Chapter 50
The Engineering Project as Story and Narrative

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ABSTRACT

Engineers most often organise their work in projects and consequently project management becomes an essential part of an engineer's work and working life in general. Even if most engineers are trained in project management, it seems that this is a challenge to most engineers. It also seems that the traditional project management tools are not always sufficient when it comes to managing engineering projects. In this chapter, an engineering project is examined, and it turns out that the language, the stories, and the narratives connected to the project is of greater importance to the engineers than the formal project management tools that were offered to the engineers. It also turns out that the term "project" could itself be a problem when it comes to fulfilling the project goals. Therefore, it is concluded that when working on engineering projects, language, stories, and narratives are just as important to the engineers as any other element in the project.

INTRODUCTION

Engineers, such as Niels, work on projects; and Niels was struggling with "PRO2," a project in production management. He liked his work, even if it was challenging and sometimes frustrating. The PRO2 project was about developing the manufacturing system of "The Company." This was a rather intriguing task as the engineers in The

Company had previously successfully completed the PRO1 project. The PRO1 project was about the manufacturing process itself, but PRO2 was even larger as it concerned the entire supply chain that The Company was part of. Therefore, projects were nothing new to Niels and his colleagues; they knew how to work on a project and they knew how to successfully complete projects and even if the PRO2 project was larger than anything they hitherto had embarked on, they were quite confident that this new challenge was a possible future success.

Engineers have always worked on projects. Famous engineers of yesteryear like Isambard Kingdom Brunel and George Stevenson are largely described by, and best know because of, their projects. Reading through a biography of Brunel (Rolt, 1957; Buchanan, 2006; Vaughan 2003), for example, is to read through his various projects. Brunel took on his first project at the age of nineteen when he replaced his father as manager of the Thames tunnel project; he died at the age of fifty-three when he was just about to finish what proved to be his last project—the great steam ship "Great Eastern." In the intervening period of a most productive life, he built railroads, tunnels, bridges, ships, and others of great importance to the industrial revolution. Brunel was an engineer; he was also a project manager not only concerned with the technical side of project management, but also concerned with the economics and organisation of his projects. According to several of his biographers, Brunel lived to pursue the technical challenges of his projects and viewed the economic side as an, at times, cumbersome necessity. Maybe that was why most of his projects were technically groundbreaking, yet more often than not also economic/financial disasters. The technical side was Brunel's real labour of love. From his life story, we can see that projects are nothing out of the ordinary to engineers; project management was part of engineering right from the start of the modern profession. When engineering established itself as a profession during the nineteenth century, what we today term project management was an integrated part of the profession. Brunel would have got nowhere with his various projects that we still rightfully admire today, such as the Clifton Suspension Bridge in Bristol over the river Avon, to give an example, without the basic tools of project management.

For today's engineer, no matter which branch of engineering an eager young person enters, one of the first steps on the career ladder is usually termed "project manager." This was also the case for Niels; he started out as a project manager.

Now, Niels holds the title of vice-president of the Manufacturing Development Department (MDD) where he is responsible for several projects, including parts of the PRO2 project. The PRO2 project is part of a larger change process in The Company. Global sales and production and a very rapid growth in turnover and number of employees placed stronger demands on the management of the production process. In this sense, the PRO2 project aims at reaching a classic goal within production management; namely, rationalisation of the production process in order to meet new marketplace demands and to possibly do it faster than the competitors.

This change process, however, changed the company from one-of-a-kind or 'batch' production process based mainly on craft principles to an industrial enterprise with mass production and mass production principles. Before PRO2, PRO1 was a traditional production process optimisation project; lean principles, streamlining, etc. PRO2 takes this much further and is aimed at the entire supply chain. PRO2 consists of five sub projects. The first of these sub-projects is called Common IT Platform, aimed at developing a common IT platform for all production units. The second is called First Factory, aimed at developing a structure for deciding the division of work between the different production units and MDD, especially concerning documentation of changes. The third is called Knowledge Teams and is concerned with developing a system for knowledge sharing between production units, so that good ideas from one production unit could be of use in other units. The fourth is called Continuous Improvement, a classic principle within production management, aimed at optimising production and the supply chain. The fifth, and final, sub-project is concerned with Material Flow. These all had ambitious problem statements; some of them were successful and some were not.

This chapter reports on a study of project management in relation to the First Factory project, and its "narrative" and "story" within The Company.

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