

Globalization of the Workforce: Virtual Teams a Must

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Abstract

Purdue University, Computer and Information Technology (CIT) and Organizational Leadership and Supervision (OLS) are proposing to add more innovation into the senior level, capstone Project Management course by adding a virtual component. Currently, this course is team taught with professors from CIT and OLS, and includes students from CIT, OLS, and Indiana University Business students. The students get “real world” experience by working in diverse teams while applying the project management body of knowledge on a project. Working in teams requires the members to meet regularly in order to share information and complete all the components of a project. In the “real world” this face to face meeting is not always feasible, due to the globalization of the workforce. Because of this, we are proposing to add a virtual component to the course. This paper will provide an overview of how we utilized virtual teams in this course.

INTRODUCTION

With the globalization of the economy, employees find that they may be working with team members half way around the world. This presents unique opportunities and challenges for the project team. In this paper we will discuss virtual teams and how we incorporated assignments into our class to simulate virtual teams. We will evaluate the effectiveness of our efforts and what we will do in the future to improve the utilization of virtual teams in our course.

At the Columbus campus of Purdue University, we offer Computer and Information Technology (CIT) and Organizational Leadership and Supervision (OLS) degrees. Both programs offer a Project Management class in their curriculum. Several years ago faculty from CIT and OLS decided to collaborate and team teach a class that is co-listed as OLS 450 and CIT 480. The Business Department from our partner university, Indiana University Purdue University Columbus (IUPUC) was also interested in having their students take the class as part of their curriculum requirements. The class is a senior level class that typically draws a wide variety of students. One of the goals we have for this class is to provide a “real world” experience. With a makeup

of students coming from CIT, OLS and Business we are able to get a diverse background that simulates what students will find in industry, working on teams with a variety of skills. Students are assigned to teams at the beginning of the semester, pick their projects at the beginning of each semester, decide who will be the project manager for the project, and apply project management tools and techniques to complete their project. In order to complete all of the phases of their project students have to meet on a regular basis. They typically need to meet during allotted class time and outside of class time to meet the requirements for each phase of their project. These meetings in the past have typically been face to face.

Virtual Teams

Globalization of the workforce is a reality in the 21st century. Companies enjoy the availability of a worldwide market but also face tough competition from competitors spanning the world. Companies face economic pressure to use low cost labor. To stay competitive companies need to use the best resources available wherever they may be located. One of the strategies incorporated is the use of virtual teams.

According to Merriam Webster dictionary a team is defined as: “a number of persons associated together in work or activity”. A variation of team is virtual team. The term virtual team has come in vogue recently with increasing globalization of the economy and outsourcing. According to Information Technology Project Management 6e the term virtual team is defined as “a group of individuals who work across time and space using communication technologies. Team members might all work for the same company in the same country or they might include employees as well as independent consultants, suppliers or even volunteers providing their expertise from around the globe.” According to Ross Phillips, Assistant Chief Engineer, Cummins, Inc., “it is a must in today’s global environment to utilize technology in order to conduct business globally. I have a standing weekly meeting, virtually, with Cummins, Inc. India besides occasional meetings with suppliers in Germany. The system that we use is Cisco WEBEX.”

The advantages of using virtual teams include:

- Expenses can be reduced because of less travel and possibly less office space required
- Teams can recruit members based upon competency instead of location
- Team availability can be increased
- Employees have more flexibility in their schedule

The challenges associated with virtual teams include:

- Increasing dependency upon technology, meaning if the technology fails the team is adversely affected
- Isolation of team members
- More difficult to use typical communication skills that occur in face to face meetings

VIRTUAL TEAMS IN THE CLASSROOM

Why we chose OLS 450/CIT 480

With the globalization of the workforce, it is imperative that universities add to their curricula a virtual component (typically called distance education in the world of academics) in order to

prepare the employees of the future as well as stay competitive. So faced with this challenge, it was determined to add the virtual component to a class that was built around a team project that spanned the entire semester; is cross-disciplined (OLS, CIT, Business); already incorporates technology (Blackboard and Microsoft Project); and has relatively mature students (senior-level class). Hence, OLS 450/CIT 480 Project Management was chosen.

Virtual team class activities

The goal for this class was to simulate a global environment, warranting virtual meetings. We required that each project team (five teams total) have one team meeting that was virtual. In addition, each project team's project manager had to meet virtually with the project sponsor (professors). In order to accomplish this goal the students needed to be trained in Adobe Connect (the meeting format that was chosen for this class). During a class session, the local distance education support person trained the class in Adobe Connect. After this, the project manager was responsible for coordinating, scheduling, and running the virtual meetings. We asked that the teams not be present in the same location (campus computer lab) to truly simulate the concept of distance. "To make believe", if you will, that team members are in another building, city, state, and or country. After the team meeting and project manager/sponsor meeting, each student was asked to fill out a survey (see attached appendix) detailing their experience.

Student survey results and comments

There are 23 students in class and 17 responded to the survey. This class is diverse. We have traditional students who are taking a full load of classes and non-traditional who are taking one or two classes in the evening. As mentioned previously in the paper we have students in Business, Organizational Leadership and Supervision, and Computer and Information Technology. Also, as the technical ability varies considerably among students and even among majors, this created some interesting results and comments from the survey.

The equipment used by the students for their meetings is displayed in **Table 1**:

Equipment	Percent Used
High speed internet	82%
Webcam	41%
Microphone	41%
Headphones/speakers	47%

Table 1

From Question 1 we found over 40% of students had experience with virtual teams and all but one respondent said that that occurred at the workplace. Questions 9 and 10 dealt with problems incurred. Almost a quarter of the students had problems connecting to the software and over 40% had issues during the meeting. Most of the problems listed had to deal with sound problems mainly echoing, which the instructors have experienced as well in their use of the software. Other issues mentioned were problems with their microphones, staying connected to the meeting room, webcam problems, inadequate equipment (students had to provide their own equipment), unable to log into the meeting room and slowness of the software. For most of the students this was their first time using the meeting software Adobe Connect. As mentioned students were giv-

en a training session on the software, however the students didn't bring webcams, headphones, microphones to that session and that appeared to be the area where students struggled. Question 12 concerned whether students had a fallback plan in the case they had problems. We found 35% of students had no contingency plan in place in case something went wrong before or during the meeting. They were reminded in class a number of times to prepare for technical issues. Questions 14 and 18 dealt with the effectiveness of a virtual team meeting. The teams overwhelmingly agreed that they could effectively interact in a virtual team and over 70% believed they could accomplish as much using a virtual meeting as in person. In this area some interesting comments included:

- (We) talked one at a time
- It was chaos having 5 people meeting via text
- It (the meeting) took longer than a traditional meeting

Some students felt they couldn't accomplish as much because:

- Too many complications
- Meeting was disorganized
- Meeting took longer
- Students got annoyed with the environment (software/hardware)

Ninety-four percent of the students responding to Question 15 believed there were special challenges in conducting a virtual team meeting. The top challenge listed was equipment issues followed by team availability. **Table 2** lists the details for this section of the survey.

Number	Question	Yes	No
1	Have you participated in virtual teams in the past in another setting (work and/or another class)?	41%	59%
4	Were you able to attend?	88%	12%
6	Did you have someone lead the meeting?	65%	35%
9	Did you have any problems connecting to the meeting?	24%	76%
10	Did you have any technical issues during the meeting?	41%	59%
11	Did you know who to contact if/when you had technical issues?	65%	35%

12	Did you have a contingency plan, if all members were not able to attend the virtual meeting?	65%	35%
14	Was your team able to interact effectively in the virtual meeting?	93%	7%
15	Are there any special challenges in having a virtual meeting?	94%	6%
18	Were you able to accomplish as much using a virtual meeting as in person?	73%	27%

Table 2

Looking at the results from additional questions we found that only 38% of the students found it easier to schedule a virtual team meeting and 31% found it about the same and surprisingly 31% found it harder. This may have been from the fact students generally had normal team meetings either before or after class and we required them to set up something outside the classroom using additional hardware (webcams, microphones, speakers) which may have caused some of the difficulty in scheduling. Most team members met for 30 minutes or longer in their meeting. Students were ask to list the advantages and disadvantages in Questions 16 and 17.

The advantages the students listed were:

- Able to get all at meetings from different locations
- Able to save travel
- Ability to meet from home
- Flexibility

The disadvantages listed were:

- Loss of personal interaction
- If technology fails, meeting fails

Finally, we ask students for their suggestions for using virtual meetings in the class and we received the following comments:

- Use different software such as Skype
- Offer as extra credit
- Meeting is not necessary in this class
- Have additional training
- Have access to microphones and webcams

CONCLUSIONS

What we learned as faculty is that we are proposing to require that all students have headsets/microphones. We feel that more in depth training would be beneficial. The survey emphasized that the process would run more smoothly if students were assigned labs to learn the various features of Adobe Connect. Once the students do the Adobe Connect lab they would be expected to host sponsor and team meetings. The students will participate in a survey to ensure that the class evolves to provide students with the best possible experience.

REFERENCES

Schwalbe, K. (2010). Information Technology Project Management 6e (pp.67-68). Boston MA. Course Technology.

Team. (2010) merriam-webster.com. Merriam-Webster, Incorporated. Retrieved April 14, 2010 from <http://www.merriam-webster.com/dictionary/team>.

APPENDIX

Survey on Virtual Team Meeting

Name _____

Team Name _____

Points:

20 points total for participating in virtual meeting and filling out this survey

Directions:

- Please fill this out electronically and email via Blackboard to Dewey Swanson by Friday April 8th at 9:00am to receive credit.
- If you are the Project manager and participated in the team meeting and meeting with your sponsors (Julie and Dewey) please answer for both meetings where appropriate.

General Information

1. Have you participated in virtual teams in the past in another setting (work and/or another class)?

If so please explain (when, where, how often):

Specific questions for YOUR Team Meeting

2. Who setup the virtual team meeting?
3. What was the day and time of the meeting?
4. Were you able to attend (if not, why)?
5. What location did you attend the meeting from?
6. Did you have someone lead the meeting? Who was it?
7. What was the length of the meeting?
8. Check the equipment you had available for the virtual meeting:
 - High speed internet connection
 - Webcam
 - Microphone
 - Headphones/speaker

9. Did you have any problems connecting to the meeting? Explain
10. Did you have any technical issues during the meeting? Explain
11. Did you know who to contact if/when you had technical issues?
12. Did you have a contingency plan, if all members were not able to attend the virtual meeting? Explain

Reflective questions from your virtual team meeting and your thoughts and feelings

13. Are there any additional skills necessary to facilitate a virtual meeting versus a traditional team meeting? Explain
14. Was your team able to interact effectively in the virtual meeting? Explain
15. Are there any special challenges in having a virtual meeting? Explain
16. What are the disadvantages using a virtual meeting? Explain

17. What are the advantages using a virtual meeting? Explain
18. Were you able to accomplish as much using a virtual meeting as in person? Explain
19. Was it easier, harder or about the same to find a time that all team members could participate in a virtual meeting as opposed to a typical face-to-face meeting? Explain
20. What suggestions would you have for using virtual meetings in the future in this class?

Thank you for answering the questions on this survey!