's goals, constraints, and limitations. **Scope management** is the function of controlling a project in terms of its goals and objectives through the processes of conceptual development, full definition, execution, and termination. It provides the foundation upon which all project work is based and is therefore the culmination of predevelopment planning. The process of scope management consists of several distinct activities, all based on creating a systematic set of plans for the upcoming project.

Emmitt Smith, former All-Pro running back for the Dallas Cowboys and member of the Pro Football Hall of Fame, attributes his remarkable success to his commitment to developing and working toward a series of personal goals. He likes to tell the story of his high school days and how they affected his future success. When Smith was a student at Escambia High in Pensacola, Florida, his football coach used to say, "It's a dream until you write it down. Then it's a goal."

For successful projects, comprehensive planning can make all the difference. Until a detailed set of specifications is enumerated and recorded and a control plan is developed, a project is just a dream. In the most general sense, project planning seeks to define what needs to be done, by whom, and by what date, in order to fulfill assigned responsibility.³ Projects evolve to an operational level, where their development can begin, only after systematic planning—scope management—has occurred. The six main activities are (1) conceptual development, (2) the scope statement, (3) work authorization, (4) scope reporting, (5) control systems, and (6) project closeout.⁴ Each of these steps is key to comprehensive planning and project development (see Table 5.1).

This chapter will detail the key components of project scope management. The goal of scope management is maximum efficiency through the formation and execution of plans or systems that leave as little as possible to chance.

Conceptual Development

LO 5.2 Understand how conceptual development serves as a critical first stage in scope management.

Conceptual development is the process that addresses project objectives by finding the best ways to meet them.⁵ To create an accurate sense of conceptual development for a project, the project management team must collect data and develop several pieces of information. Key steps in information development are:

- **Problem or need statement.** Scope management for a project begins with a statement of goals: why there is a need in search of a solution, what the underlying problem is, and what the project intends to do. For example, consider the following need statement from a fictitious county:

A 2017 report from the Maryland State Department of Health showed that the township of Freefield ranked among the worst in the state over a five-year average for infant mortality, low birth weight and premature births, late entry into prenatal care, unmarried parents, teen pregnancies, and poverty. A Clarion County health care focus group report identified patterns of poor communication between county families and doctors. There is a need for information gathering and dissemination on childbirth education opportunities, support service availability, preparation for new babies, and postpartum depression. The focus group indicated that the Freefield Public Library could be an important center for collecting this information and directing new parents to resources and materials. To adequately meet this need, the library proposes a grant program to fund expanding its collection and programs in addition to linking it with local primary care health providers and Freefield Memorial Hospital to serve expectant and postpartum mothers and their children.

- **Requirements gathering.** Requirements are the demands, needs, and specifications for a product (project outcome) as outlined by project stakeholders. It is the list of customer needs. Once a problem has been articulated (where we are now), the next step is to determine—in the words of