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A Trend Analysis of Project Management Epistemology in Information Technology Research

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Abstract

Project Management finds its origins back as far as the building of the Egyptian Pyramids and the Great Wall of China. Many disciplines including construction, engineering, and operations management have found the use of Project Management as an integral part to their success. This same importance is resonating throughout the Information Technology (IT) community. IT projects often go over budget, past deadlines and often enough, the projects are dropped at the loss of millions largely due to poor project management skills. Project Management consists of many knowledge areas. However, the identification of the areas of Project Management emphasized in the literature over history is underrepresented. The purpose of this paper is to identify, classify and track IT project management research as well as investigate whether there indeed is a researcher-practitioner discrepancy, and if so, on which topics it is especially noticeable.

Keywords: Project Management, Information Systems, Trend Analysis, Epistemology.

Introduction

Project Management (PM) is becoming increasingly important in almost any kind of organization today (Kloppenborg & Opfer, 2002). Once thought applicable only to large scale projects in construction, R&D or the defense field, PM has branched out to almost all industries and is used as an essential strategic element for managing and affecting change in modern companies (Kloppenborg & Opfer, 2002, Pinto, 2002). The growing importance of PM is reflected eg. by the fact that PM has been included as a key element in the IS 2000 model curriculum (Gorgone et al., 2002). Furthermore, 86,925 people worldwide had received the PMI certification in the 12-months period ending December 31, 2005, bringing the total up to 181,281 (McGeehan & Brath, 2006). Certcities.com, an internet site for IT professionals, ranked a certification in Project Management as the 4th most valuable certification to have in 2006, up from rank 10 in 2005 (McGeehan & Brath, 2006; Nagel, 2006).

Literature Review and Project Contribution

For its 2000 Research Conference, the Project Management Institute supported a research effort into the "current state of project management research". Over a time period of seven months, 92 researchers analyzed "scholarly

periodicals and journals, conference proceedings, research papers, theses and dissertations" as well as research published or commissioned by the US Department of Defense and other governmental agencies, NASA and CASI, its Canadian counterpart. The analysis spanned the time period from 1960, when modern project management started to become more wide-spread (Archibald, 1987; Fondahl, 1987) to 1999. It was the intent of the project to "learn more about trends, major issues, contributions, and the circumstances surrounding past research; to develop an understandable portrayal of how the theory and practice of project management has evolved, and to obtain recommendations about the future direction for research." Out of more than 100,000 initial sources, the research team created an annotated database of 3,554 records (Kloppenborg & Opfer, 2002).

This extensive research produced a number of significant conclusions. It showed that scholarly interest in PM has increased significantly during the 1990s, supporting the growing importance of PM: Of the articles included in the annotated database, 60% were published in the 1990, 29% in the 1980s, 7% in the 1970s and only 1% in the 1960. The knowledge areas most frequently cited were the triple constraint areas of PM, namely cost (28%), time (24%) and quality (12%). The industries most often represented in the PM context were Construction and Information Systems (21% each), followed by Education (8%). The study found a distinct shift in topics of interest during decades: in the 1960s, most research focused on large, defense-related projects. In the 1970s, the research focused on cost and schedule control, performance measurement and WBS and life-cycle management. While cost/schedule control remained a topic of major research interest during the 1980s, research started to include team building, quality and knowledge management related topics. The 1990s saw an increase in HR related topics such as team building and leadership development, as well as a focus on risk management (Kloppenborg & Opfer, 2002; Pinto 2002).

A number of other projects have attempted to provide an overview over the field of PM (e.g. Urli & Urli 2000; Zobel & Wearne, 2000). Among those, one study refined the above quoted PMI project with a specific focus on IS/IT related literature (Tesch, Kloppenborg & Stemmer, 2003), which resulted in 784 records from 223 different journals. In a discussion of those articles with professionals in the field, one of the main conclusions reached was that "IS/IT academic research should be examined frequently for the possibility of existing successful models that may offer relevance for IS project management issues" (Tesch, Kloppenborg & Stemmer, 2003). In addition, practitioners voiced specific interest in research on factors contributing to successful project completion and risk management. Concern was voiced that some of the more advanced research was not related to everyday PM demands and problems (Tesch, Kloppenborg & Stemmer, 2003).

The present study intends to elaborate on this problem and investigate whether there indeed is a reseacher-practitioner discrepancy, and if so, on which topics it is especially noticeable. Furthermore, an attempt will be made to suggest procedures to foster the research-practitioner exchange that could make academic research more applicable to everyday problems and everyday problems apparent to academic researchers.

Methodology

In order to accomplish this aim, 10,000 articles have been identified using Google Scholar. The articles identified dated back as far as 1972, when PM was officially introduced in the IS curriculum (Ashenhurst, 1972; Couger, 1973) The results were classified according to the type of journal they were published in. Based on the classification suggested by the IS Publication Database of Oklahoma State University, the journals were divided into academic and practitioner journals, which in turn were subdivided into the top 10 ranked journals, journals mostly associated with PM topics and journals containing PM articles on occasion. In addition, a number of journals were classified as proceedings, academic or practitioner Journals. Based on this classification, the majority of articles selected (60%) were published in practitioner journals, 37% of articles were found in academic journals with the remaining 3% being published in proceedings. Citation analysis was used to determine the most commonly cited PM articles in the sample journals (Katerattanakul & Hong, 2003). The articles are being classified by keywords and subject areas according to the PM Body of Knowledge.

Previous literature has pointed out that practitioner oriented journals and proceedings tend to focus more closely on real life problems (Tesch, Kloppenborg & Stemmer, 2003; Zobel & Wearne, 2000). This study intends to further analyze this contention by looking for discrepancies in the usage of keywords and subjects in practitioner vs. academic journals and for differences in research trends in these two major types of publications. It is the aim to bring research and application closer together and contribute to ensuring that relevant topics in this rapidly growing field will be identified and provided with the sound theoretical background through timely academic research.

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