

# Examining new product development project termination decision quality at the portfolio level: Consequences of dysfunctional executive advocacy



Thomas G. Lechler<sup>a,\*</sup>, Janice L. Thomas<sup>b</sup>

<sup>a</sup> *Stevens Institute of Technology, United States*

<sup>b</sup> *Athabasca University, Canada*

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## Abstract

When to terminate a new product development (NPD) project is an important economic decision and an interesting managerial dilemma. To date research examining NPD termination decisions has been largely focused on the single project level examining the impact of formal termination decision processes. This study examines these decisions at the organizational level exploring the impact of both executive advocacy behaviors and organizational context on the quality of 150 termination decisions in 40 German R&D units of pharmaceutical companies. We confirm that adopting termination decision processes such as formal decision criteria and decision committees has positive influences on the quality of the termination decision. However, our results also demonstrate that dysfunctional executive advocacy behavior has a greater negative influence on the quality of project termination decision suggesting that, while organizational governance components can and should be used to mediate executive behaviors, these factors alone will not ensure high quality NPD termination decisions.

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## 1. Introduction

New Product Development (NPD) projects are important drivers for firm performance. As such, decisions affecting the initiation and termination of these projects are strategic in nature in that they involve the commitment and management of substantial enterprise resources. Research and Development (R&D) driven organizations typically deal with many more projects than are expected to be successfully completed (Cooper, 1990). Research has consistently reported that, on average, more than 40% of R&D projects fail (Chakrabarti, 1974; Chakrabarti and Hauschildt, 1989; Boulding et al., 1997; Schmidt and Calantone, 2002). Consequently R&D

organizations must be able to identify and terminate projects that are not going to deliver on their promise. Thus, the quality of the NPD termination decision made by R&D organizations is critical to both their success and their ability to reach their strategic goals (Brockhoff, 1994; Urban and Hauser, 1993).

This puts R&D organizations and their executives on the horns of a tricky dilemma. They must not only determine how best to initiate and champion risky projects destined for high failure rates but also put in place mechanisms for terminating them in a timely manner.

Until recently these decisions have been studied almost entirely at the level of the individual project. Examination of the quality of termination decisions across the portfolio of NPD projects undertaken in an organization has rarely been attempted. In addition, the variable of interest has usually been the decision to terminate a NPD project but not the

\* Corresponding author.

E-mail address: [tlechler@stevens.edu](mailto:tlechler@stevens.edu) (T. Lechler).

decisions' quality in relation to its timing or accuracy (Unger et al., 2012). Extant research recognizes that, like other forms of strategic decision-making, NPD termination decisions are known to suffer from a variety of decision mistakes ranging from misunderstood probabilities, personal biases, and failures of memory (Kahneman and Tversky, 1992). Another often cited explanation in this literature is the escalation of commitment theory (Brockner, 1992; Keil and Montealegre, 2000; Keil et al., 2004; Ross and Staw, 1993). Research to date has identified reasons for failure to terminate effectively ranging from: a reluctance on the part of managers to terminate (Schmidt and Calantone, 1998); optimism bias (Meyer, 2014); missing termination criteria (Kumar et al., 2008); and, advocacy of pet projects by senior executives (Loch, 2000) and ineffective executive involvement in termination decisions (Beringer et al., 2013; Cooper, 2008; Dilts and Pence, 2006; Loch, 2000).

Recently, project termination decisions have received renewed interest in the project management community as their role in portfolio management has been recognized (Loch and Kavadias, 2002; Martinsuo, 2013). The research discussion in the International Journal of Project Management to date on termination decisions examines the antecedents of good quality termination decisions (Unger et al., 2012), seeks to understand the role of executives in these decisions (Beringer et al. 2013) and provides recommendations on how to improve the quality of this decision within the context of portfolio prioritization (Martinsuo, 2013). Unger et al. (2012) examine the role of termination in aligning project portfolio's strategic fit with organizational goals and the U shaped relationship between executive support and involvement and portfolio success. Meyer (2014) examined the role of optimism bias in making faulty termination decisions. Ultimately, this work recommends or examines the efficacy of structural solutions (implementing explicit termination criteria, and including the whole team in the termination decision process) to reduce the impact of individual biases on the NPD termination decision within portfolio management. However, several recent reviews of NPD literature point out that there has been little emphasis on either (1) the role of organizational and project management standards in effectively supporting project termination decisions, or (2) the role of executive influence on both the decision making process and the quality of NPD project termination decisions (Felekoglu and Moultrie, 2014; Meifort, in press).

This study extends the research on NPD termination decisions by determining the quality of early NPD termination decisions empirically examining the decision at the R&D unit, or portfolio level, within organizations rather than simply examining the characteristics of individual projects. This approach permits us to analyze how both structural and individual factors influence the quality of early NPD project termination decisions. Our purposes are to (1) define the quality of the NPD project termination decision considering both the accuracy of the decision and its timing, (2) identify factors that significantly influence the quality of the NPD project termination decision and (3) understand the interrelationships of these factors i.e., the interactions between behavioral and structural factors.

In the following sections we draw from the NPD termination literature to identify key antecedents of the quality of termination decisions. We then develop a conceptual model that postulates the related influences of structural and behavioral factors. Based on this model we empirically examine their relevance to the quality of NPD project termination decisions. We conclude with some practical and theoretical recommendations and offer an outlook for further research.

## 2. NPD termination decision quality

For more than two decades now there has been conclusive evidence that wrong termination decisions at the R&D unit level are generally not reported (e.g. project that should not have been terminated were in fact terminated) (Pfeiffer and Weiß, 1990) but that more than 87% of NPD projects were terminated too late (Lange, 1993). This finding indicates that the quality of the termination decision should be determined by both its accuracy and its timing. The accuracy of the decision describes whether an NPD project termination was justifiable, while the timing of the decision describes whether the termination of an NPD project was made as soon as reasonably possible or if the decision to terminate was delayed. With these two dimensions (Accuracy and Timeliness) it is possible to conceptually differentiate four cases of termination decision quality (Table 1).

Termination decision quality is high, or judicious, when a project was correctly terminated in a timely fashion. That is, judicious termination decisions are those made when a failing NPD project is recognized as such and immediately terminated. Evidence of probable project failure could include failure to

Table 1  
Conceptual dimensions of NPD termination decision quality.

		Timeliness of termination decision	
		Timely	Delayed
Accuracy of termination decision	Incorrect	Invalid decisions A project is terminated even though it had the potential to be successfully implemented.	Negligent decisions A project is not terminated even though evidence exists indicating that it should be terminated. The project was allowed to reach completion resulting in a failed project or product.
	Correct	Judicious decisions A project is terminated at the earliest possible moment when the first evidence of expected project failure arises.	Belated decisions A project is terminated at some point before completion of the project but with a significant delay from when the first evidence of likely failure arose.

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