

## Chapter 2

# Discourses and Theoretical Assumptions in IT Project Portfolio Management: A Review of the Literature

**Lars Kristian Hansen**

*Aalborg University, Denmark*

**Pernille Kræmmergard**

*Aalborg University, Denmark*

### **ABSTRACT**

*These years increasing interest is put on IT project portfolio management (IT PPM). Considering IT PPM an interdisciplinary practice, this paper conducts a concept-based literature review of relevant articles across various research disciplines. It finds and classifies a stock of 107 relevant articles into four scientific discourses: the normative, the interpretive, the critical, and the dialogical discourses, as formulated by Deetz (1996). It finds that the normative discourse dominates the IT PPM literature, and few contributions represent the three remaining discourses, which unjustifiably leaves out issues that research could and most probably should investigate. In order to highlight research potentials, limitations, and underlying assumptions of each discourse, this paper develops four IT PPM metaphors. Its metaphors can be used by practitioners to articulate and discuss underlying and conflicting assumptions in IT PPM, serving as a basis for adjusting organizations' IT PPM practices.*

### **INTRODUCTION**

Organizations experience ongoing challenges in managing their information technology (IT) portfolios, as IT expenses constitute a major part of the organizational budgets (Jeffery & Leliveld, 2004). Hence, organizations implement a wide range of IT portfolio management (IT PPM) practices to gain value from IT investments (Kumar, Ajjan, & Niu, 2008). However, research shows that a vast amount of organizations are less successful in showing how IT PPM provides value (Jeffery & Leliveld, 2004; Singh,

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Keil, & Kasi, 2009). Within the field of information systems (IS) IT PPM has been on the agenda for more than three decades (McFarlan, 1981); nevertheless, our knowledge within the field of IS is less developed than portfolio management in other fields, e.g. portfolio management in finance, portfolio management in research and development (R&D), and portfolio management in new product development (NPD) (Kumar, Ajjan, & Niu, 2008). To address this challenge literature reviews can be seen as an essential feature in developing a research field by accelerating the accumulated knowledge gained in this field (Webster & Watson, 2002). Our research only found one literature review of the IT PPM literature within the field of IS (Kumar, et al., 2008). Thus, we argue that more knowledge about IT PPM is needed to secure progress in IT PPM literature and, moreover, to develop a more coherent system of concepts and theories. The objective of this paper is to contribute to the development of the field by conducting an interdisciplinary literature review that will also include related literature outside the field of IS (Webster & Watson, 2002).

Our method for conducting this literature review is inspired by the way Schultze & Leidner (2002) conducted their research of IS knowledge management literature and their use of the framework provided by Deetz (1996) to demonstrate how the knowledge management literature is biased toward certain perspectives and arguments. Similarly, we use Deetz' framework to categorize the IT PPM literature, thereby showing how the IT PPM literature is biased toward top management and rationalistic arguments and insightful arguments drawing on other assumptions are fewer in number. In the following section we discuss definitions of IT PPM and present the criteria we have used to select a stock of IT PPM literature. In the following section the framework by Deetz (1996) is presented, before we present the methods used to find the relevant articles for our review. Thereafter, we present the literature review findings. This is followed by a discussion of the implications for research and practice. Finally, in the last section we conclude on the research findings.

## **THE LITERATURE**

An important part of a high-quality review is to delineate the boundaries of the research (Webster & Watson, 2002). In our study an applicable definition of IT PPM is needed. We searched among our predecessors and colleagues in the field of IS (Bardhan, Bagchi, & Sougstad, 2004; Bonham, 2005; De Reyck, Grushka-Cockayne, Lockett, & Calderini, 2005; Jeffery & Leliveld, 2004; Kaplan, 2005; McFarlan, 1981), but no explicit definition of IT PPM was found. First, we use the work of Kumar et al., (2008) to clarify a distinction between managing three different types of IT portfolios: IT infrastructure portfolio management (Broadbent, 1999), IT application portfolio management (Weill & Vitale, 1999), and IT project portfolio management (IT PPM) (Bonham, 2005; De Reyck, et al, 2005; McFarlan, 1981). Each type of IT portfolio management includes different activities and is handled by different groups in the organization (Kumar, et al., 2008). IT PPM focuses on the organization's IT development activities and involves the employee who facilitates the creation of unique *products, services*, or results; whereas the management of IT architecture and IT applications portfolios involves the employees who ensure that the current systems are running (Weill & Ross, 2009). This paper focus on IT PPM management conducted by IS managers, such as the Central Information Officer (CIO) (Bonham, 2005), the IS development groups (Kumar, Ajjan, & Niu, 2008), and managers from the organization's Project Management Office (PMO) (Singh, et al., 2009). We apply the following often used definition from the PPM literature, even though it does not exclusively focus on IT project portfolios: "*Management of a group of projects that*

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