ELSEVIER

The role of project management in university computing resource departments

David Wierschem *, Chuck Johnston [1]

Midwestern State University, 3410 Taft Blvd., Wichita Falls, TX 76308-2099, United States

Abstract

Today's businesses have learned the value of incorporating formal project management practices and tools. However, the drivers that have pushed businesses to adopt them have not had as large an impact on institutions of higher education. This paper investigates the acceptance and usage of formal project management techniques by university information technology departments. Results of a mail survey determined that current university IT departments lag behind their business peers in the adoption and usage of project management practices and tools. Additionally, it was discovered that the most utilized project management function by the academic institutions was project planning.
© 2005 Elsevier Ltd and IPMA. All rights reserved.

Keywords: Information technology; Environmental; Value

1. Introduction

Project management (PM) as a discipline is well established. Acknowledged to have conceptually begun with the World War II Manhattan Project to develop the atomic bomb [1], its evolution and acceptance has continued to expand. Structured around the ever-present concerns related to scheduling project tasks, Gantt charts have become its most commonly recognized communication tool. Manually constructed time-scaled bar charts were first developed by Henry Gantt in 1917 to solve the problem of scheduling troops during World War I. As military and industry projects became more complex, methods such as the critical path method (CPM) and program evaluation and review technique (PERT) were developed to include the precedence relationships between tasks [2]. As projects increased in size and complexity, computerization became necessary to efficiently and effectively manage them. Currently, there are many PC compatible project management applications available, such as Microsoft's Project.

The acceptance of PM by industry, specifically the construction and manufacturing sectors, is well documented by the many case studies and trade journal articles that discuss it. However, the facilitating power of PM tools and techniques has only recently begun to be applied to Information Technology (IT) projects. While business acceptance of PM for IT projects is growing, the same may not be said of academic institutions. Somewhat removed from mainstream business practices, academia has historically lagged behind in the adoption of new developments and this is especially true in the area of IT. This paper explores the current status of acceptance and utilization of PM tools and techniques within university IT departments.

* Corresponding author. Tel.: +1 940 397 6260; fax: +1 940 397 4280.
E-mail addresses: David.Wierschem@MWSU.edu (D. Wierschem), Chuck.Johnston@MWSU.edu (C. Johnston).
[1] Tel.: +1 940 397 4361; fax: +1 940 397 4280.

2. Drivers of IT project management

The need for organizations to gain better control of their IT projects was increasingly being discussed by the 1980s. It was generally recognized that many information technology projects failed. By the mid 1990s, more than $250 billion was being spent each year on approximately 175,000 IT application development projects. Many of these projects were delivered late and over budget, or not delivered at all. These statistics were included in a study published in 1995 by The Standish Group in which 365 US IT executive managers were surveyed to assess the success rate of over 8000 projects (success being defined as projects completed on-time, within the budget, and having all initially specified features and functions). After determining the success rate to be only 16.2%, the study was titled ''CHAOS,'' to reflect the then current state of IT projects in the US. In addition to the dismal success rate, over 31% of the projects were cancelled before being completed, or $81 billion of the aggregate $250 billion IT project investment for the year. Given that the average cost of a development project for a large company was $2.3 million, for a medium company $1.3 million, and for a small company $434,000, the organizational risk of failure associated with IT projects was not insignificant. One conclusion of the study was the need to improve project management practices in the IT industry [3].

In 1997, a study by KPMG surveyed 1450 Canadian institutions (public and private) to determine the reasons for unsuccessful IT project development. 61% of the responding companies reported having a failed project. The top three reasons were poor project planning, a weak business case, and lack of top management involvement and support [4]. Project planning is one of the cornerstones of proper PM practices.

The assertions of the Standish report and other research resulted in an increased focus on IT project management. The Standish Group published follow up studies in 1998 [5] and 2001 [6]. The reported success rates of IT projects increased to 26% and 28%, respectively, while cost overruns and failures declined. Much of the improvement was attributed to better project management practices in the IT industry. Part of the emphasis on project management during the period leading up to January 1, 2000 can be attributed to the number of projects and the urgency associated with the Y2K problem.

During this same period, another event occurred that had a significant impact on the IT industry. The bursting of the e-commerce bubble resulted in the loss of thousands of jobs and billions of dollars of investment. Despite the misconceptions by many that business-to-consumer (B2C) e-commerce was dead and traditional brick-and-mortar companies would no longer invest in e-business, the projections for growth in 2001 were for a 10-fold growth in B2C e-commerce during the next four years and a 25% increase in investment for e-business technology during the next year [7].

With the convergence of the Standish reports on project success and the continuing need to develop e-business capabilities, business management began to take a closer look at how they invested their IT dollars and the resulting management of the projects. New projects have come under increased scrutiny. Because of the ease of measurement and historical usage financial analysis has become the norm for selecting and prioritizing IT projects. Some of the techniques utilized include return on investment, payback period, and other forms of future profitability analysis. Financial accountability during development requires monitoring all aspects of the project, while tracking the progress of tasks towards schedule milestones, makes the adoption and implementation of formal PM techniques necessary.

The recent emphasis on PM certifications and training are also evidence of the dramatic increase of the employment of formalized PM principles. The Project Management Institute (PMI) is the primary professional society for project managers. It offers certification as a Project Management Professional (PMP) for those passing an exam, agreeing to follow a code of ethics, and having sufficient experience to qualify. While statistics breaking out the certifications of IT project managers are not available, overall PMP certifications have grown to over 75,000 today [8].

There are also many other project management certification and training accreditation programs currently being offered. In the United Kingdom, Cranfield University and the University of Manchester support advanced degrees in project management, while the APM Group maintains a list of accredited project management training organizations. Throughout the world in other countries such as Denmark, Canada, France, and the United States, universities have established project management courses in undergraduate and graduate programs, as well as formal degree designations in project management at both levels.

3. IT project management in business

PM has become a staple of the business community becoming a standard part of most organizational planning processes. White and Fortune [9] performed a survey to identify the current practices of project management in business. Their survey covered both private and public sector project managers. They identified 6 groups of PM tools: methods, tools, decision techniques, risk assessment tools, computer models, database, etc., and simulations. Only 2% of the respondents did not use any formal PM methodology. The most popular methodologies used, at 54%, were