

## Chapter 68

# The Effective Approach of Managing Risk in New Product Development (NPD)

**Brian J. Galli**  
*Long Island University, USA*

### ABSTRACT

*This research studies risk and how to manage it during new product development projects. It highlights the major types of risk in NDP as well as what are some of the more common risk management and process tools. The research proposes an approach to risk management systems, and what managerial implications may arise. It is concluded that a team ought to develop a risk management plan and that by understanding the basic structure of a risk management system, a NPD team can tailor a risk management plan to fit the unique risks that occur in the project environment.*

### INTRODUCTION

Today, New Product Development (NPD) is a vital factor for surviving and gaining a competitive advantage for any company. This process provides many benefits and positive results for an organization and its cultural environment. Even though New Product Development projects can provide benefits to a company and its customers, there is always the lingering idea of both predictable and unpredictable (natural) risk.

Traditionally, risk is described as “the chance that an undesirable project even will occur and the consequences of all its possible outcomes,” according to Gray and Larson (2008). Risk is also viewed differently by researchers Halman and Keizer (2007), as a three-dimensional concept, involving outcome uncertainty, level of control, and perceived impact on the desired project performance. These factors are present in all New Product Development projects, so project teams must properly plan to minimize the damage they may create for a NPD project.

The premise of a risk management system is to be proactive rather than reactive. According to Gray and Larson (2008), risk management’s purpose is to “identify and manage potential and unforeseen

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trouble spots that may occur when a product development project is implemented”. Management of risk plays a significant role in the success of a NPD project since it provides the development team with a preventive process that ensures surprises is reduced and negative consequences, associated with undesired events, are minimized.

This paper explores the basic structure of a risk management system in the realm of NPD. It also discusses the basic tools and methods used in a risk management system. Furthermore, this paper investigates different types of risk and how they impact a NPD project. Another focus of this paper is in discussing effective methods and tools of risk management and how they relate to the NPD process. The last section details the role of management in the relationship between risk management and NPD. Finally, it provides general conclusions about this relationship.

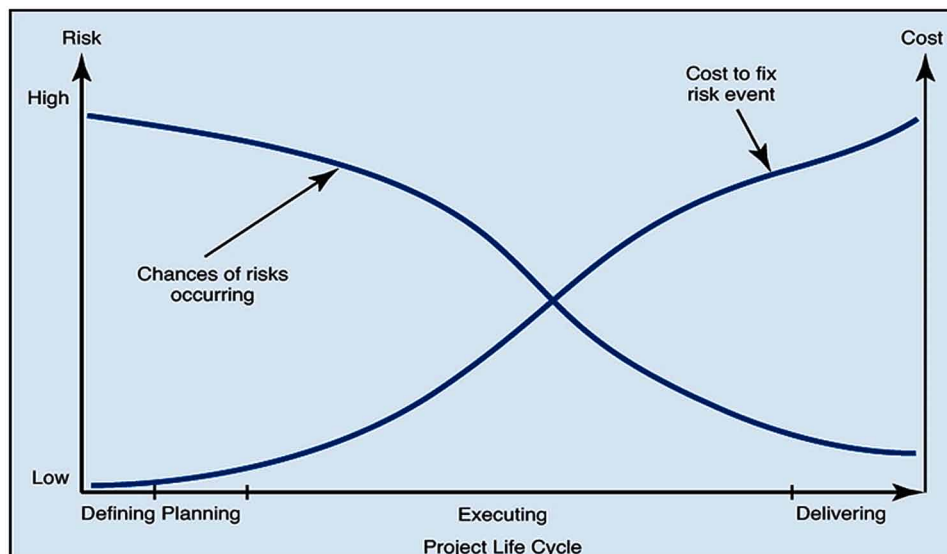
## **RISK IN THE PRODUCT DEVELOPMENT LIFE CYCLE**

In relation to the product development process, risk is usually seen as an unlikely condition or event. If it does occur, it can have positive or negative effects on the objectives of the product development process. In product development, projects rarely work out per the company’s predesigned plan. Thus, to properly manage various forms of risk, Eppinger & Ulrich (2008) suggest that a company and team develop and maintain a risk management plan, also known as a project risk plan.

In the product development process, the chances of a risk event are greatest in the concept, planning, and start-up phases. It is commonly known that, over the project lifecycle, as shown in Figure 1, the cost impact of a risk event is less if the event is detected and minimized in the earlier stages, according to Katsanis and Pitta (2006).

The early stages of the product development process represent a NPD team’s opportunity to minimize the impact of a potential risk event(s). On the other side of the situation lies the idea that once a NPD

*Figure 1. Risk event graph (Gray & Larson, 2008, 198)*



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