



# IT portfolio decision-making in local governments: Rationality, politics, intuition and coincidences



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## ARTICLE INFO

Available online 30 July 2014

### Keywords:

E-government  
IT portfolio management  
Decision-making  
Local government  
Case-study

## ABSTRACT

IT project portfolio management (IT PPM) has evolved into a significant area of research interest, but we know little about IT PPM practices in public sector organizations. Therefore this article investigates decision-making processes in the IT PPM practices of local governments, and discusses how these practices match the normative advice proposed by the IT PPM literature. We rely on decision-making theories together with case-studies of four Danish local governments. We find that politics, intuition and coincidence play a crucial role in IT PPM decision-making, while technical rationality (as proposed by the IT PPM literature) plays a minor role. Our account also reveals how the decision-making practices create IT portfolio problems and in some aspects is considered to have a negative impact on the outcome of e-government investments. Our analysis and previous research into decision-making allows us to argue that implementing textbook-IT PPM is difficult because it relies on decision-making ideals that are incompatible with organizational contexts and individual behavior in these organizations. Instead of radically changing decision-making styles, the organizations might be better off improving IT PPM practice within the boundaries of their existing decision-making styles, and the IT PPM literature might improve support for practitioners by incorporating other decision-making styles besides technical rationality.

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## 1. Introduction

During the last decades Western countries have increasingly adopted IT-based services to citizens and businesses (Weerakkody & Dhillon, 2008) and it has been advocated that e-government will be the next major reform in the public sector after New Public Management (Dunleavy, Margetts, Bastow, & Tinkler, 2006). There are, however, numerous obstacles to realizing the promise of e-government and many projects fail (Goldfinch, 2007; Heeks & Bailur, 2007; Helbig, Gil-García, & Ferro, 2009). When projects fail, politicians and managers demand improved management of the projects, and therefore public sector organizations have introduced a variety of methods to ensure project success such as benefit-realization models (Ashurst, Doherty, & Peppard, 2008), business-case techniques (Ward, Daniel, & Peppard, 2008), project management models (Furlong & Al-Karaghoul, 2010) and IT PPM (McFarlan, 1982).

In this article we examine IT PPM and the way it is practiced in public sector organizations. Danish local governments are currently investing in large portfolios of e-government projects to meet the demands for cost reductions while retaining or improving the level of service for

citizens and companies. In order to accomplish this, the organizations attempt to improve their IT portfolio management and the quality of portfolio-level decision-making. IT PPM may be a feasible way to improve e-government maturity and reduce the failure rate since it provides management processes and governance structures that create transparency in the portfolio of IT projects, systematic ways of prioritizing among multiple IT projects, management of dependencies between projects and continuous evaluation of the realization of benefits (Jeffery & Leliveld, 2004).

Generally we know that decision-making practices in management groups have an impact on organizational performance (e.g., Csaszar, 2012). For example, it is recognized that the level of consensus required in investment committees affects the frequency of two typical errors: starting the wrong projects (commission errors), and failure to start valuable projects (omission errors). So it is a reasonable assumption that the way public sector organizations make portfolio decisions has an impact on the outcome of e-government investments. Although IT PPM has evolved into a significant area of interest in both practice and research (De Reyck et al., 2005; Jeffery & Leliveld, 2004; Kaplan, 2005), we know little about IT PPM practices in public sector organizations. This research aims to help fill this gap in our knowledge. Thus we pose the following research questions: What decision-making practices characterize IT PPM decision-making in Danish local governments and, what portfolio-related problems do these practices create? After answering these questions we discuss the implications for IT PPM research

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and practice, and especially, how well the normative advice proposed by the IT PPM literature matches the identified decision-making practices.

To investigate the research questions we relied on case studies (Walsham, 1995) of four Danish local governments. The case organizations were analyzed in order to understand their decision-making practices in core IT PPM activities: IT project identification, prioritization, resource allocation and realization. Across all organizations and all four IT PPM activities we found that IT PPM was much more than the technical, rational decision process promoted by the normative IT PPM literature: Political behavior, intuition and coincidences were seen to shape the decision-making process. From previous research we know that certain decision-making practices are encouraged by certain contextual factors, for example, time pressure which pushes decision-makers towards the use of intuition (Burke & Miller, 1999), and deeply embedded preferences for specific decision-making behaviors of individuals which change only slowly over the years as those decision-makers become more experienced (Agor, 1986). These existing theories and our findings make it seem unlikely that the organizations can implement a radical shift from their current decision-making behavior to other decision-making behavior based on technical rationality as embedded in textbook-IT PPM. We therefore suggest that such organizations might be better off improving the decision-making practices within the boundaries of their existing IT decision-making styles, rather than trying to radically change these.

In the next section the IT PPM method is described with the purpose of identifying its core activities and underlying decision-making ideals. This is followed by a presentation of four decision-making styles used in the analysis of IT PPM practice. We then present our research method and further our analysis of IT PPM practices in Danish local governments. In the discussion we highlight our key empirical findings and research contributions. Finally we conclude and describe the limitations of our research.

## 2. IT PPM

Portfolio management was originally developed as a financial management method designed to optimize the value of financial investments (Markowitz, 1952), but has since been used as a way to optimize the value of other kinds of investments, as for example IT projects (McFarlan, 1982). There are many slightly differing definitions of “project portfolio management”. We use the definition by Kester, Hultink, and Lauche (2009) as it is explicitly linked to decision-making processes: a “span of interrelated decision processes that aim to refine and implement the firm’s strategic goals by allocating the available resources. The decisions that have to be made in the portfolio management system occur at various levels in the firm involving different departments, and thus manifold decision-makers pursuing various divergent goals”.

Although portfolio management can be conducted in various ways, the dominant approaches involve the use of some form of rational model(s) to select projects and to rank, evaluate and monitor their progress (Archer & Ghasemzadeh, 1999; Christiansen & Varnes, 2008). In the ideal world portfolio decisions should be based on “a rigorous, clear, and formal approach to portfolio selection” based on “suitable and accurate data, explicit and objective criteria, reasonable and clear rules, transparent and known procedures” (Meskendahl, 2010). Similarly, Moore (2010) argues that decisions should be based on arguments and data – not on power and the ability to influence. Accordingly, the dominant decision-making style proposed by the PPM literature is “technical rationality” (Blichfeldt & Eskerod, 2008; Martinsuo, 2013), involving close collaboration between the IT departments and business units (De Reyck et al., 2005; Jeffery & Leliveld, 2004) and a high level of transparency and formalization in terms of governance models (Kendall & Rollins, 2003), stage-gate models (Cooper, 2008) and

sophisticated algorithms (Doerner, Gutjahr, Hartl, Strauss, & Stummer, 2006) that support portfolio decision-making.

Though the most researched IT PPM activity is the prioritization process, the four core IT PPM activities are:

- *Project identification*: the potential value of the portfolio depends on organizations’ ability to generate and identify high-value project proposals. The literature contains advice, for example, on how to encourage employees to propose projects, on how they should be documented, and on what to focus in the initial description (e.g., Moore, 2010). Maintaining a central database with information about project proposals and ongoing projects is a central part of IT PPM (e.g., De Reyck et al., 2005).
- *Project prioritization*: a recurrent process that includes evaluating both project proposals and ongoing projects to ensure that resources are used on the most valuable projects from a business perspective (e.g., Jeffery & Leliveld, 2004). Projects aren’t evaluated solely on their individual merits but also on their impact on the entire portfolio, the goal being to achieve a balanced portfolio. The portfolio might be balanced along various dimensions such as long-term strategic projects vs. short-term operational projects, risk, business strategy etc. (e.g., Meskendahl, 2010). Organizations are advised to define objective prioritization criteria and transparent prioritization procedures (e.g., Kaplan, 2005) that support decisions as to which projects are to be initiated, modified, accelerated, canceled or put on hold for a period of time.
- *Allocation of resources*: organizations are advised to allocate resources to the various projects selected by the project prioritization. Resource allocation is not only concerned with the staffing of individual projects, but also with management of interdependencies between multiple projects (Blichfeldt & Eskerod, 2008). Sound management of resources may help organizations avoid initiating more IT projects than they can actually accomplish.
- *Realization* concerns the ongoing monitoring and tracking of project execution: not only the development of the business costs, but also the measuring of IT project benefits in order to make sure that planned benefits from IT project investments are actually achieved (e.g., Jeffery & Leliveld, 2004).

Looking at the broader PPM literature, researchers have started to question the “technical-rational” decision-making approach (Christiansen & Varnes, 2008; Killen, Hunt, & Kleinschmidt, 2008; Kester et al., 2009; Killen & Hunt, 2010; Martinsuo). Christiansen and Varnes (2008) highlight the non-rational and informal aspects of PPM decision-making. Similarly, Kester et al. (2009) identify three PPM decision-making genres across different organizations: formalist, intuitive, and integrative. And Martinsuo (2013) warns against viewing portfolio management as a simple rational decision process. Continuing these current efforts, we rely on decision-making styles derived from organizational decision-making theories to further our understanding of IT PPM practices.

## 3. Models of decision-making

We use four types of decision-making styles to understand IT PPM decision-making practices in organizations: (1) technical rationality, (2) political behavior, (3) intuition, and (4) coincidence. To follow Eisenhardt (1989), these decision-making behaviors should not be considered mutually exclusive; rather, they can be combined and coexist in a variety of forms. How these behaviors are combined and the extent to which they can be changed depends on both individual preferences and contextual factors. For example, decision-makers have different personal preferences for mixing deliberate rational analysis and intuition during decision-making (Agor, 1986; Burke & Miller, 1999), and a range of contextual factors encourage different behaviors (see Table 1). In our description of the decision-making models we focus on two kinds of

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