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Managing multiple projects: Applying a demand-based approach

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ABSTRACT

When incorporating live student projects in the classroom, it can become overwhelming for the instructor as they often face challenges in managing multiple projects. This article provides an overview of the common problems that can occur while overseeing multiple projects simultaneously. Within the paper, a demand-based approach to managing multiple projects is defined and proposed as a method for overcoming these problems. Case study results are provided from a Six Sigma consulting program that included multiple student live client projects, both on-campus and abroad. The results indicate that the demand-based approach provided an effective system for managing multiple student projects simultaneously, based on organizational evaluations of team performance metrics. Exhibits in the form of tables comparing the traditional and demand-based approaches are provided.

1. Managing multiple projects: applying a demand-based approach

Employer surveys continue to express a dissatisfaction with the level of transferable skills of new management graduates entering the workforce (Schlee & Harich, 2010), as employers look for 'workplace ready' graduates from international business programs (Shooshtari & Manuel, 2014; Wolf & Wright, 2014). Much of the blame has been placed on overly theoretical and textbook-driven courses. 'Live cases' serve as a remedy for this problem by providing a stimulating and challenging experience for students, who act as consultants tasked with solving a problem for a real organization (Franz & Klein, 1996). The 'live cases' model is often team-based, allowing the students to work collaboratively, share ideas, and divide the workload (Godar, 2000). While the experience can enhance the transferable skills of the students, the instructor applying the 'live case' model may face several challenges that accompany the implementation of this model, such as a lack of time or resources to manage each project.

We advocate that a *demand-based approach* can be used to overcome the challenges associated with managing multiple projects. The demand-based approach promotes uncovering the true needs of the client prior to defining the scope of the project, thus assisting with the management of several different stakeholders. This approach is different than the traditional approach, which relies upon a set of project management techniques that are structured to address the needs of the academic environment (e.g., credit hours, course in-person contact hours, specific course content, materials, & curriculum, etc.). Many of the deliverables within the traditional approach are determined based on the needs of the providing institution rather than the client. For example, a University might have students who specialize in website creation and thus offer to create a website for the organization without truly understanding the needs of the client. This approach diminishes the potential value of the deliverable by pushing a product onto a client without ensuring that the deliverable truly fits the needs of the client. Providing a client with a product or service that does not meet their needs will increase the probability that the deliverable will be discarded, thus making the entire project a waste of time and resources. In the demand-based approach, the client-based needs are refined and matched with the university needs throughout the

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project scoping, planning, execution and evaluation phases. This approach optimizes the effectiveness of the deliverables by ensuring that all stakeholders are carefully considered when defining and executing the project.

The primary objectives of this article are to first review the major challenges that instructors face when attempting to manage multiple independent projects, and then provide the steps for deploying the demand-based approach when managing multiple projects. We illustrate the field execution of the method with a case study and provide results from an application to a live field Six Sigma consulting course. The demand-based approach allowed the instructor(s) of the Six Sigma course to implement the program in a 16-week semester format, as well as a 10–12 week accelerated format by increasing the efficiency of the process, while maintaining client satisfaction. More specifically, in the 10–12 week accelerated format, the on-site duration has generally been 4–6 weeks with an optional 6 week post-program internship. Pre-departure course meetings typically add another 4–8 weeks of training and pre-paration time. Further, the lead instructor streamlined the process to allow for the manageable supervision of three to five projects per instructor within both time frames.

2. Live case: a study literature review

Future graduates are likely to face an uncertain and complex business world (Association of American Colleges and Universities, AACU, 2007). If these students are to succeed, business schools have a responsibility to provide these students with the opportunity to tackle authentic, multifaceted issues (Doyle, Buckley, & Carroll, 2013). The Association to Advance Collegiate Schools of Business (AACSB) supports this notion of hands-on experience and pushes business schools to confirm that "For any teaching and learning model employed, the school provides a portfolio of experiential learning opportunities for business students, through either formal coursework or extracurricular activities, which allow them to engage with faculty and active business leaders. These experiential learning activities provide exposure to business and management in both local and global contexts." (AACSB, 2015, p.39). Fieldwork and live case studies are a method for achieving this objective, as it places students in a live business setting to solve a real orga-nizational problem.

Instructors recognize that field-based student consulting projects provide students with the benefits of active learning, as well as the added experience gained from tackling the ambiguity and complexity associated with a real business setting (Heriot, Cook, Jones, & Simpson, 2008). There have been several documented benefits in such projects in the business world (Bush-Bacelis, 1998; Cyphert, 2006; Fitch, 2011; Littlefield, 2006) and in a university setting (Judge, 2006). Further, results indicate that the experience in-corporates the benefits from active and experiential learning, while increasing the transferability of the skills used in the situation (Smith & Van Doren, 2004).

The recommendation for instructors to incorporate the fieldwork in their courses using work-integrated learning (Abeysekera, 2006) comes with a strong caution to carefully consider implementation and limit the number of projects to ensure a quality ex-perience (Cook & Belliveau, 2006). Despite the clear advantages of introducing live cases into a course, many instructors opt out of the live case model altogether (Lopez & Lee, 2005). The rationale for this choice stems from the many challenges that the instructors might face when using this model, such as the increased time commitment (Razzouk, Seitz, & Rizkallah, 2003). The challenges associated with managing multiple projects can be overwhelming and complex (Payne, 1995). Below, we outline the primary challenges that instructors face when implementing live cases with a course. These challenges mirror the major issues that project management professionals face when attempting to manage multiple projects; in our case, portfolio project management refers specifically to an instructor managing multiple projects.

2.1. Project definition and planning

Early in the process of implementing live cases, instructors are faced with the challenge of identifying suitable clients/projects. Unlike the traditional portfolio managers, instructors have an additional constraint of the semester/course timeframe (Carver, 1985). Further, the selected projects must be similar in complexity to maintain equity across groups. Projects need to be carefully evaluated and prioritized to ensure that resources are invested in meaningful, appropriate projects (Cattini & Zatti, 2014; Cooper, Edgett, & Kleinschmidt, 2000).

A major problem when selecting and supervising multiple projects stems from inadequate definition, planning, and management of the project (Elonen & Artto, 2003). More specifically, this failure results from a deficient pre-phase planning, failure to thoroughly consider all the stakeholders during the project, and defining deliverables in a manner that does not properly align with the sta-keholders' needs. Cooper et al. (2000) note that if the early stages of project planning are not emphasized, the entire project will lack a solid foundation. Further, these researchers specifically state that "unstable product specs is one of the major causes of long cycle time, while sharp, early product definition that is fact-based is strongly connected to product profitability" (p. 23). Time invested during the initial stages of a project sets the stage for a clearer understanding of the client's needs and a more accurate definition of the project objectives.

In industry and practice, the term *scope creep* describes how an ill-defined project scope can slowly expand, when unanticipated project tasks/deliverables emerge as requirements to meet the client's true, uninvestigated needs. In a course setting, an instructor could fall prey to this impending failure, by failing to consider the requirements from the various stakeholders involved with the project. In a live setting, the price of failure is heightened given that the University is interacting with real organizations and the misstep of instructors that fail to manage the projects properly could tarnish the reputation of the University and/or instructor associated with the project and potentially damaging the student (Ames & Archer, 1988). However, students should not be left to collect this information on their own. For example, even though upper-level students may have the necessary skills, researchers have