

## **UiA/UNO Graduate Seminar on Working in Virtual Environments IS-418/ ISQA 8080-004 – Fall 2009**

### **LOGISTICS**

**Time:** The course will be conducted entirely virtually but 75 minutes on Monday of each week will be reserved for a synchronous meeting: 9:00 a.m. to 10:15 a.m. Central Time/ 1600 to 1715 Central European Time/ 1400 to 1515 UTC/GMT

(NOTE: Session 3 will be held on a Tuesday instead of Monday due to USA Labor Day holiday; see detailed schedule.)

**Dates:** Course meetings run from August 24 through November 30, except October 19 and November 23 (see detailed schedule).

**Instructors:** Professor Bjørn Erik Munkvold, University of Agder (UiA), Kristiansand, Norway; and Professors Deepak Khazanchi and Ilze Zigurs, University of Nebraska at Omaha (UNO), Omaha, Nebraska, USA.

**Course assistant:** Ms. Xiaodan Yu (UNO). The course assistant will help with technology and tool use. She can be contacted through email: [yxd.xiaodanyu@gmail.com](mailto:yxd.xiaodanyu@gmail.com), Skype (user name: xiaodanyu11) or cell phone +1-402-517-1171

**Required text and readings:** Required readings are noted in detailed course schedule.

**Prerequisite:** Master's student standing in either UiA or UNO, or instructor permission.

**Class Size:** Course size is limited to 25 students total across participating universities.

**Office Hours:** The instructors can be contacted through Skype chat during the following office hours in the period from August 25 to December 3:

Deepak or Ilze – Tuesdays, 16-17 Central European Time (14-15 UTC/GMT)

Skype user name Deepak: dkhaz2009

Skype user name Ilze: ilze.zigurs

Bjørn Erik – Thursdays, 14-15 Central European Time (1200-1300 UTC/GMT)

Skype user name Bjørn Erik: bjorn.e.munkvold

The instructors can also be contacted anytime through email at the following addresses: [bjorn.e.munkvold@uia.no](mailto:bjorn.e.munkvold@uia.no), [khazanchi@mail.unomaha.edu](mailto:khazanchi@mail.unomaha.edu), [izigurs@mail.unomaha.edu](mailto:izigurs@mail.unomaha.edu)

### **COURSE OVERVIEW**

Virtual work is becoming a fundamental part of the day-to-day activities of the workforce of the future. The goal of this course is to enhance students' understanding of the theories, research results, challenges, and best practices in this area, particularly on the implications of cross-cultural collaboration between geographically dispersed teams. The course includes three components: 1) reading and applying relevant literature that focuses on theories, findings, and best practices of working in virtual environments; 2) teams of students from the participating institutions conducting a multi-week virtual project and developing a project report and presentation; 3) student reflection on the learning and experiences. The course involves extensive virtual interaction among students and professors from the partner institutions, using a variety of leading-edge information and communication technologies.

## LEARNING OBJECTIVES

Upon completion of the course, students should be able to:

- Understand existing research on virtual work, virtual teams, and virtual project management
- Understand appropriate methods for conducting research on virtual teams
- Be able to apply the research to specific situations in order to improve your own performance in virtual work, virtual teams, and virtual projects
- Collaborate effectively in a virtual team on a virtual project
- Understand the characteristics of collaboration technologies and how different technologies are best used in different situations
- Be able to use collaboration technologies for a range of tasks in a virtual team

## READINGS

The course includes articles that you are assigned to read and prepare. The required readings for each session typically include one conceptual article and one applied article. The conceptual article gives you important background reading for the topic of that session. The applied article helps you see how those concepts are applied in practice. The required readings can either be accessed free of cost from the course workspace in Huddle (see *Collaboration Technologies for the course* below), or from the Internet. Overall, the readings give you the raw material to help you do the case analysis. Your preparation of the readings is not graded directly, but the better you understand these articles, the better job you can do of the case analysis write-ups and case commentaries. A template for preparing the readings is provided separately. We recommend this template, or your own customized variation on it, for your use in preparing your notes on the readings.

In addition to the required readings, there are five case studies which will be subject for analysis and discussion. Each team will do one case analysis write up, and each individual student must post a comment in the course blog on all but his/her own team's case write-up (see guidelines in *Deliverables and Grading* below). The case studies are available for purchase from Wiley as a course packet with title "Seminar on Virtual Work - Case Study Packet" for the price of USD 29.7. To purchase and access your online CoursePack, you will need to do the following:

1. Go to: <http://www.xanedu.com/login.shtml?PackId=309184>
2. If you have previously registered for another CoursePack, log in. If not, click the "register" link underneath the "Students" heading. Complete the registration page, and click Continue.
3. Confirm your CoursePack selection, and click Continue.
4. Complete your billing information, confirm and click Continue.
5. After completing the purchase pages, you will be taken to your CoursePack.

In addition to the required readings and case studies, we have provided supplemental readings that allow more in-depth reading of the various topics based on your interests.

**NB! Please note that the material in Huddle may not be copied or distributed for use outside this class!**

## **DELIVERABLES AND GRADING**

Your final grade in the course will be based on the following components:

<b>Deliverable:</b>	<b>Percent of Grade</b>
Team Case Analysis Write-up	20%
Individual Case Commentaries	10%
Team Project	50%
Individual Reflections Journal	20%

The team assignments will be conducted in teams of four to five students that will work together throughout the semester. The students will be assigned to teams by the instructors.

### **Team Case Analysis Write-up and Individual Case Commentary**

Each team will be assigned to write one team case analysis write-up, to be posted in the course blog. Each individual student must post a comment in the course blog on all but your own team's case write-ups.

The first case analysis in Session 2 will be done and posted by the instructors, to give you an idea of our expectations.

Detailed requirements and grading guidelines for both the team case analysis write-up and the individual case commentary are provided separately.

### **Individual Reflections Journal**

Each student must keep a journal that records reflections on the course activities and readings. You are required to hand in your reflections three times during the semester. See the schedule for all due dates. Detailed requirements and grading guidelines for journal reflection are provided separately.

### **Team Project**

Teams of four to five students will work together to develop a virtual work trainee program for a global company. The trainee program should prepare new employees for how to work effectively as a member or leader of virtual team projects. The time frame of the trainee program should be 6 months, and may include a blend of synchronous (both co-located and virtual) and asynchronous training sessions and assignments that cover essential skills of working in virtual environments. The team may decide on the number of sessions and the interaction mode for these. The technological infrastructure of the program should support both instructor-led sessions, and collaboration and discussion among trainees through some form of social media.

The description of the trainee program developed by the student teams should present the contents of the different modules to be included in the program, the technological infrastructure supporting the program, and a plan for implementing the program. In addition, a complete prototype for one of the course modules should be developed, including instructions for trainees on how to complete the module, the related training material, and specification of the related technology support. The teams should define the context of the global company, in terms of industry/sector (e.g. software development, engineering, consulting, nonprofit organization), and may tailor the trainee program to any specific needs of this type of organization.

Detailed requirements for the deliverables from the team project are provided separately.

## **TEAM CONDUCT**

Each member is expected to contribute actively and constructively to their team. Part of the learning that occurs in this class is learning about teams and team processes, so be sure to take full advantage of the opportunity to develop your skills as an effective team participant. Over the course of the semester, each team member may be asked to assess the relative contribution and performance of other team members. In the case of unequal contributions, the instructor will determine an appropriate course of action (e.g., removal of team member(s), unequal allocation of project points, etc.). If you feel your team is not working effectively, it is far better to handle the problem as it arises rather than wait for an external assessment. Remember that problems typically do not go away by themselves.

## **COLLABORATION TECHNOLOGIES FOR THE COURSE**

Virtual teams rely on collaboration technologies to get their work done. One objective of the course is to give you hands-on exposure to a variety of collaboration technologies, so that you learn to make good choices about which types of technologies or tools are appropriate for different tasks and team situations.

The following technologies are used in the course:

1. Shared workspace, our “home base,” is Huddle, including a course workspace for everyone and separate workspaces for each team
2. Synchronous class sessions: Adobe Connect
3. Process tool for meetings: ThinkTank
4. Knowledge networking tool: blog, used for posting and commenting on case analyses
5. Virtual world meetings: Second Life
6. Office hour chat sessions: Skype

Our purpose is to expose you to a variety of tools and technologies, some of which you may find more satisfying than others. Any frustrations you encounter are good food for reflection, as are any successes or enjoyable experiences. Use your Reflections Journal to analyze what works and does not work for you, and why.

Guidelines on how to access and use the different course technologies will be provided in the course workspace in Huddle. For questions and assistance related to the different technologies, contact the course assistant, Ms. Xiaodan Yu (UNO).

A workspace will be created for each student team, which can be used for your project assignments. In addition, the teams are expected to use a web conferencing tool for synchronous meetings. This can be Skype or a similar tool. You and your team members may also have other technologies that you use regularly, and you are free to include those in your portfolio of communication tools, as the team sees fit. Examples include social networking tools like blogs, Facebook, and Twitter.

## COURSE TOPICS AND SCHEDULE (last updated November 16, 2009)

The course will be run as 13 sessions throughout the semester, each involving a synchronous meeting and individual and/or team deliverables that are due before each session. In the course workspace in Huddle there will be a folder for each session providing the detailed program for the synchronous meeting and other material related to the deliverables and exercises.

<b>SESSION 1, August 24, Course Introduction and Overview</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Dubé, L., &amp; Paré, G. (2004). The multi-faceted nature of virtual teams. In Pauleen, D.J. (ed). <i>Virtual Teams: Projects, Protocols, and Processes</i>, Idea Group Publishing, pp 1-39.</p> <p>Soule, A. (2009, June 1st). Virtual office trumps layoffs. <a href="http://westfaironline.com/component/zine/article/604-virtual-office-trumps-layoffs.html?q=virtual+office+trumps+layoffs">http://westfaironline.com/component/zine/article/604-virtual-office-trumps-layoffs.html?q=virtual+office+trumps+layoffs</a>.</p> <p>Conlin, M. (2009, July 16th). Is There a Virtual Worker Personality? <a href="http://www.businessweek.com/magazine/content/09_30/b4140065522085.htm">http://www.businessweek.com/magazine/content/09_30/b4140065522085.htm</a>.</p> <p>Williamson, B. (2009, July 16th). Managing Virtual Workers. <a href="http://www.businessweek.com/magazine/content/09_30/b4140064520044.htm">http://www.businessweek.com/magazine/content/09_30/b4140064520044.htm</a>.</p>	<ol style="list-style-type: none"> <li>1. Prepare readings.</li> <li>2. Post information about yourself in the class workspace for Huddle by going to the People tab and updating your profile. Include a picture of yourself and a brief bio.</li> </ol>
<b>SESSION 2, August 31, Virtuality Concept</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Chudoba, K.M., Wynn, E., Lu, M. &amp; Watson-Manheim, M.B. (2005). How virtual are we? Measuring virtuality and understanding its impact in a global organization. <i>Information Systems Journal</i>, 15, pp. 279-306.</p> <p>Turoff, M. (1997). Virtuality, <i>Communications of the ACM</i>, 40(9), pp. 38-43.</p> <p>Davis, A., Germonprez, M. Petter, S. Drum, D. and Kolstad, J. (2009). A Case Study of Offshore Development across IS Courses: Lessons Learned from a Global Student Project, <i>Communications of the Association for Information Systems</i>, 24(1), Article 21, pp. 351-372.</p> <p><b>NOTE:</b> Teams will be assigned by the instructors between Sessions 1 and 2, and you will be notified who your team members are.</p>	<ol style="list-style-type: none"> <li>1. Prepare readings.</li> <li>2. Read through the instructors' examples of case analysis and individual case commentaries, to be posted by 2100 UTC* on August 26. Prepare to discuss the Davis et al. case study in class.</li> <li>3. Calculate your personal score on the Global Readiness Index (see detailed program for Session 2 in Huddle). Print out the score for later discussion with your team (see Session 3)</li> </ol> <p>* UTC is the same as GMT. Kristiansand is +0200 UTC and Omaha is -0500 UTC.</p>

**SESSION 3, September 8 (Tuesday), Virtual Team Theories and Fundamentals /**

**Introduction to team project**

NOTE: This week's synchronous meeting is on Tuesday rather than Monday because of the Labor Day Holiday in the USA

<b>Read and prepare</b>	<b>Deliverables</b>
<p>Pinsonneault, A., and Caya, O. (2005). Virtual teams: What we know, what we don't know, <i>International Journal of e-Collaboration</i>, 1(3), July-Sept., pp. 1-16.</p> <p>Siebdrat, F., Hoegl, M., &amp; Ernst, H. (2009). How to manage virtual teams, <i>MIT Sloan Management Review</i>, 50(4), 63-68.</p>	<ol style="list-style-type: none"><li>1. Prepare readings.</li><li>2. Do team building exercise:<ul style="list-style-type: none"><li>- Calculate your personal Virtuality Index</li><li>- Calculate your personal Time Orientation Index</li><li>- Compare and discuss these indexes and the Global Readiness Index from session 2 within your team, through Skype or another synchronous conferencing tool.</li></ul></li></ol> <p>See instructions in detailed program for session 3 in Huddle.</p>
<b>SESSION 4, September 14, Collaboration Technologies</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Riemer, K. and Frösler, F. (2007). Introducing real-time collaboration systems: development of a conceptual scheme and research directions, <i>Communications of the Association for Information Systems</i>, 20(1), Article 17, pp. 204-225.</p> <p>Malhotra, A. and Majchrzak, A. (2005). Virtual workspace technologies, <i>MIT Sloan Management Review</i>, 46(2), pp. 11-14.</p>	<ol style="list-style-type: none"><li>1. Prepare readings.</li><li>2. Complete Second Life Tutorial (see detailed program for session 4)</li></ol>
<b>SESSION 5, September 21, Guest lecture in Second Life by Dr. Judith Molka-Danielsen, Molde University College</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Owens, D., Davis, A., Murphy, J., Khazanchi, D., &amp; Zigungs, I. (2009). Moving first life into Second Life: Real world opportunities for virtual teams and virtual world project management, <i>IT Professional</i>, May/June, pp. 27-34.</p>	<ol style="list-style-type: none"><li>1. Prepare reading.</li></ol>

<b>SESSION 6, September 28, Project Management and Virtual Projects</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Khazanchi, D. &amp; Zigurs, I. (July-Sept 2006). Patterns for effective management of virtual projects: Theory and evidence, <i>International Journal of e-Collaboration</i>, 2(3), pp. 25-48.</p> <p>Glen, P. (2009, May). Five clues a project is headed for trouble, <i>Computerworld</i>, 43(17), p. 36.</p> <p>Case study #2: Destiny WebSolutions, Inc. by Austin, R.D. and Westerman, G. April 29, 2000, Harvard Case Study, Prod. #600138-PDF-ENG</p>	<ol style="list-style-type: none"> <li>1. Prepare readings.</li> <li>2. Prepare to discuss case study in class, based on case analysis questions posted in session program in Huddle</li> <li>3. Calculate virtual team project indexes and determine VP typology (see guidelines in detailed program for session 6 in Huddle)</li> </ol>
<b>SESSION 7, October 5, Requirements engineering / ThinkTank exercise</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Boehm, B., Grunbacher, B., &amp; Briggs, R.O. (2001). Developing groupware for requirements negotiation: lessons learned, <i>IEEE Software</i>, May/June, pp. 46-55.</p> <p>Reed, A.H, and Knight, L.V. (2009). Differing Impact Levels from Risk Factors on Virtual and Co-Located Software Development Projects. <i>AMCIS 2009 Proceedings</i>.</p> <p>Case study #1: Pay Zone Consulting: A Global Virtual Organization, Ivey Case # 9B08C004, by Munro, M. &amp; Huff, S.</p>	<ol style="list-style-type: none"> <li>1. Prepare readings.</li> <li>2. Team #1 uploads case analysis write-up to Huddle by 2100 UTC on September 30.</li> <li>3. All other students post case commentary to the course blog by 2100 UTC on October 4.</li> <li>4. ThinkTank exercise for requirements analysis (see instructions in detailed program for session 7 in Huddle)</li> <li>5. First part of individual reflection journal to be handed in (see instructions in session program in Huddle)</li> </ol>

<b>SESSION 8, October 12, Best Practices and Practical Issues</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Malhotra, Majchrzak &amp; Rosen (2007). Leading virtual teams, <i>Academy of Management Perspectives</i>, February 2007, pp. 60-70.</p> <p>Mittleman, D. D., Briggs, R. O. &amp; Nunamaker, J. F. (2000) Best practices in facilitating virtual meetings: some notes from initial experience, <i>Group Facilitation</i>, 2(2), pp. 5-14.</p> <p>Case study #3: Systems Development by Virtual Project Teams: A Comparative Study of Four Cases. Croasdell, D., Fox, A. and Sarker, S. Case No. IT5682. Published 2003, Idea Group Publishing.</p>	<ol style="list-style-type: none"> <li>1. Prepare readings.</li> <li>2. Team #2 uploads case analysis write-up to Huddle by 2100 UTC on October 7.</li> <li>3. All other students post case commentary by 2100 UTC on October 11.</li> <li>4. First version of team project (Trainee program overview) to be handed in (see instructions in detailed program to session 8).</li> </ol>
<b>No session on October 19 due to UNO semester break</b>	
<b>SESSION 9, October 26, Cultural Diversity</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Shachaf, P. (2008). Cultural diversity and information and communication technology impacts on global virtual teams: An exploratory study, <i>Information &amp; Management</i>, 45, pp. 131-142.</p> <p>Krishna, S., Sahay, S. &amp; Walsham, G. (2004). Managing cross-cultural issues in global software outsourcing, <i>Communications of the ACM</i>, 47(4), pp. 62-66.</p> <p>Case study #4: Shield: Product Development in a Distributed Team; Selhat, L. and Metiu, A., INSEAD; 06/2005.</p>	<ol style="list-style-type: none"> <li>1. Prepare readings.</li> <li>2. Team #3 uploads case analysis write-up to Huddle by 2100 UTC on October 21.</li> <li>3. All other students post case commentary to the course blog by 2100 UTC on October 25.</li> </ol>
<b>SESSION 10, November 2, Interim discussion of team project</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
<p>Munkvold, B.E., &amp; Zigurs, I. (2007). Process and technology challenges in swift-starting virtual teams, <i>Information &amp; Management</i>, 44, pp. 287-299.</p> <p>Sarker, S. &amp; Sahay, S. (2004). Implications of space and time for distributed work: An interpretive study of US-Norwegian systems development teams, <i>European Journal of Information Systems</i>, Vol. 13, pp. 3-20.</p>	<ol style="list-style-type: none"> <li>1. Prepare readings</li> <li>2. Prepare status report on team project (see detailed guidelines for session 10 in Huddle)</li> <li>3. Second part of Team project (Training module prototype) to be handed in (see instructions in detailed program to session 10).</li> </ol>

<b>SESSION 11, November 9, Managing Virtual Teams</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
Privman, R. and Hiltz, S. R. (2009). In-Group (US) / Out-Group (Them) Dynamics and Effectiveness in Partially Distributed Teams: A Pilot Study. <i>AMCIS 2009 Proceedings</i> .  Case study #5: Managing Virtual Teams, Darden case A & B, 2007, by Kalla, Kumar and West.	<ol style="list-style-type: none"> <li>1. Prepare readings.</li> <li>2. Team #4 uploads case analysis write-up to Huddle by 2100 UTC on November 4.</li> <li>3. All other students post case commentary to the course blog by 2100 UTC on November 8.</li> <li>4. Second part of individual reflection journal to be handed in (see instructions in detailed program for session 11).</li> </ol>
<b>SESSION 12, November 16, Integration and synthesis</b>	
<b>Read and prepare</b>	<b>Deliverables</b>
Dube, L. & Robey., D. (2008). Surviving the paradoxes of virtual teamwork, <i>Information Systems Journal</i> , 19, pp. 3-30.	<ol style="list-style-type: none"> <li>1. Prepare the reading.</li> <li>2. Post final questions related to course topics and readings. (see guidelines in detailed program for session 12)</li> </ol>
<b>No synchronous meeting on Nov 23 – project work time</b>	
<b>SESSION 13, November 30, 15.00-16.30 UTC (16.00-17.30 ‘Kristiansand time’)</b>	
Each team gives a 20 minute presentation of their project.	<b>Deliverables</b>
	<ol style="list-style-type: none"> <li>1. Team Project presentations.</li> <li>2. Team Project report due.</li> </ol> <p>See guidelines in detailed program for session 13.</p>
<b>December 7</b>	<b>Deliverables</b>
<b>NOTE: No synchronous meeting on Dec 7</b>	<ol style="list-style-type: none"> <li>1. Individual reflection journal due</li> </ol>

## SUPPLEMENTAL READINGS

The supplemental readings are not required. They were selected to provide more in-depth reading on the topics for each week so that you can do more exploration in the areas that you find especially useful or interesting.

### Course Introduction and Overview

- Attaran, M. & Attaran, S. (2003). The coming age of virtual teaming: Guidelines for managers, *International Journal of Management*, 20(2), p. 171-178.
- Schermerhorn, Jr., J. R. (2004). Teams and Teamwork. Chapter 13 in *Core Concepts of Management*, John Wiley & Sons, Inc., pp. 197-214.

### Virtuality Concept

- Mowshowitz, A. (1997). Virtual organization, *Communications of the ACM*, 40( 9), pp. 30-37.
- Olson, J.S. & Olson, G.M. (2006). Bridging distance: Empirical studies of distributed teams, in Galletta, D. & Zhang, P. (eds.), *Human-Computer Interaction and Management Information Systems: Applications, Advances in Management Information Systems*, Volume 6, Armonk, NY: ME. Sharpe, Inc., pp. 101-118.
- Watson-Manheim, M.B., Chudoba, K.M., & Crowston, K. (2002). Discontinuities and continuities: A new way to understand virtual work, *Information Technology & People*, 15(3), pp. 191-209.

### Virtual Team Theories and Fundamentals

- Davis, A., Murphy, J., Owens, D., Khazanchi, D., & Zigungs, I. (2009). Avatars, people, and metaverses: Foundations for research in virtual worlds, *Journal of the Association for Information Systems*, 10(2), Article 2, pp. 90-117.
- DeSanctis G., & Poole, M.S. (1994). Capturing the complexity in advanced technology use: Adaptive structuration theory, *Organization Science*, 5(2), May, pp. 121-147.
- Dubin, R. (1976). Theory building in applied areas, in Dennette, M. (Ed.), *Handbook of Industrial and Organizational Psychology*, Rand McNally College Publishing Company, Chicago, Illinois, pp. 17-39.
- Goodbody, J. (2005). Critical success factors for global virtual teams, *Strategic Communication Management*, 9(2), pp. 18-21.
- Majchrzak, A., Rice, R.E., Malhotra, A., King, N., & Ba, S. (2000). Technology adaptation: The case of a computer-supported inter-organizational virtual team, *MIS Quarterly*, 24(4), December, pp. 569-600.
- McGrath, J. E. (1991). Time, interaction, and performance (TIP): A theory of groups, *Small Group Research*, 22(2), pp. 147-174.

- Powell, A., Piccoli, G., & Ives, B. (2004). Virtual teams: A review of current literature and directions for future research, *The Data Base for Advances in Information Systems*, 35(1), pp. 6-36.
- Qureshi & Zigurs (2001). Paradoxes and prerogatives in global virtual collaboration, *Communications of the ACM*, 44(12), pp. 85-88.
- Schiller, S.Z. & Mandviwalla, M. (2008). Virtual team research: An analysis of theory use and a framework for theory appropriation, *Small Group Research*, 38(1), pp. 12-59.

## **Collaboration Technologies**

- Carlson, J.R & Zmud, R.W. (1999). Channel Expansion Theory and the Experiential Nature of Media Richness Perceptions. *The Academy of Management Journal*, 42(2), 153-170.
- Carte, T. A. & Chidambaram, L. (2004). A capabilities-based theory of technology deployment in diverse teams: Leapfrogging the pitfalls of diversity and leveraging its potential with collaborative technology, *Journal of the Association for Information Systems*, 5(11/12), pp. 448-471.
- Daft, R.L. and Lengel, R.H. (1986). Organizational Information Requirements, Media Richness and Structural Design, *Management Science*, 32(5), 554-571.
- Kahai, S. S., Carroll, E., & Jestice, R. (2007). Team collaboration in virtual worlds, *The DATA BASE for Advances in Information Systems*, 38(4), pp. 61-68..
- Munkvold, B.E. (2003). *Implementing collaboration technologies in industry: Case examples and lessons learned*, Springer-Verlag, London.
- Munkvold, B. E. & Zigurs, I. (April-June 2005). Integration of e-collaboration technologies: Research opportunities and challenges, *International Journal of e-Collaboration*, 1(2), pp. 1-24.
- Owens, D., Davis, A., Murphy, J., Khazanchi, D., & Zigurs, I. (2009). Moving first life into Second Life: Real world opportunities for virtual teams and virtual world project management, *IT Professional*, May/June, pp. 27-34.
- Rutkowski, A. F., Vogel, D. R., van Genuchten, M., Belmans, T. M. A. & Favier, M. (2002). E-Collaboration: The reality of virtuality, *IEEE Transactions on Professional Communication*, 45(4), pp. 219-230.
- Skeels. M. M. & Grudin, J. (2009). When social networks cross boundaries: A case study of workplace use of Facebook and LinkedIn, *Group 2009*.
- Weiseth, P.E., Munkvold, B.E., Tvedte, B. and Larsen, S. The Wheel of Collaboration Tools: A Typology for Analysis Within a Holistic Framework. *Proceedings of the 2006 20th Anniversary Conference on Computer Supported Cooperative Work (CSCW 2006)*, Banff, Canada, November 4-8, 2006, pp. 239-248.
- Zigurs, I. & Buckland, B.K. (1998). A Theory of Task/Technology Fit and Group Support Systems Effectiveness. *MIS Quarterly*, 22(3), 313-334.

## **Project Management and Virtual Projects**

- Evaristo, R., & Munkvold, B. E. (2002). Collaborative infrastructure formation in virtual projects, *Journal of Global Information Technology Management*, 5(2), pp. 29-47.
- Massey, A. P., Montoya-Weiss, M., & Hung, Y.T. (2003). Because time matters: Temporal coordination in global virtual project teams, *Journal of Management Information Systems*, 19(4), pp.129-156.

## **Best Practices and Practical Issues**

- Anson, R. & Munkvold, B.E. (2004). Beyond face-to-face: a field study of electronic meetings in different time and place modes, *Journal of Organizational Computing and Electronic Commerce* 14(2), pp. 127-152.
- Lurey, J.S. & Raisinghani, M.S. (2001). An Empirical Study of Best Practices in Virtual Teams, *Information & Management*, 38(8), pp. 523-544.
- Thomas, D.M., Bostrom, R.P. & Gouge, M. (2007). Making Knowledge Work in Virtual Teams. *Communications of the ACM*, 50(11), 85-90.

## **Cultural Diversity**

- Massey, A. P., Montoya-Weiss, M., Hung, C. & Ramesh, V. (2001). Cultural perceptions of task-technology fit, *Communications of the ACM*, 44(12), 83-84.

## **Managing Virtual Teams**

- Zigurs, I. (2003). Leadership in virtual teams: Oxymoron or opportunity? *Organizational Dynamics*, 31(4), 339-351.
- Hertel, G., Geister, S., and Konradt, U. (2005). Managing virtual teams: A review of current empirical research, *Human Resource Management Review*, 15, 69-95.

## **Integration and Synthesis**

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