

The effects of Project Management Information Systems on decision making in a multi project environment

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Abstract

Project Management Information Systems (PMIS) should provide project managers with decision making support for planning, organizing and controlling projects. Most project managers are dissatisfied with the information produced by PMIS. Based on a survey among 101 project managers the interactions between six factors related to PMIS information quality and usage and their effect on decision making are examined in a multi project environment. Using structural equation modeling, new insights were gained in these complex relationships. Results indicate that the use of a project management information system is advantageous to project managers, while no adverse effects were observed due to project and information overload. PMIS information quality is positively related to quality of the decisions, satisfaction of project managers with PMIS and use of PMIS information. Simultaneous handling of multiple projects causes project managers to extend conclusions about the information quality for one project to all projects at hand.

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1. Introduction

The current business environment is complex. Managers need to make fast decisions, allocate scarce resources efficiently, and have a clear focus. In organizations that are engaged in many projects simultaneously, management is faced with multiple challenges (Elonen and Arto, 2003). Project managers handling different projects with different scopes, complexities and timelines face particular problems. These can be related to resource conflicts and throughput times (Maylor et al., 2006; Platje and Seidel, 1993). Inadequate balancing of scarce resources often results in additional pressure on the organization, which leads to poor quality of information and longer lead times of projects (Elonen and Arto, 2003). Interdependencies and interactions between projects (Patanakul and Milosevic, 2008b)

and information and project overload (Engwall and Jerbrant, 2003; Zika-Viktorsson et al., 2006) present specific challenges as well. Managers may become overwhelmed by the amount of information that is available for decision making, losing sight of relevant information or being unaware of inaccuracies.

In general, poor information quality leads to poor decision making (Blichfeldt and Eskerod, 2008; Elonen and Arto, 2003; Engwall and Jerbrant, 2003). The use of *Project Management Information Systems* (PMIS) is considered advantageous to project managers because of the alleged contribution regarding timelier decision making and project success (Raymond and Bergeron, 2008). The implementation of PMIS in a multi project environment may help to accomplish a realistic project assignment, which is an effective strategy when managing multiple projects (Patanakul and Milosevic, 2008a).

Studies on the use of PMIS have predominantly focused on single projects with high complexity, and PMIS are considered advantageous in such environments (Raymond and Bergeron, 2008). Project managers who deal with single projects that are less complex may not be willing to use PMIS, because the time they

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