Teaching Case

Where are the Students? A Project Management Approach to Promoting an IT Course

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Abstract

We present a need to increase the student enrollment in an information technology project management course, which may have long term effects of increasing enrollment in the information systems major. The project involves students engaging in both the role of Project manager and a team member in the development of a website and social media platform to promote the course. Our case walks students through the major phases of project management, while practicing aspects of waterfall and agile methodologies to accomplish an Information Technology (IT) Project. This course is specifically targeted for information systems and computer science majors and minors as it includes some information technology comprehension. Although, students may be at different phases of their information technology knowledge – optional tools are offered as ways to minimize the focus on information systems or programming knowledge and keep the focus on managing an IT project and the multiple stakeholders involved in producing a successful and effective project. Students are presented the business case and following develop in teams their own charter, scope, work break-down structure, resources, budget, communications plan, risk plan, a final report/presentation, and the final product. For an added aspect of complexity, web design/development teams are asked to work with social media teams in a business-to-business relationship. Students find this activity challenging and applicable to their real-world experiences. It also provides a proper portfolio project for students to offer in career opportunities. Teaching notes containing suggested guidelines, deliverables, and sample outputs are provided upon request.

Keywords: IT Project Management, website design, social media management, PMBOK

1. CASE LEARNING OBJECTIVES

The semester project is developed as a team effort; however, it is important for every student to participate in every aspect of all project management of the project. The team should balance the workload amongst themselves to make sure that no single student is burdened with too much work. The learning objectives for the case are as follows:

1. To execute the project management design, development, and deployment, which emphasizes managing diverse groups effectively, making adjustments as a project evolves, and incorporating best practices and principles aimed at solving real business problems.

2. To expose students to project management tools, techniques, and skills, focusing on how to become a project manager and gain insight about the use of information systems/technology for support of problem-solving abilities.
3. To analyze the different project management strategies to recognize the implications, challenges, and opportunities in project management.

This case is about the development and deployment of an information system (IS) tool to promote a service, specifically a website and a social media platform or other information technology (IT) application. The final deliverable will be a website and corresponding social media or IT application in support of that website and a project management report and presentation. The project goal is to advertise and promote an IT Project Management course for the purpose of increasing the enrollment and interest. A university has a new Information Systems degree program that has very few courses and needs to increase awareness of the degree program. The IS department has created a new course called IT project management. The students will break into two collaborating teams with one team developing the website and other team promoting the website using IT application (i.e., social media tools) and each set of teams will compete with the other collaborating teams. This case highlights the project management methodology including initiating, planning, executing, monitoring and controlling, and closure on information system development.

2. PROJECT SPECIFICATIONS

The students are divided into an even number of groups of four or five and the team will continually manage and expand the project as needed during the semester. Each team is assigned to either create a website or create a social media platform for promoting the IS course. A team will then be required to choose one of the other teams to collaborate. For example, a website team will select a social media team for collaboration and vice-versa.Teams will be able to review previous examples and research other types of course promotion tools to help in the creation of epics and user stories using the given technology. An option for gathering promotional content could be to survey current business students. Each social media team must have at least two social media platforms. Each website team must collaborate with one of the social media platform teams and compete against the other collaborating teams. Each website team presents their epics and user stories to the social media teams and each social media team presents their epics and user stories to the website teams. The teams then select which team they would like to collaborate. The collaborating teams should share information so that the website and social media platforms are promoting similar content and therefore promoting each other's tool. There are six deliverables to be completed by each team. The main stakeholders are both the end-users and support units of the system with the instructor as the CEO or project sponsor.

Each team must employ the following deliverables of the project management methodology, which is a variation of the process described by PMBOK® Guide – sixth edition (2017): 1) initiating - students will have to develop a project charter (i.e., identify the need or purpose of the website/social media option); 2) planning – students will choose a team management style (i.e., the characteristics of the project team and factors that influence team performance, such as Kanban, scrum, agile or other) and develop the project scope (i.e., the needs and requirements of project); additionally, students will create a schedule (i.e., a work-breakdown structure, a communication plan, Gantt chart, network diagram, and timelines); 3) executing – development of system (i.e., creating the website and social media platform and research gathering of data points); 4) monitoring and controlling – students will create a risk plan and a performance report (i.e., a plan to outline risks and how to manage them, and consider the measurable outcomes of the project); and 5) closing – creation of final system report and presentation (i.e., a completed report including all the sections of development process as well as closuring documentation). Each team is also responsible for creating a presentation to summarize the various aspects of the project.

The essence of the project involves development and deployment of an IS solution (a website or social media platform) for promoting an information systems course at a university. Team members are charged with either the creation of a website or the creation of a social media platform to market the IT project management course. The IT project management course is a new course for the IS department and this project is to increase interest and buzz across the region of the university. The team will be promoting and engaging others to join the IT project management movement (aka the course).

Currently, the IS department has no means of generating interest for their courses except for word of mouth within the college of business. This has been an ineffective method of marketing for the department in the past couple of years. With the need to increase student enrollment at all departments, and the university as whole, it is imperative to find innovative ways of reaching out to the future and current student base, as well as regional area, to generate interest in the IS major. Specifically, the department wants to market their program to incoming freshmen as well as have a means of reaching graduating or soon-to-be graduating seniors in the surrounding counties' high schools.

Carol Cox (IS department chair) can afford to budget only a certain amount to this project. Specifically, $15,000 is available to fund this project. The team must research the costs of the resources needed for development and deployment of their products (i.e., labor and materials). For example, a project management tool, such as Microsoft Project, and a communication tool, such as Microsoft Teams. Additionally, the team will need to acquire a web-hosting site, such as godaddy.com, or a social media management tool, such as hootsuite.com. Furthermore, the budget should include the option to incentivize external participation of the social media platforms.

The IS department chair is hoping that this system solution will be a successful first step in generating interest in improving marketing techniques for the IS degree program, with a particular focus on the number of students enrolled in the new courses offered by the department. It is of utmost importance to Carol and the rest of the IS department to have these marketing tools created for future registrations.

3. FUNCTIONAL REQUIREMENTS

An important goal of this course is to understand and experience the role of a project manager. The role of a Project Manager is crucial to the success of a project and is required to work with project sponsors, team members, and other stakeholders involved in the project. The development of this teaching case allows each student to work in the role of a team member and a project manager through its multi-group interactions and overarching connecting groups. In order to accomplish this, the role of project manager will rotate among the team members so that each member has an opportunity to fulfill the responsibilities of a project manager. This rotation should happen about every two to three weeks, depending on the number of teams and the length of the project. The immense creativity and innovation, short sprints, and continuous flow of value lend for a more agile methodological process.

Once each team is created, the first step is to develop a project charter by identifying the need or purpose of the site/social media option. The team management style and communication plan should be established. Once this is done the first project manager should be selected. In this first step, the team must also determine the characteristics of the team and the factors that influence team performance. For instance, how will the project manager motivate their team and manage any team issues? A set of ground rules is necessary for managing team interactions. A communication management plan that guides the communication throughout the life of the project is created. The plan will be a table with columns identifying stakeholders, type of information to provide to stakeholders, communication frequency, and communication media. The deliverable (deliverable 1) for this step includes the project charter with project scope and communication documentation. Project scope includes the project statement, project objectives, project description, business benefits, project deliverables, and estimated duration. Here the group will explore the feature set of the project by reviewing and researching other similar sites and course promotional materials. A documentation of the approach for collecting requirements is to be created using a requirements traceability matrix. The project scope must be as specific as possible in describing product characteristics and requirements, as well as all the project deliverables. Teams must not forget to include testing and training as part of the project scope. The communication management documentation includes a list of meeting ground rules, the communication plan, project template for design request change, a walkthrough review form, and a walkthrough action list.

The next step is the schedule. The team is to develop a work breakdown structure (WBS) for the project. The WBS must be based on the project charter and the project scope statement. A Gantt chart and network diagram are included in this step. Information used for these diagrams are the project activities, tasks, estimated durations, and task assignee. The team will determine the critical path and create a timeline for the project. All activities and tasks must be assigned to a team member. This step may also include sprint information. A tool to help with

creating the Gantt chart is Microsoft Project; there are templates included in the software. The teams should assume they have two months (depending on length of course schedule) for the project. The deliverable (deliverable 2) at the end of this step is a WBS and schedule (in the form of Gantt chart and/or network diagram).

Next, the budget must be produced. First, a review and revision of the WBS and Gantt chart created earlier should be undertaken if needed. Here the team is to create a cost model for the project using a project management software. With the assumption of two months for completing the project, the documentation for this step includes an overview of how the project is doing (i.e., is it ahead of schedule or behind schedule? Is it under budget or over budget?) and determines the current analysis of the project. The estimate at completion (calculated using complete performance index, which is the cost efficiency required to complete a project within a defined budget) for the project helps the team to evaluate if the project is performing better or worse than planned. The deliverable (deliverable 3) for this step is the cost model.

The project risk plan is a plan to outline risks and how to manage them. The team is to do a risk analysis to determine what is likely to occur and unlikely to occur and its impact on the project (high, medium, low). The team is to create a risk register for the project, specifically, identify six potential risks, including risks related to the problems described in the previous documentation, and a mitigation plan. The mitigation plan includes action necessary to reduce the impact if a risk occurs by demonstrating for each high, medium, and low risks. A list of potential components of a risk management plan from Project Management Institute (PMI) made available to the teams (see appendix). The deliverable (deliverable 4) for this step is a risk management plan. This report should contain (1) the identified risks, (2) the project areas or objectives the risk may affect, (3) the roles and responsibilities of any risk owners, (4) a description of the risk response strategies, including escalation, avoidance/exploitation, transference/sharing, mitigation/enhancement, and acceptance that will be used to address the identified risks, (5) an acknowledgement of any residual risks projected to remain after any risk response strategies have been applied, and (6) a list of actions to be used to implement the risk response strategies.

Finally, the team is to create a final report. At the end of the semester the team must compile all deliverables as well as additional sections on monitoring and control and closure into a final project report (deliverable 5). The report should contain (1) project objectives, (2) summary of project results, (3) original and actual start and end dates, (4) original and actual budget, (5) project assessment (why did you do this project? What did you produce? Was the project a success? What went right and wrong on the project?), (6) transition plans, and (7) annual project benefits measurement approach. Additionally, the project management documentation includes copies of the project charter, project scope, WBS, Gantt charts (baseline and actual), communication logs, list of prioritized risks, milestone reports, progress reports, lessons learned reports, final presentation, and client acceptance form; and product-related documentation (based on team's specific goals, this will differ from team to team) – includes surveys and results, summary of user inputs, website content, website design documents, test plans and reports, website or social media platform promotion information, website or social media platform roll-out information, and project benefits measurement information.

The final deliverable (deliverable 6) is a video presentation to the project sponsor. Each team is to create a twenty (20) to thirty (30) minute presentation to summarize the overview of the project and results.

4. QUESTIONS FOR DISCUSSION

1. Who were the stakeholders in the case?
2. What communication styles were employed in the case? Which ones were most successful? Which ones requirement adjustments and how?
3. To what extent was the students' WBS, schedule, budget appropriate in terms of scope, time and cost?
4. In what way did the website affect the enrollment chances for the project management course?
5. In what way did the social media platform affect the enrollment chances for the project management course?
6. How would you translate the skill set utilized in this case to future projects?

5. REFERENCES

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Appendices and Annexures

Appendix A: Deliverables Breakdown

Deliverable 1 Charter, Scope and Communications

Submit your Project Charter, Project Scope and Communications [3 documents in a word file]. Samples are available under Content for assistance. Sample Charter and Scope are available under the Project Folder in Content.

Project Scope will include:
- Problem/Opportunity Statement
- Project Objectives
- Project Description
- Business Benefits
- Project Deliverables
- Estimated Duration

Communication documentation to include:
- List of Meeting Ground Rules
- Create a Communication Management Plan (document that guides communication through the life of the project - should be a table with columns identifying stakeholders, type of information to provide to stakeholders, communication frequency, and communication media.
- Project Template for Design Request Change
- Walk Through Review Form
- Walk Through Action List

Deliverable 2 - Schedule

Include your WBS or a Gantt chart. Information that should be available are your activities, tasks, estimated duration, and assignee. You may also include sprint information.

Deliverable 3 - Budget

- Prepare a cost model for this project using project management software. How is the project doing? Is it ahead of schedule or behind schedule? Is it under budget or over budget?

Deliverable 4 – Risk Plan

Develop a Risk Management Plan (a plan used to outline risks and how to manage them). The possible outputs in a risk management plan are listed below. Use as many or as little stated in the PMI list below. BUT, your report should contain the following: (1) The identified risks, (2) The project areas or objectives the risk may affect, (3) The roles and responsibilities of any risk owners, (4) A description of the risk response strategies, including escalation, avoidance/exploitation, transference/sharing, mitigation/enhancement, and acceptance that will be used to address the identified risks, (5) An acknowledgement of any residual risks projected to remain after any risk response strategies have been applied and (6) A list of actions to be used to implement the risk response strategies.

Note: Your Risk Management Plan should address the whole project life cycle - thus, you may have already had areas where risk has presented itself and needed a plan.

Additional Helpful Information
Plan Risk Management—Outputs
The Project Management Institute (PMI) lists the following potential components of a risk management plan:
- Risk Strategy
- Methodology
- Roles and responsibilities

- Funding
- Timing
- Risk categories
- Stakeholder risk appetite
- Definitions of risk probability and impacts
- Probability and impact matrix
- Reporting formats
- Tracking

Deliverable 5 & 6 – Final Presentation/Project

Final Project Report

I. Project Objectives
II. Summary of Project Results
III. Original and Actual Start and End Dates
IV. Original and Actual Budget
V. Project Assessment (Why did you do this project? What did you produce? Was the project a success? What went right and wrong on the project?)
VI. Transition Plan
VII. Annual Project Benefits Measurement Approach
VIII. Attachments
    A. A Project Management Documentation
        a. Project Charter
        b. Project Scope
        c. WBS and WBS dictionary
        d. Baseline and actual Gantt Chart
        e. List of prioritized risks
        f. Milestone reports
        g. Progress reports
        h. Lessons-learned reports
        i. Final Presentation
        j. Client Acceptance Form
    B. Product-Related Documentation

    Based on your specific goal, this will differ… but here are a few examples:

        - Survey and results
        - Summary of user inputs
        - Website content
        - Website design documents
        - Test plans and reports
        - Website promotion information
        - Website roll-out information
        - Project benefits measurement information

Final Project Presentation

A 20 – 30 minute video presentation of project development and deployment, including results.