

## **Activity/Exercise**

### **Title, Abstract & Keywords**

Title: Bringing Relevant Projects to Management Information Systems - Student Learning Exercises.

#### **Abstract:**

A challenge in a Management Information Systems (MIS) course is to integrate today's ever changing technology landscape to the course. This session outlines two student projects (Information Dashboards and Emerging Technology Analysis) with two different approaches for each project that blend changes in information technology with practical skill development while assessing student learning on MIS topics. Session participants will gain the technical information and confidence to develop their own variations of the projects.

Keywords: Active learning, information systems, information and communication technologies, IS curriculum,

#### **Introduction**

A challenge in a Management Information Systems (MIS) course is to integrate today's ever changing technology landscape to the course. Our effectiveness of instructors depends on the ability of students to transfer classroom knowledge into applied concepts in industry (Lewis, Fretwell, Ryan, & Parham, 2013). In tandem with traditional lectures, active learning in Information Systems courses contributes to transfer of classroom learning to industry application (Gudigantala, 2013). Attention to learning outcomes in active learning experiences is vital to ensure student learning is meaningful and applicable (Drake, 2012). Information Dashboards and Emerging Technology Analysis projects are two student projects that integrate a practitioner's approach within MIS. The projects provide value added component to a course, however utilizing these projects are not without their challenges.

In this workshop, the use of these student projects by two practitioners will demonstrate two varying approaches to each project to reach similar learning outcomes. (See Figure #1)

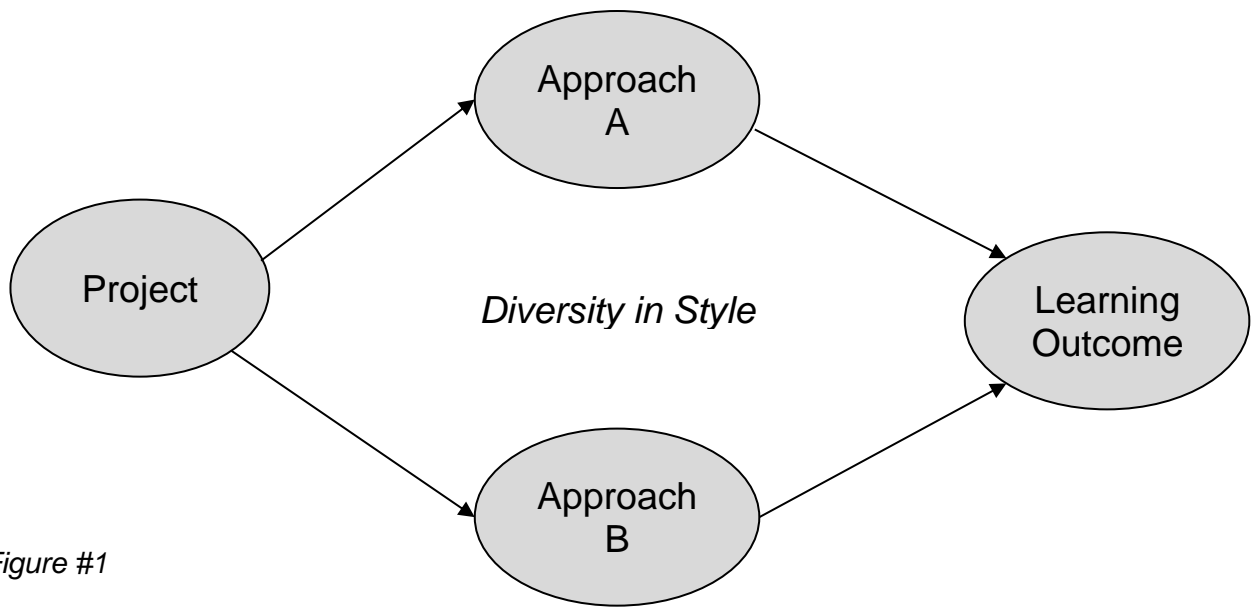


Figure #1

The projects are designed for Jr./Sr. undergraduate and graduate students.

### **Theoretical Foundation/Teaching Implications.**

The two student projects that blend changes in information technology with practical skill development while assessing student learning on MIS topics.

Information Dashboards help people and organization monitor performance. Today, many organizations use Information Dashboards as a method to graphically communicate data (Few, 2013). Kaplan and Norton's Balanced Scorecards (BSC) are an example of an information dashboard based on Key Performance Indicators (KPI) which are measures in an organizations from four perspectives (Kaplan, 1996). In an article in the Accounting Educators' Journal, Devine and O'Clock discuss using BSC as a classroom project "to enhance student understanding of the development and validation of a BSC. The project requires students to develop a BSC to be utilized in monitoring academic success in a cost accounting class" (Devine & O'Clock, 2015). Instead of focusing on the class performance, the approach taken with this dashboard project is focused students on developing and updating information dashboards for real organization through the semester.

Emerging Technology Analysis is an active learning activity that helps students transfer knowledge from classroom learning to applied issues in real time industry (Mitchell, Petter, & Harris, 2017). This project requires students to identify newspaper articles, work experiences, videos, photos, or any other relevant sources to relate course topics to the real world (Gudigantala, 2013). The benefit of student presentations connecting issues and advances in technology in real world scenarios includes student's ability to relate information in concise and condenses time, presenting alternative viewpoints as well as examples of course topics (Mitchell, Petter, & Harris, 2017).

## **Learning Objectives.**

The students will develop their skills and gain knowledge of information dashboards and emerging technology.

### Information Dashboards -

- Demonstrate methods employed to identify organizational needs and evaluate alternatives to select an optimal technology solution in a variety of given situations.
- Assess and apply IS to solve common business problems.
- Communicate in a variety of informal and formal methods in a client setting in a variety of industries.

### Emerging Technology Analysis -

- Understand and articulate fundamental concepts of information technology management in real world applications.
- Demonstrate significant understanding of the methods used to design effective MIS systems in a variety of settings.
- Understand information technology is always changing and the importance of always surveying the changing landscape.
- Concisely communicate the impact of course content in a global society.

## **Exercise Overview.**

### Information Dashboards –

Approach A: At the time of this project, the on-campus coffee shop/deli was being converted from a Food Service service to a student-run business. Students were asked to work with the site supervisor and student project lead of the new business as if the students were consultants working with a client who had no technology, providing a proposal of new technology for point of sale, customer retention management, inventory tracking, and integration to accounting system. There were eight student in the class and in pairs, students researched multiple options, proposing a technology solution with pros and cons. The students themselves evaluated each others' proposals, identifying one final solution. At this point the eight students organized themselves as one team, dividing objectives and activities, pulling together a final, 45 minute presentation to the 'client', with solution, reasoning, demos, and costs. A formal proposal was also provided. (This project is done in a 3-credit class with 8 students.)

Approach B: The information dashboard project is a semester long project with multiple components the students deliver through the semester to independently grow their skills in data analysis and visualization using information systems tools. The project sequence is: an introduction to information dashboards; students developing their dashboard plan for a business/organization that they have identified with at least 8 key productive indexes (KPIs) and their data sources; submit their first dashboard visually displaying KPIs with a brief analysis; expand their knowledge on KPIs and spreadsheet visualization techniques; submit their second dashboard and analysis with new data set; continue to expand their knowledge; submit their third dashboard and analysis with a third new data set. At the end-of-the-semester, the students

participate in a poster session which is open to the college and community including industry partners. (This project is done in a 4-credit class with up to 32 students.)

#### Emerging Technology Analysis -

Approach A: Two methods are used in a traditional 16-week course of small student size (5-10 students). This concept is based on Gudigantala's (2013) activity described as *IT in the News*. Each week, students have an assignment to identify newspaper articles, videos, photos, or any other relevant sources to relate course topics to the real world. Their weekly assignment is to provide a one page overview of the article and to conduct a three minute presentation of the technology and impact. The purpose of the three-minute presentation is to provide communication practice in sharing knowledge in a concise and condensed manner, more appropriate in business settings than traditional academic research presentations may demonstrate. Second, choosing a topic of IS used in an industry of student's career interest for a final presentation. This presentation is also focused on emerging technology and impact on an industry. Their research includes past, current, and emerging use of technology, as well as potential ethical, legal, and social impacts as they relate to the specific case. This 15-20 minute presentation includes video, photos, and real cases in an in-depth look at the pros and cons of technology in a specific industry. (This project is done in a 3-credit class with up to 12 students.)

Approach B: The students select one of over 30 emerging information technology related topics which is likely to have an impact on society. Each student explores a unique topic to evaluate and present. The evaluation includes an explanation of the topic, the benefits, opportunities and threats. They are expected to assess based on techniques that they have learned within previous management classes. The evaluation also needs includes consideration the impact on society (ethics, labor, economy, etc.) The evaluation is presented to the class within the following guidelines: - 7 to 9 minutes with 5 minutes for questions; no more than 9 slides; use visuals; minimize text. Information from the presentations is also integrated into the course exams. (This project is done in a 4-credit class with up to 32 students.)

#### **Session Description.**

The session will walk-through the preparation and execution of two approaches to Information Dashboards and Emerging Technology Analysis projects within a MIS course to equip the participants with options and information to use the projects within the classroom.

A proposed timeline for the session is as follows:

- Introduction and overview 5 minutes
- Detailed description of the projects 25 minutes
  - Information Dashboards
    - What they are
    - Project Outcomes
    - Different approaches to structuring the project
    - Sample projects and outcomes
  - Emerging Technology Analysis
    - What they are

- Project Outcomes
  - Different approaches to structuring the project
  - Sample projects and outcomes
- Student Experience in Emerging Technology Analysis 15 minutes
  - Workshop participants will briefly explore an emerging technology and create a two to three minute oral presentation of the technology and impact
- Collaborative Dialogue 15 minutes
  - Q & A , plus suggestions for improvement
  - Participant reflections & feedback of MIS course projects
  - Participants other experiences and lessons learned

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