

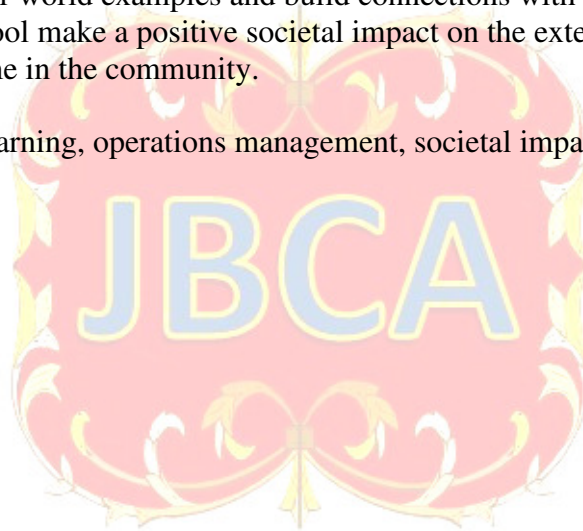
Learning from real-world examples: a project for an operations management course

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ABSTRACT

Many business educators are trying to embed real-world learning into courses and programs so that students can have practical knowledge and skills for their careers after graduation. This article introduces a semester-long project that can help students get exposure to real-world problems and have an opportunity to connect with the local community. This project is designed for an undergraduate-level operations management course, but it can be used for a graduate-level course as well with changes in preparations and instructions. The project allows students to learn from real-world examples and build connections with professionals. In addition, this project helps the school make a positive societal impact on the external stakeholders and promote the school's name in the community.

Keywords: Real-world learning, operations management, societal impact, experiential learning, local community



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INTRODUCTION

The American Association of Collegiate Schools of Business (AACSB), one of the major accreditations for business schools, recently made changes to its standards, and one of the new standards is about making a positive societal impact. It encourages business schools to engage with non-academic external stakeholders to support external communities, strengthen the practice of business, and discuss real-world problems (Gupta & Cooper, 2021). Accordingly, business schools are trying to design a curriculum that can create a positive societal impact and provide meaningful experiences to students simultaneously (Novellis, 2021).

One of the major responsibilities of a business school is to prepare students for their professional careers after graduation. But there is a growing concern among many scholars that the traditional business education in classrooms is not sufficient for students to be competent and skilled enough for real-world industries (Berman & Ritchie, 2006; Chavan & Carter, 2018). This is further supported by the report titled “How College Contributes to Workforce Success” by Finley (2021), which states that although many employers recognize the value of a college degree, they do not believe that most graduates have the desired level of preparedness needed for workforce success.

This article introduces a semester-long project that can help students get exposure to real-world problems and have an opportunity to connect with the local community. This project is designed for an undergraduate operations management (OM) course at a small liberal-arts college in Texas, United States. The project's objective is to provide students with an opportunity to learn in a practical hands-on environment and strengthen the relationship between the school and the external stakeholders.

LITERATURE REVIEW

Several studies reported experiential learning tools and techniques for an OM course in the literature. For example, Ammar and Wright (1999) introduced eight in-class activities that help students learn different topics of OM, such as linear programming, line balancing, or just-in-time production. Similarly, other OM scholars/instructors developed in-class experiential learning activities using simulation games, group discussions, and case studies (Laforge & Busing, 1998; Medini, 2018; Peiro-Signes et al., 2017). These studies claim that experiential learning activities complement the traditional setting of OM education and help students grasp key OM concepts.

Meanwhile, several other studies have documented the integration of internships into business education. Jamil et al. (2013) evaluated internship programs for business management students using reports from various industries. They found that the students who participated in the internship programs received positive feedback from employers. Cadambi (2016) reviewed internship programs in a few reputed management institutions and summarized the benefits for students, faculty, and participating organizations. Finally, Ngui et al. (2017) describe the development of an academic service-learning course that provides experiential learning on social enterprise and community service. This project is similar to the one introduced in this paper involving external stakeholders.

To summarize, the literature shows that there have been various attempts to embed experiential learning into the course or curriculum. They all establish that students benefit from

experiential learning, and it is a necessary method to bring valuable experiences to students, which a traditional knowledge-oriented education setting fails to provide.

LEARNING OBJECTIVES

After completing this project, students will be able to:

- Understand how practices of modern OM are being used in both manufacturing as well as service industries
- Understand the various OM decisions and their impacts on the organizations
- Learn how to effectively communicate with professionals

PROJECT DESCRIPTION

This project is for an introductory OM course at the undergraduate level. Students, as a group, need to identify an operation that they would like present to the class. The company needs to be based in the Dallas-Fort Worth area. Each group must show examples of at least three topics from the textbook as they appear in the context of their chosen operation. The group presentation will take place at the end of the semester, and each presentation needs to be 15-20 minutes long.

Phase 1: Project Introduction and Group Formation

First, the instructor briefly explains the project in the first class of the semester. Then the instructor forms groups and assigns each student to a group. The ideal number of students in a group is three to four. The group assignment is announced in class and posted on the learning management system (e.g., Blackboard, Canvas).

Phase 2: Company Selection

Once the group formation is completed, the instructor asks the groups to find a company to research. The company of choice can be one a student has worked for before or simply one with the group's interest. The more information is available about the company, the easier it is to conduct research on it. Once all the groups submit their choices, the instructor reviews the selections and approves them if there is no significant issue. If a group chooses a company that will be discussed frequently in class, such as Walmart or Amazon, they are encouraged to choose another company. An organization that requires heavy security (e.g., the defense industry) is also not recommended. This process needs to be completed by the end of the third week.

Phase 3: Company Visit and Interview

Each group begins to contact their chosen company. Students are encouraged to schedule a site visit to see the operations in person. If this is not feasible, students can choose to interview someone in charge of the organization's operations. Ideally, the operations manager is the best person to interview. During the site visit or interview, students need to find out what OM strategies/practices have been implemented and the impact of these practices on the company.

The following are some example questions:

- What particular OM strategies have you implemented?
- Why did you choose to implement them?
- If any, what other alternatives have you considered?
- How can you describe the impact of OM practices on the company?
- What other OM strategies have you in mind for the future?

During a site visit, the students tour the facilities and observe company's actual operations. If permitted, students may take photos of key operations for the presentation.

Phase 4: Presentation

Based on the site visit and the interview, students prepare the presentation. Each presentation is 15 to 20 minutes long, and every student in a group must participate in the presentation. The presentations take place before the final exams and usually take two to three classes depending on the class size. The following are the grading items from the rubric:

- Content – Did the presentation cover relevant topics of OM?
- Visual – Were the slides designed and organized correctly for an effective presentation?
- Delivery – Did presenters present clearly in a professional manner?
- Peer Evaluation – Did everyone in the group contribute to the project equally?

The peer evaluation is collected once the presentation is completed. Table 1 shows example projects from the last eight semesters.

A Variation for a Graduate-Level Course.

Pre-course Setup

The instructor needs to find a company that is willing to participate in this project. A local company within driving distance is considered for the project. This project is about "problem-solving" for the participating company. The instructor and the OM manager of the company identify the current OM issues within the company and choose one of the problems that students can take on. It must be related to one of the topics that are being covered thoroughly in class.

Phase 1: Project Introduction and Group Formation

First, the instructor briefly explains the project in the first class of the semester. Then the instructor forms groups and assigns each student to a group. When forming these groups, the instructor needs to aim for a proper mix of major/concentration so that the skills or expertise of students can be equally distributed. The ideal number of students in a group is three to four. The group assignment is announced in class and posted on the learning management system (e.g., Blackboard, Canvas).

Phase 2: Problem Identification

Once the group formation is completed, the instructor prepares an information session with the OM manager or some other representative from the project company. This session can take place in the classroom or at the project company if necessary. The representative from the company explains the problem in detail and describes the desired level of outcome. A short question and answer time is allowed for students at the end of the session. The instructor provides an information sheet with the problem description and clarifies the expectations on the final deliverable from each group.

Phase 3: Research and Analysis

Each group begins to work on their solutions and presentations. Students are given basic information about the problem. In addition, the instructor shows students how to find information from external sources such as research articles or a database. If students have more questions to ask the company, the instructor collects the questions and asks the company altogether. The answers are shared with students in class. The following questions need to be answered in their presentation.

- What is the problem?
- Why is this problem important to the company?
- What is your solution to the problem?
- How did you come up with the solution?
- What is the expected outcome when your solution is implemented?
- Do you have any other suggestions?

Phase 4: Presentation

Students present their solutions to the company at the end of the semester. Each presentation is 15 to 20 minutes long, and every student in a group must participate in the presentation. The company representative provides feedback to each student. The instructor's feedback is given to each group during the debriefing session. The following are the grading items from the rubric.

- Content – Did the presentation cover relevant topics of OM?
 - Visual – Were the slides designed and organized correctly for an effective presentation?
 - Delivery – Did the presenters present clearly in a professional manner?
- Peer Evaluation – Did everyone in the group contribute to the project equally?

DEBRIEFING AND FEEDBACK

Following each presentation, the instructor gives overall feedback based on the contents covered, the design of the presentation slides, and the delivery of each presenter. Detailed feedback for each group and presenter is provided through emails after class. In the remaining time, the instructor proceeds to have a reflection session with the presenting groups. In this session, the presenting teams share their thoughts on the semester-long project and the whole experience.

The instructor prepares questions in three categories: 1) project execution, 2) group work, and 3) overall review. The following are some of the example questions in each category:

- Project execution
 - What was the most difficult task in completing this project?
 - Which task of this project took you the most time?
 - What was the most unexpected event that occurred while doing this project?
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- Group work
 - How did you delegate the tasks?
 - Did you have any conflicts in the team? How did you handle it?

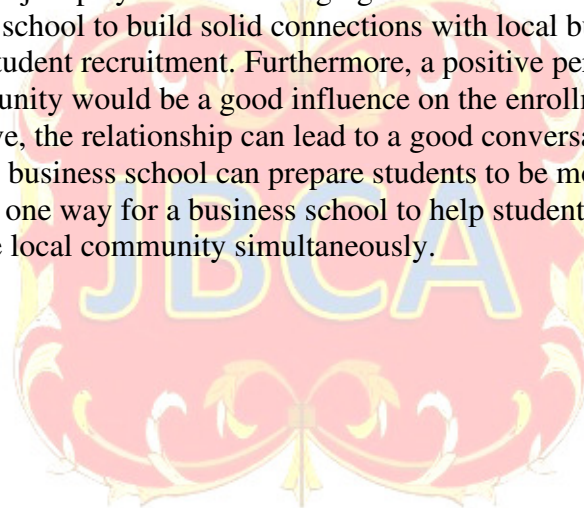
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- Overall review
 - What was your favorite part of the project?
 - If you were to do this project again, how would you do it differently?

After the class, each student from the groups that completed presentations fills out the peer evaluation form and submits it to the instructor. The instructor then scores the project for each student based on the grading rubric.

CONCLUSION

This project is designed to allow students to witness the real-world OM practices which they learn in the classroom. Students observe how OM professionals manage day-to-day operations to achieve the goals of a company or organization and understand how the concepts of OM are applied in real-world businesses. This process helps students to receive practical learning experiences and gain interest in the subject.

In addition, this project plays a role in bridging the business school and the local community. It allows the school to build solid connections with local businesses, and it can create opportunities for student recruitment. Furthermore, a positive perception of the school and the program in the community would be a good influence on the enrollment for the school. From the employer's perspective, the relationship can lead to a good conversation about their needs in the workforce, so that the business school can prepare students to be more competent for industries. This would be one way for a business school to help students to be successful in their careers and to support the local community simultaneously.



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APPENDIX

Table 1. Example Projects

| Semester | Industry | Topics Covered |
|-------------|------------------------------|---|
| Fall 2018 | Beverage | Supplier selection and ethical sourcing Inventory management Product design |
| Spring 2019 | Restaurant | Location decision Facility layout design Supply chain management |
| Fall 2019 | General merchandise retailer | Inventory management Facility layout design Environmentally friendly purchasing |
| Spring 2020 | Commercial refrigeration | Process selection and design Value chain analysis Supply chain management |
| Fall 2020 | Automotive manufacturing | Product design Capacity management Quality management |
| Spring 2021 | Pet supply | Product quality management Facility layout design |
| Fall 2021 | Hotel | Goods and service design Servicescape Service recovery and guarantee |
| Spring 2022 | Whiskey | Sustainability Quality management Inventory management |