

ISM 3003: FOUNDATIONS OF MANAGEMENT INFORMATION SYSTEMS

Fall 2009 • Monday and Wednesday • HCB 103 • 5:15 PM – 6:30 PM

INSTRUCTOR

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Office Hours: Wednesday 3 PM to 5 PM and by appointment

Warning

Topic descriptions appear at the end of this document. The actual project description is approximately two pages. Your project group will be responsible for only one topic.

Objective

The purpose of this project is twofold. First, this course focuses on the core foundation of Management Information Systems and its role within the organizational environment. While the course lectures are designed to ensure specific areas are discussed, this course provides only high level, abstract coverage. The role of the project is to act as a complement to this content. Below you will find several topics that will allow you and fellow group members to explore in much greater detail the topics discussed in class as well as several topics that are not discussed. Second, effective presentation skills are essential to knowledge workers today. Being able to communicate to upper management via presentations is vital to a successful career regardless of your chosen profession. This project enables you and your project team to develop your presentation skills in order to prepare you for the 21st century workforce.

Groups of four will be randomly assigned by the instructor. Groups of five may be assigned depending on class enrollment. Based on your group number, groups will then have an opportunity to select from several topics discussed below. This selection will be based on a competitive process where groups must sign up using a discussion board that will be available within the Projects section on Blackboard. Groups will need to Reply to the topic message they wish to explore (***first come, first serve and only one group per topic***). Selection will occur on Friday, August 28th beginning at 1 PM. ***Groups can only select topics within their identified time periods.*** When replying to the topic message, remember to put your group number in the subject line of the message in order for me to properly assign your group to this topic.

All groups are required to meet with the instructor at least once for the instructor to provide guidance. Groups must come prepared with an initial outline for your topic in order for me to provide proper guidance.

For Groups 1 through 18, meetings should occur within the next week or two weeks. For Groups 19 through 34, meetings should occur immediately following Exam One on October, 7th. Due to

the size of the class, please schedule a meeting rather than “show up” during my office hours. I will be happy to schedule a time with your group that is convenient to all of us.

Class Presentation Component

All groups will present their topic to the class (dates specified in Syllabus). The focus of your presentation should focus on the following:

1. Comprehension of the topic
2. Ability to summarize and convey knowledge at the appropriate level including both advantages and disadvantages
3. Impact this topic may have on future organizations

Some publications that may be helpful for researching topics include: *Computerworld*, *Wall Street Journal*, or *Wired*. I also encourage students to utilize online collaborative environments that can provide additional insights into how the topic is viewed by society (e.g., Wikipedia and YouTube). Lastly, I encourage students to engage the class in their understanding of the topic (e.g., informal surveys and discussion questions). Please see me if your group is interested in this option. The presentation should also focus on your group’s experiences while researching the topic. All group members must be present on the day of the presentation. ***Presentations should be no longer than 12 minutes. Plan for 8 minutes of presentation and 4 minutes for Q&A from the class.*** Due to the size of the class and number of presentations given on each day, I will need to stop your group if this time is exceeded. Groups should load their presentations before class starts in order to ensure all groups are given equal time for presenting. The presentation is an opportunity to share your group’s topic with the class. ***I strongly encourage your group to develop a creative way of presenting your topic.*** Ideas for your presentation will be discussed in the instructor meeting with your group.

Submission Instructions

Presentations must be submitted prior to class on the day of your group’s presentation. Please submit your presentation to the Digital Dropbox. ***Please name your file Group#_ShortTopicTitle.pptx.***

Final Words

As a doctoral candidate that is beginning my career in education, I am very interested in capturing the student’s perspective in terms of what you liked and disliked about the project (i.e., its organization, instructions, etc.) and what you would like to see improved upon for future students. I encourage you to send me emails after your projects have been completed with your constructive comments and criticisms.

Topics

Topic descriptions are listed below. The purpose of these descriptions and the key questions to consider sections are to induce creative thoughts about the topic. Your group is encouraged to brainstorm different questions to examine and report on. Remember, all interesting experiences are based on an initial question that guides you in your research and exploration of the topic. Make sure you have this completed before you begin!

Topics for Groups 1 through 18:

1.) Knowledge Workers: Past, Present, and Future

From Wikipedia – Knowledge Worker article:

*“A **knowledge worker** in today's workforce is an individual that is valued for their ability to interpret information within a specific subject area. They will often advance the overall understanding of that subject through focused analysis, design and/or development. They use research skills to define problems and to identify alternatives. Fueled by their expertise and insight, they work to solve those problems, in an effort to influence company decisions, priorities and strategies.”*

Key Questions to Consider:

How has technology changed the nature of work?

What were the defining technologies that have changed the nature of work in organizations today?

How do organizations manage knowledge workers?

2.) The Digital Divide: Technology in the World

From Wikipedia – Digital Divide article:

*“The term **digital divide** refers to the gap between people with effective access to digital and information technology and those with very limited or no access at all. It includes the imbalances in physical access to technology as well as the imbalances in resources and skills needed to effectively participate as a digital citizen.”*

Key Questions to Consider:

How can we view the digital divide on a global scale? What regions of the world are most affected and least affected?

What is being done to resolve this problem?

3.) The Knowledge Creating Company: Using IT for Knowledge Management

From Nonaka, Harvard Business Review article:

“In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge. When markets shift, technologies proliferate, competitors multiply, and products become obsolete almost overnight, successful companies are those that consistently create new knowledge, disseminate it widely throughout the organization, and quickly embody it in new technologies and products. These activities define the “knowledge-creating” company, whose sole business is continuous innovation.”

Key Questions to Consider:

Do you agree with this argument? Is continuous innovation the key to a successful organization today? What has/has not changed in the competitive landscape to justify your position?

What technologies are used today in organizations to make a “knowledge-creating” company possible (i.e., wikis, knowledge repositories, electronic communities, networks of practice, etc.)

4.) Are you Mr. Rogers or Dr. Evil? Ethics and IT

In the last two decades, ethics has become a major topic of interest in both the news and academic environments. What is the prevailing philosophy for understanding and managing ethical dilemmas in the workforce? IT workers in particular have access to a vast amount of information about organizations and its employees. What ethical dilemmas are they facing as they enter the workforce? What advice, based on your research, can you give to your fellow classmates about being an ethical co-worker?

5.) When generations collide: Generational perspectives on technology

From *Growing Up Digital* by Don Tapscott:

“Poised to transform every social institution, the Net Generation is reshaping the form and functions of school, work, and even democracy. Simply put, the wave of youth, aged 12-30, the first truly global generation, is impacting all institutions.”

In contrast, the generations before the Net Generation were raised in a period where technology was not the dominant source of information, entertainment, and work activities. What happens when these generations collide? What happens when the older generations in upper management meet the younger digital generation?

Key Questions to Consider:

What are the core characteristics of the key generations currently in the workforce? Are there similarities among them?

What are the key stress points between these generations and how will organizations need to adjust in order to properly manage this coming workforce?

6.) Tear down this wall: Open business models

“Companies that keep their intellectual property too close to the vest risk missing out on critical business innovations that idea-sharing could generate. Open business models foster collaboration with customers and suppliers to everyone's benefit.

The more companies learn about open business models, the more they realize how much they have to change their own innovation activities to take full advantage of these paradigms. It's not simply a matter of searching for new technologies. To thrive, companies must adapt their business models to make them more open to external ideas and paths to market.”

Henry Chesbrough, "Embracing Open Business Models", *Optimize Magazine*, 1/1/07

Key Questions to Consider:

What are the core differences between open and closed business models? Are there certain industries that can sustain an open business model approach more effectively?

How can technology support open business models? Which technologies are the most effective for this task?

7.) Free vs. \$0.00: Business models built on giving it all away

From Chris Anderson WIRED magazine article (http://www.wired.com/techbiz/it/magazine/16-03/ff_free):

“Once a marketing gimmick, free has emerged as a full-fledged economy. Offering free music proved successful for Radiohead, Trent Reznor of Nine Inch Nails, and a swarm of other bands on MySpace that grasped the audience-building merits of zero. The fastest-growing parts of the gaming industry are ad-supported casual games online and free-to-try massively multiplayer online games. Virtually everything Google does is free to consumers, from Gmail to Picasa to GOOG-411.

The rise of "freeconomics" is being driven by the underlying technologies that power the Web.”

Key Questions to Consider:

What is the history of the term Free? When is Free not necessarily the same thing as \$0.00?

How has technology enabled organizations to essentially “give it all away” and still remain in business?

What industries are likely to embrace the freeconomics model? Why?

8.) Knowledge Flows: Using Social Network Analysis to identify knowledge sources

From Wikipedia – Social Network article:

*“A **social network** is a social structure made of individuals (or organizations) called "nodes," which are tied (connected) by one or more specific types of interdependency, such as friendship, kinship, financial exchange, dislike, sexual relationships, or relationships of beliefs, knowledge or prestige.*

Social network analysis views social relationships in terms of network theory about nodes and ties. Nodes are the individual actors within the networks, and ties are the relationships between the actors. The resulting graph-based structures are often very complex. There can be many kinds of ties between the nodes. Research in a number of academic fields has shown that social networks operate on many levels, from families up to the level of nations, and play a critical role in determining the way problems are solved, organizations are run, and the degree to which individuals succeed in achieving their goals.

In its simplest form, a social network is a map of all of the relevant nodes between all the nodes being studied.”

Key Questions to Consider:

What is social network analysis?

How can we interpret social networks? Key components of a social network should focus on the nature of relationships (strong ties vs. weak ties), types of network structures (structural holes), and how each influences knowledge flows within a social structure.

How has technology enabled the development of detailed maps of how knowledge flows within organizations?

What can organizations do with this information? What technologies can help organizations leverage this information?

9.) Google and You: Unmasking the anonymity of the internet

From Fox News article (<http://www.foxnews.com/story/0,2933,535902,00.html>)

“Google’s CEO once said the company wants to know more about you than you know about you. It looks like the search engine giant may not be far from reaching that goal. With applications including Google Finance, Google Translate, Google Earth, Google Images – just to name a few – Google is emerging as a “Big Brother-ish” trove of information with limitless access to our personal lives, raising some serious concerns.” Recent news has highlighted how court actions can force organizations such as Google to identify you on the internet (i.e., Google forced to release name of NYC blogger). What exactly do organizations know about you now that the bulk of your information gathering and communication occurs via technology?

Key Questions to Consider:

How much information does Google know about you?

What types of user profiles can Google create based on your search habits? Can they predict your personality, your secrets, your inner thoughts?

Is this a good thing? What issues should users be aware of when they sign on for a free service with Google?

Are there ways users can limit the information organizations capture on you? Anonymous browsing?

10.) What is mine; what is ours? Knowledge Ownership for the 21st Century Worker

From Constant, Kiesler, and Sproull (1994) article on Information Sharing:

“As technology for information access improves, people have more opportunities to share information.

Managers, policy makers, and technology developers talk enthusiastically about this potential. Information sharing is a key element of “total quality management” and the “new organization” (Drucker 1988). Increased

information sharing could improve organizational efficiency, learning, innovation, flexibility, and understanding of organizational goals. But will people want to share information?

Employees may or may not be willing to share information as widely as technology makes possible or as much as managers might desire.”

Key Questions to Consider:

What are the predominant types of knowledge?

Are people more likely to share different types of knowledge differently? Is context important?

What types of technology allow employees to share information both within and across the organizational boundary?

What factors influence your decision to share?

11.) Data Visualization: Has Hans Rosling gone mad?

It is becoming increasingly important to not only know the facts, but also know how to present them. Hans Rosling is a world renowned statistician examining global health issues. In 2006, Dr. Rosling presented at the TED conference on the “myths of the developing world.” Below you will find the link to this twenty minute video.

http://www.ted.com/talks/hans_rosling_shows_the_best_stats_you_ve_ever_seen.html

Key Questions to Consider:

What is the current state of data visualization using technology?

Why is data visualization important in business today?

What are the appropriate guidelines for using data visualizations in business presentations? Has Hans Rosling gone too far? Or is this the future of business presentations?

12.) Geocaching: Online and real-world treasure hunts

From geocaching.com:

“Geocaching is a high-tech treasure hunting game played throughout the world by adventure seekers equipped with GPS devices. The basic idea is to locate hidden containers, called geocaches, outdoors and then share your experiences online. Geocaching is enjoyed by people from all age groups, with a strong sense of community and support for the environment.”

From Wikipedia – Geocaching article:

“Geocaches are currently placed in over 100 countries around the world and on all seven continents, including Antarctica. As of August 2009, there are over 879,400 active geocaches over the world.”

Key Questions to Consider:

How was GPS technology invented? What are some of the products that use GPS technology?

How can organizations use geocaching to their advantage?

Did you try geocaching out? What was your experience?

13.) Do you have a Hunch?

Collective intelligence is defined as the shared or group intelligence that emerges from the collaboration and competition of many individuals using information technology.

Hunch.com is a decision making website used by people to make decisions on questions of importance to them. Hunch.com relies on users to formulate questions, develop questions to formulate an answer, and rate the potential results. The backbone of Hunch.com relies on the concept of forward-chaining and backward-chaining in order to derive an answer to a person's question.

For further information on these processes see <http://ai-depot.com/Tutorial/RuleBased-Methods.html>.

Key Questions to Consider:

What is collective intelligence? How is Hunch.com similar to collective intelligence?

What are the advantages and disadvantages to collective intelligence? Why?

How can organizations leverage systems such as Hunch.com for organizational purposes?

14.) Robots: Past, Present, and Future

From Honda website – ASIMO project:

“In 1986, Honda engineers set out to create a walking robot. Early models (E1, E2, E3) focused on developing legs that could simulate the walk of a human. The next series of models (E4, E5, E6) were focused on walk stabilization and stair climbing. Next, a head, body and arms were added to the robot to improve balance and add functionality. Honda's first humanoid robot, P1 was rather rugged at 6' 2" tall, and 386 lbs. P2 improved with a more friendly design, improved walking, stair climbing/descending, and wireless automatic movements. The P3 model was even more compact, standing 5' 2" tall and weighing 287 lbs.

ASIMO is the culmination of two decades of humanoid robotics research by Honda engineers. ASIMO can run, walk on uneven slopes and surfaces, turn smoothly, climb stairs, and reach for and grasp objects. ASIMO can also comprehend and respond to simple voice commands. ASIMO has the ability to recognize the face of a select group of individuals. Using its camera eyes, ASIMO can map its environment and register stationary objects. ASIMO can also avoid moving obstacles as it moves through its environment.”

Key Questions to Consider:

Why are people so interested in robots? What makes them a compelling innovation for the future?

How will robots change the nature of work within organizations?

What does the future of robotics hold for companies pursuing this avenue of research?

Is it likely that robots will become a part of society as shown in the movies? Why or Why not?

15.) Robots and the Car Industry

From eHow.com on Robots in Car Manufacturing:

“After Henry Ford invented the assembly line, the construction of automobiles, cars and trucks remained unchanged throughout most of the 20th century. In the 1980s, however, the process underwent another dramatic change: the introduction of robots to perform jobs once reserved for humans.

Robots were initially retained to perform precise welding chores and other repetitive tasks that humans had long found boring, monotonous and injurious. By using robots to weld, handle dangerous objects and place items, auto manufacturers were able to ensure a consistent product with a minimum of worker injury. Currently, 50 percent of all robots in use today are used in automobile manufacture.”

Key Questions to Consider:

How do robots work? What are their limitations?

How have robots in car manufacturing helped the automobile industry? Efficiency vs. effectiveness?

Can other industries learn from the automobile industry? Which ones and why?

16.) Job Market of the Future: How can technology help me?

From BusinessWeek.com article

(http://www.businessweek.com/technology/content/aug2009/tc20090818_861625.htm):

“The Internet has changed a lot of things over the past decade or two—including how we search for jobs. Sure, the basics are the same: Find an opening and apply for it. But the Web has permanently altered the employment process. And with more than 1.2 million info tech jobs lost this year, according to the U.S. Bureau of Labor Statistics, a lot of people are going to be using every tool they can get to find their next job.”

Key Questions to Consider:

Who are the major players in the online job search industry?

How are they similar? Different? Specialized?

What does the future hold for this growing industry? How will social networks and existing job search websites evolve together?

17.) Expert Systems: Getting people to divulge

One of the most difficult parts of the developing an expert system is getting experts to share their knowledge. Furthermore, expertise is traditionally viewed as a form of tacit knowledge which is difficult to explain and capture. In particular, the mental process an expert uses to derive a

solution to a problem is likely to even be unknown to the expert, making it more difficult for properly developing expert systems that will be effective for organizational use.

Key Questions to Consider:

What are the goals of an expert systems?

What are the existing methodologies used by organizations to extract expertise for the purposes of developing an expert system? Advantages and disadvantages of each?

How can the growing use of social technologies potentially impact this process?

Should organizations continue to invest in building an expert system or should they leverage different technologies to accomplish the same goals?

18.) Weapons of the Future: US military and the changing field of battle

In 2001, President Bush wanted to build a military for the Information Age. But did the military's Industrial Age hierarchy let him?

PW Singer is a world renown scholar examining the role of robotics in the military. In 2009, PW Singer presented at the TED conference on the realities of war. Below you will find the link to this twenty minute video.

http://www.ted.com/index.php/talks/pw_singer_on_robots_of_war.html#top

Key Questions to Consider:

How has technology modernized the military and changed the nature of battle?

When can technology help and hurt the military in warfare?

Does context matter for technology use? Given the current wars in Iraq and Afghanistan, what have we learned about the limitations of technology?

Topics for Groups 19 through 34:

1.) Virtual World Economies: Second Life vs. Entropia

From Wikipedia – Virtual World article:

“A virtual economy is the emergent property of the interaction between participants in a virtual world. While the designers have a great deal of control over the economy by the encoded mechanics of trade, it is nonetheless the actions of players that define the economic conditions of a virtual world. The economy arises as a result of the choices that players make under the scarcity of real and virtual resources such as time or currency. Participants have a limited time in the virtual world, as in the real world, which they must divide between task such as collecting resources, practicing trade skills, or engaging in less productive fun play. The choices they make in their interaction with the virtual world, along with the mechanics of trade and wealth acquisition, dictate the relative values of items in the economy. The economy in virtual worlds is typically driven by in-game needs such as equipment, food, or trade goods. Virtual economies like that of Second Life, however, are almost entirely player-produced with very little link to in-game needs.”

From Wikipedia - Entropia Universe:

“Entropia decided to use a variant of the micropayment economic model, which consists of buying in-game currency (PED - Project Entropia Dollars) with real money that can be redeemed back into real world funds at a fixed exchange rate with the US dollar, where 10 PED = \$1 USD. This means that virtual items acquired within Entropia Universe have a real cash value, and a participant may, at any time, initiate a withdrawal of their accumulated PEDs back into real world currencies according to the fixed exchange rate, minus transaction fee; this works from sum of 1000 PED or more. As a result, revenue of the business is largely generated from activities within the virtual universe. The revenue model has historically proven to be sustainable and is currently profitable.”

Key Questions to Consider:

What are the key components of a virtual world?

How is a virtual world different from more traditional online technologies?

In terms of the economy, what are some ways organizations that develop virtual worlds can create sustainable economies?

Why have some virtual worlds failed (gone out of business), while others have succeeded?

2.) Prosumers: When users become producers and consumers

From Wikipedia – Prosumer (Definition):

*“The term has taken on multiple conflicting meanings: the business sector sees the prosumer (professional–consumer) as a market segment, whereas economists see the prosumer (producer–consumer) as having greater independence from the mainstream economy. It can also be thought of as converse to the **consumer** with a passive role, denoting an active role as the individual gets more involved in the process.”*

For the purposes of this topic, you will take the perspective of a prosumer being the converse to the consumer with a passive role. A prosumer is a user that produces and consumes content. Topics in this area focus on mashups, mixing, and user-generated content in profit-based economies (e.g., Threadless.com).

Key Questions to Consider:

How has technology enabled the growth prosumers?

Which technologies provide the greatest opportunities as prosumers become a larger part of the economy?

How can organizations leverage prosumers for innovation and entrepreneurial activities?

3.) Securing the Future: Past, Present, and Future of Online Banking

From Wikipedia – Online Banking article:

“Online banking (or Internet banking) allows customers to conduct financial transactions on a secure website operated by their retail or virtual bank, credit union or building society.

Most of the attacks on online banking used today are based on deceiving the user to steal login data. Two well known examples for those attacks are phishing and pharming. Cross-site scripting and key loggers/Trojan horses can also be used to steal login information.”

Key Questions to Consider:

What are the existing methodologies for enabling secure online banking?

How can organizations combat digital social engineering attacks (e.g., phishing, pharming, etc.)?

If you were asked to develop a guideline to help your fellow students, what would you recommend for protecting yourself when banking online? Why?

4.) Open Source vs. Microsoft

From Wikipedia – Open Source Software article:

“Open source software (OSS) is defined as computer software for which the source code and certain other rights normally reserved for copyright holders are provided under a software license is in the public domain. This permits users to use, change, and improve the software, and to redistribute it in modified or unmodified forms. It is very often developed in a public, collaborative manner. Open source software is the most prominent example of open source development and often compared to user-generated content. The term open source software originated as part of a marketing campaign for free software. A report by Standish Group states that adoption of open source software models has resulted in savings of about \$60 billion per year to consumers.”

From Ars Technica website article (<http://arstechnica.com/old/content/2006/01/6017.ars>)

“A survey [conducted](#) by IT consulting firm Optaros and InformationWeek magazine shows that American companies and government organizations are saving millions of dollars with open source software. Conducted in September 2005, the survey is based on responses collected from over 500 companies, government agencies, and organizations. According to the collected data, approximately 87 percent of American organizations use open source software within their technology infrastructure.”

Key Questions to Consider:

How has open source software evolved over the past ten years?

What are the main drivers of open source software adoption by organizations?
How can organizations, such as IBM, profit from open source software?
Consider Microsoft Office and OpenOffice from the perspective of the end user, are open source software applications such as OpenOffice ready for mainstream organizational adoption? Why or Why Not?

5.) Personal Productivity and You: Information Scanning in the Digital Age

From following RSS feeds to creating automated Google alerts, knowledge workers today are using many different technologies to maintain awareness of new information about their profession. Joining professional societies and following listservs that discuss topics of interest and maintaining relationships with fellow practitioners is becoming an increasingly important method for you to keep your skills sharp.

Key Questions to Consider:

What are the tools you can use to keep up to date on information about your profession? Describe them. Must provide demonstrations of some of these tools.
How has technology changed organizational perceptions towards continuing your education post-FSU?
Are these tools a form of business intelligence? Why or why not?

6.) Sarbanes-Oxley and ERP: Match made in heaven?

From soxlow.com:

“The legislation came into force in 2002 and introduced major changes to the regulation of financial practice and corporate governance. Named after Senator Paul Sarbanes and Representative Michael Oxley, who were its main architects, it also set a number of deadlines for compliance.

The Sarbanes-Oxley Act is arranged into eleven titles. As far as compliance is concerned, the most important sections within these are often considered to be 302, 401, 404, 409, 802 and 906.

An over-arching public company accounting board was also established by the act, which was introduced amidst a host of publicity.”

Key Questions to Consider:

What was the impact of SOX on the IT industry?
How can ERP support SOX compliance?
What factors are important to organizations when selecting an ERP?
What role does your average user have in terms of his/her interaction with an ERP and its effect on their daily work life (use your major as the profession)?

7.) Measuring Success in Facebook: Social Metrics

Recent research has found that YouTube receives over 365,000 new videos each day, creating a continuous source of entertainment and information to satisfy user interests. While YouTube's

meteoric rise is atypical for an organization, it not surprising in today's digital world. Websites such as Twitter (ranked 25th), Facebook (ranked 4th), MetaCafe (ranked 133rd by Alexa.com), Dell IdeaStorm, MyStarbucksIdea, Flickr (ranked 31st), among others have all been introduced within the last decade and rapidly grew in user membership. For example, Facebook and Twitter have grown by 250% and 1,000% since the beginning of 2009. All of these websites, including YouTube, represent a new type of online environment called User-generated Content (UGC) websites. UGC websites are online environments where users contribute, retrieve, and explore UGC from the organization and fellow users. UGC is content created by users for both fellow users and/or the organization. Statistics such as website traffic rankings, daily UGC contributions, and membership growth percentages have not been ignored by organizations. However, industry experts have yet to establish firm metrics for measuring the success of social media and user-generated content websites.

Key Questions to Consider:

How can success be measured for social media websites? How are these tied to profitability and financial measures?

Come up with a way to measure success in social media. Explain this methodology and provide examples of its use.

How should organizations develop a strategy for leveraging social media websites such as Facebook?

8.) The Flood is Coming: Storage Area Networks

From Wikipedia – Storage Area Network article:

“Historically, data centers first created "islands" of SCSI (type of hard drive) disk arrays. Each island was dedicated to an application, and visible as a number of "virtual hard drives" (i.e. LUNs). Essentially, a SAN connects storage islands together using a high-speed network, thus allowing all applications to access all disks.

Operating systems still view a SAN as a collection of LUNs, and usually maintain their own file systems on them. These local file systems, which cannot be shared among multiple operating systems/hosts, are the most reliable and most widely used. If two independent local file systems resided on a shared LUN, they would be unaware of this fact, would have no means of cache synchronization and eventually would corrupt each other. Thus, sharing data between computers through a SAN requires advanced solutions, such as SAN file systems or clustered computing. Despite such issues, SANs help to increase storage capacity utilization, since multiple servers share the storage space on the disk arrays. The common application of a SAN is for the use of transactionally accessed data that require high-speed block-level access to the hard drives such as email servers, databases, and high usage file servers.

Key Questions to Consider:

Why did SANs come into existence?

What are more cost effective methodologies for enterprise storage management?

How can organizations leverage online file storage services to manage their data? What are the risks in terms of privacy and data protection to using these services? Are online applications such as Google Docs a more likely success story for the future of storage concerns? Why?

9.) Where are you going with my identity? Identity Theft in the 21st Century

From FOX News article

(<http://www.foxnews.com/story/0,2933,540060,00.html?test=latestnews>):

“Federal Authorities indicted three men in New Jersey in a massive identity theft case that the Justice Department is labeling as the largest in American history.

Authorities say more than 130 million credit and debit card numbers were stolen in a corporate data breach involving three different corporations and two individuals. The card numbers, along with additional account information, were allegedly stolen from Princeton-based Heartland Payment Systems; 7-Eleven Inc., a Texas-based convenience store chain and Hannaford Brothers Company, a Maine-based supermarket chain.”

Identity theft is a serious crime that will likely increase as more people connect to the internet and organizations collect more personal information.

Key Questions to Consider:

How can organizations better protect customer data to ensure identity theft is managed properly? Which have the highest to lowest likelihood of succeeding?

What can people do to protect their identity?

Should organizations be liable for protecting personal information?

What are the negative consequences that occur to organizations that have been victims of data and customer identity theft? How have they recovered from these events?

10.) What does my boss know about me and can it hurt me?

From mashable.com (<http://mashable.com/2009/08/19/social-media-screening/>):

*“We all know that employers are getting savvy to social networking sites and the information we share online. But what you may not know is that a recently conducted survey shows that **nearly 1 in 2 companies** are doing their online due diligence for prospective job candidates.*

This according to research firm Harris Interactive, who was commissioned by CareerBuilder.com and surveyed 2,667 HR professionals, finding that 45% of them use social networking sites to research job candidates, with an additional 11% planning to implement social media screening in the very near future.”

Key Questions to Consider:

Given these statistics and your research on the topic, what can students do to protect their personal profiles online?

What advice would you have for students when deciding what to post to their Facebook, LinkedIn, and YouTube accounts?

How can students use these websites to their advantage now that we know organizations are looking?

Why are organizations interested in examining the personal spaces of students online? If hiring should be based on skill, why does a user's personal profile become important to an organization?

11.) RFID: US Passport System

From WIRED magazine article (<http://www.wired.com/threatlevel/2009/08/fed-rfid/>):

"It's one of the most hostile hacker environments in the country -- the DefCon hacker conference held every summer in Las Vegas. But despite the fact that attendees know they should take precautions to protect their data, federal agents at the conference got a scare on Friday when they were told they might have been caught in the sights of an RFID reader. The reader, connected to a web camera, sniffed data from RFID-enabled ID cards and other documents carried by attendees in pockets and backpacks as they passed a table where the equipment was stationed in full view. It was part of a security-awareness project set up by a group of security researchers and consultants to highlight privacy issues around RFID. When the reader caught an RFID chip in its sights -- embedded in a company or government agency access card, for example -- it grabbed data from the card, and the camera snapped the card holder's picture."

In 2006, the Bush administration announced that all new US passports would contain an RFID chip embedded with the passport for enhanced security. Since that time, many security experts have highlighted the vulnerabilities such a practice will have on US citizens travelling abroad.

Key Questions to Consider:

What is RFID? How does it work?

What was the main reasoning behind embedding RFIDs into US Passports? What are the expected benefits from such a system?

What are the potential security flaws to a RFID system for US Passports? What are the potential consequences of someone reading your US Passport RFID chip?

How can US citizens protect themselves from these security vulnerabilities? Help raise awareness of this issue. Some of your fellow students may be travelling abroad for business in the near future and may be unaware of the risks that new US Passports expose them to.

12.) Copyright vs. Copyleft: The Fight for a Digital Commons

From YouTube:

“Larry Lessig, the Nets most celebrated lawyer, cites John Philip Sousa, celestial copyrights and the "ASCAP cartel" in his argument for reviving our creative culture.” In this TED talk, available on YouTube, Lessig discussed the changing culture of a digital society and discusses the tension point that is created when organizations use copyright laws to restrict a new form of expression.

<http://www.youtube.com/watch?v=7Q25-S7jzgs>

Key Questions to Consider:

What are the prevailing views on the use of copyright in society today?

What is Fair Use? How is it interpreted by both sides of the copyright debate?

Why is a digital commons important to our culture?

Do you agree with Lessig’s argument? Why or why not?

How will organizations be affected by the outcome of this debate? Should organizations take sides? How can organizations satisfy both parties?

13.) Green Technology: How is technology helping the environment

From Reuters article

(<http://www.reuters.com/article/gwmInnovationAndDesign/idUS418355544020090811>):

Just as information technology (IT) has contributed significantly to economic growth and quality of life, IT has an important role to play in creating a green economy.

Our world is in the midst of a period of digital transformation where every sector, from health care to energy and from transportation to education, is being fundamentally altered and improved by IT. This period of digital transformation not only entails significant benefits from increases in productivity and quality, but it has the potential to create significant environmental benefits.

Key Questions to Consider:

Are US organizations truly green or are the offsetting environmental impacts to alternative regions of our world?

Given the increased awareness of environmental concern, how are organizations leveraging technology to communicate their green initiatives to their customers?

What are the key drivers and barriers to organizations leveraging IT for green initiatives?

How should organizations properly dispose of their older technology?

14.) Are you a Fan of... creating and sustaining groups in Facebook

“In 2008, Deloitte conducted a study of over one hundred organizations across a variety of industries to assess investment and usage of user-generated content

(UGC) websites, such as Facebook. Approximately 80% of survey respondents implemented a UGC website within the past three years. Organizations surveyed stated that the benefits of UGC websites range from gaining insights (41%) from users and amplifying word of mouth (40%) to public relations (25%) can be generated from participating in online websites such as Facebook. However, the Deloitte survey suggests that over 50% of organizations are facing difficulties with getting users to keep coming back. Consequently, organizations need to develop an understanding of how to manage these new environments and how to create engaging environments that are sustainable to capture the potential benefits.”

Key Questions to Consider:

What are the key factors that influence users when joining a group in Facebook?

How have organizations created a presence in social network sites such as Facebook?

What managerial issues arise when attempting to create and sustain a group’s membership and viewership?

What role does content play in this process? What challenges do organizations face in maintaining a successful Facebook presence?

Consider creating and sustaining a group in Facebook. What were the major challenges you found in attracting users to your group? What coordination issues did you experience with your project team?

15.) YouTube vs. Twitter: Are they right for your company?

From mashable.com (<http://mashable.com/2009/04/27/social-media-policy/>):

“Companies are realizing that people are talking about them whether they like it or not. As a result, they’re deciding whether they should consider having a social media presence, and hence, a policy. A social media policy outlines for employees the corporate guidelines or principles of communicating in the online world. Social media is quickly moving from an emerging form of communication to the mainstream. So, just like in the old days when companies had to figure out how to deal with email, now they have to figure out how to deal with social media.”

In addition, different types of social media exist that influence how organizations can use them. This is traditionally viewed under the push-pull strategy. Wikipedia defines the push-pull strategy as *“the move of a product or information between two subjects. On markets the consumers usually “pulls” the goods or information they demand for their needs, while the offerers or suppliers “pushes” them toward the consumers.”*

Key Questions to Consider:

How can organizations successfully navigate the social media landscape?

What implications does a social media policy have on a generation of workers that are growing up not only digital, but networked?

Compare and contrast the different social media technologies, which are pull and which are push-based systems?

Identify organizations in a few of the social media websites, how are organizations using these new environments to connect with their customers?

Write your own social media policy for an organization? What are the important rules that should be followed? Why?

16.) Semantic Search: The future of search technology?

From Wikipedia – Semantic Search & Semantic Network articles:

*“**Semantic search** is a process used to improve online searching by using data from semantic networks to disambiguate queries and web text in order to generate more relevant results.*

An example of a semantic network is WordNet, a lexical database of English. It groups English words into sets of synonyms called synsets, provides short, general definitions, and records the various semantic relations between these synonym sets. Some of the most common semantic relations defined are meronymy (A is part of B, i.e. B has A as a part of itself), holonymy (B is part of A, i.e. A has B as a part of itself), hyponymy (or troponymy) (A is subordinate of B; A is kind of B), hyperymy (A is superordinate of B), synonymy (A denotes the same as B) and antonymy (A denotes the opposite of B).”

For additional information see this news article for semantic search engine Wolfram Alpha (<http://news.softpedia.com/news/Wolfram-Alpha-Development-Intensifies-over-the-Summer-119825.shtml>)

Key Questions to Consider:

What is the goal of semantic search? How does it plan to revolutionize the search industry?

How far off are we from seeing functional versions of semantic search? Are there existing search engines that can currently compete against search giants such as Google and Yahoo?

What is Google doing to prepare for semantic search?

How will semantic search alter information retrieval habits of workers? Should organizations consider semantic search engines as a knowledge management tool?