Chapter Outline

1.1 Why Should I Study Information Systems?
1.2 Overview of Computer-Based Information Systems
1.3 How Does IT Impact Organizations?
1.4 Importance of Information Systems to Society

Learning Objectives

1.1 Identify the reasons why being an informed user of information systems is important in today's world.
1.2 Describe the various types of computer-based information systems in an organization.
1.3 Discuss ways in which information technology can affect managers and non-managerial workers.
1.4 Identify positive and negative societal effects of the increased use of information technology.

Teaching Tips and Strategies

Today's students use technology in ways that were not even dreamed of just a few years ago. Because these students have grown surrounded by various forms of technology, it has become an integral part of their lives. Unfortunately, many of these same students seldom think about the whys and wherefores behind the technologies the use every day.

I have found students often fail to recognize, understand or even see how information technology impacts them, their lives and even the careers they seek. So it is important to let them know what is in it for them, even if they are not majoring in Information Systems or Computer Science. The textbook's authors do a good job of explaining this by including a "What's In IT For Me?" section in each chapter.

Throughout this course, it is important for us, their instructors, to encourage our students to step back and observe the bigger picture as to what comprises the fundamentals of Information Systems. Unfortunately, if you have not found out already, you will find a few students who will think this class is boring or even complain they already "know it all."

Point out to them that they should look at the "What's In IT For Me?" section of each of the chapters. This should be done early in the course. As part of your course introductions on the first day of class, you might consider asking students what their major course of study is. Knowing each student's major and possible career goals will help you tailor examples, classroom assignments and discussion to the interests of the students.

Explaining how MIS has affected businesses as well as workers alike helps to get students interested in this class. It also helps students to understand the importance when they are told stories of how computers have evolved and how MIS and Knowledge Management (discussed in a late chapter) have made management decision-making easier and more reliable.

When I teach the course, to help support class discussions, I try to bring in examples from the local area. Most communities around college and university campuses have businesses or government agencies that operate data centers. Many times, students are unaware that they are there. In most cases, the local Chamber of Commerce or, if your school has one, a group of

local business leaders who periodically meet with your dean or department head might help you find these sites.

You might also consider supporting your class discussions on the importance of computer technology using examples of how companies (and possibly your school) have moved from "snail mail" to email and text messaging to save time and money. This might help introduce how IT must be paired with business processes to harness IT's full potential.

IT is important to business leaders all over the world. There are salary statistics for all majors (you can get this information from USA Today's website www.usatoday.com), Payscale.com (www.payscale.com) or Salary.com (www.Salary.com). Historically, there are always a few IT-related jobs in the top 10 highest paying jobs for college grads. This usually gets some students' attention, especially if they realize that if they are more technology savvy they will tend to make more money.

Finally, have your students look at the local Help Wanted ads to see how many job postings for what might be considered non-technical jobs require some level of IT knowledge.

Blackboard/CMS suggestions

Most colleges and universities have design requirements for the structure of online courses. These usually include what should be included in the campus' Course Management System when the class is online or as a supplement to an in-class lecture-based class. So what I will be including in this section for this and the rest of the chapter Instructor Guides is based on what I have learned from nearly fifteen-years teaching this class, almost ten-years teaching it online.

I usually start the term with an online discussion question asking the students about their majors, what they think their technical knowledge is (this can sometimes be surprising because they usually over over-estimate what they really know), and if they have any fears about using technology in the job. (For fun, ask them again at the end of the term to see if their options have changed.) For this exercise, I usually do not permit others in the class to comment on another student's response. I use this mainly to gauge the knowledge level and background of the class.

I always record a short overview video for each chapter for my online classes. I have found that if I record a complete lecture most students do not watch it. So I do a ten to fifteen minute chapter overview then provide links to other related videos I find on YouTube.

If you are teaching an online class or are looking for a short video for a lecture class, you can usually find topic relevant videos at http://youtube.com. The problem is that sometimes they are product demos or sales videos, but they still usually present relevant information or concepts.

The Opening Case – FanDuel

1. Describe how information technology is essential to FanDuel's operations.

ANSWER
Information technology is important to FanDuel because FanDuel it manage 150,000 simultaneous users, who make 250,000 roster changes per hour. They also provide 15 million live scoring updates per minute during games, meaning that the company's IT

systems must manage 6 terabytes of network traffic during game day. All this is done through the use of a "easy to use" app.

Level: Easy
Section/Learning Objective: Section 1.1/Learning Objective 1.1
Bloom's Category: Comprehension
AACSB Category: Technology

2. Discuss the non-technological problems that FanDuel faces.

ANSWER
Non-technical issues are primarily legal issues involving such things as how individual states view the site (gambling verses non-gambling). In addition, the US government could close the fantasy game loophole in the 2006 statute at any time.

Then there is the issue of non-professional sports. FanDuel suspended contests on college sports in all states as part of a negotiation with the National Collegiate Athletic Association

Level: Easy
Section/Learning Objective: Section 1.1/Learning Objective 1.1
Bloom's Category: Comprehension
AACSB Category: Technology

3. Describe FanDuel's information technology infrastructure. Now discuss possible technological problems that FanDuel might face.

ANSWER
FanDuel has to spend millions of dollars on computing power from Amazon Web Services. Technical problems involve such things as an increase in Web traffic prior to major sporting events, such as before a Sunday's NFL game kickoff.

Level: Easy
Section/Learning Objective: Section 1.1/Learning Objective 1.1
Bloom's Category: Comprehension
AACSB Category: Technology

IT's About Business - 1.1 Disrupting the Roadside Assistance Industry

1. Discuss how information technology enables the business models of the Urgent.ly and Honk apps.

ANSWER
- apps with algorithms for dispatching vehicles rather than centralized call centers
- they provide an on-demand alternative to paying for insurance plans that drivers might not use or to having to call a tow company without knowing how much it charges drivers
- tow truck drivers can complete more calls in a day because the apps use algorithms for dispatching
- tow truck drivers use GPS-enabled smartphones assist them in quickly find where the driver needing help

Level: Easy
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Comprehension
AACSB Category: Technology

2. Describe the advantages and disadvantages of Urgent.ly and Honk for customers and for tow-truck operators.

ANSWER
   Students' answers should include….
   Customers
   - Advantages
     o they do not have to pay an annual fee to a group such as AAA
     o faster response time
     o they do not have to call a central dispatching center
   - Disadvantages
     o AAA offers 4 free tows per membership year

   Tow-truck drivers
   - Advantages
     o drivers are dispatched via an app verses an central call center
     o the app provides GPS coordinates of where they need to go
     o the tow driver/service does not to be associated with AAA
     o drivers receive nearly twice the fee received from a central dispatch, such as AAA.
   - Disadvantages
     o The services only work through established towing companies that is licensed and insured
     o the service's insurance coverage has to include coverage for urgent.ly and/or Honk.
     o Auto manufacturers and AAA are expanding
     o Drivers work as contractors, not employees, using the apps to find customers. (Might also be an advantage for some drivers.)

Level: Medium
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Comprehension
AACSB Category: Technology

3. Would you use Urgent.ly or Honk? Why or why not?

ANSWER
   This response to this question is open to individual student's own options.

Level: Easy
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Comprehension
AACSB Category: Technology

4. If you were the CEO of AAA, how would you compete with Urgent.ly and Honk? Provide specific examples in your answer.

ANSWER
- implement a similar smartphone app to urgent.ly and Honk.
- revise their reimbursement rates to be comparable to the other companies.
- phase out or reduce the involvement of their call center in dispatching tow trucks
- expand to use of non-AAA affiliated Tow truck services
- your students should be able to come up with a few more…

Level: Easy
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Comprehension
AACSB Category: Technology

IT's About Business - 1.2 Information Technology Has the Potential for "Revolutionizing" Cuba

1. Describe the "work-arounds" that Cuban entrepreneurs must perform to use digital technologies in the four examples discussed in this case.

ANSWER
The work-arounds include…
- constantly changing Web-addresses and mailing personalized e-mails to their users
- distributing movies and other digital content via a distribution tree utilizing hard drives using an informal network of customers. New content is provided via a new hard drive after the previous one is passed on
- distribution of a digital magazine through the use of memory sticks

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Comprehension
AACSB Category: Technology

2. Discuss how free, open access to high-speed Internet connections would transform the operations of each of the four examples.

ANSWER
Revolico
- the site would not have to continually change its web address
- they would not have to email users of changes of their web-address
- under a free, open Internet, the government controls that forced constance web-address changes would go away.

AlaMesa
- it would make it easier to list the restaurants and expand the site to include customer ratings
- they could expand their service to additional cities or even nation-wide

ElPaqueteSemanal
- distribution of their digital content would be significantly easier
- distribution to subscribers would be faster

Vistar
- they could easily expand the access to their online-magazine
- distribution would be online verses the current method using memory sticks

Level: medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Comprehension
AACSB Category: Technology

3. Why would the Cuban government limit access to the Internet? Provide specific examples in your answer.

ANSWER
- limit/control citizen access to information about the government
- limit/control citizen access to information about the rest of the world
- limit/control citizen ability to communicate with friends/relatives outside of Cuba
- limit/control citizen ability to communicate with friends/relatives in other areas of Cuba

Level: medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

IT's About Business - 1.3 Apricot Forest Helps China's Physicians

1. Explain how Apricot Forest's apps will help improve the relationship between physicians and patients in China.

ANSWER
- It allows doctors to take photos of patient records, dictate notes, and store and organize patient charts.
- It links up with the popular Chinese messaging system Weixin ("WeChat") to send reminders and health information to patients.

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

2. Explain how Apricot Forest's apps will help improve overall healthcare in China.

ANSWER
- Doctors can consult with each other regarding more challenging cases.
- It allows doctors to take photos of patient records, dictate notes, and store and organize patient charts.]
- Their second medical app, e-Pocket, is a database that doctors can refer to with information on drug formulations and specialized calculators.
- The Medical Journals app gives doctors access to articles in medical journals.
- These apps allow doctors to make house calls, accessing patient and other information at the touch of a button.

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

3. Discuss potential disadvantages of Apricot Forest's apps to patients.

ANSWER
   - hacking of patient information
   - lack of Internet access or even a computer to communicate with their doctor(s)

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

4. Discuss potential disadvantages of Apricot Forest's apps to physicians.

ANSWER
   - Lack of Internet access when making a patient house call
   - Lack of access to a computer
   - Information (and patient) overload

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

Before You Go on… 1.1

1. Rate yourself as an informed user.

ANSWER
   You will receive all types of answers to this question. Some will think they have a higher
   level of technology knowledge than they actually do.

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Knowledge
AACSB Category: Technology

2. Explain the benefits of being an informed user of information systems.

ANSWER
   Informed users tend to get more value from whatever technologies they use. You will enjoy
   many benefits from being an informed user of IT. First, you will benefit more from your
   organization's IT applications because you will understand what is "behind" those
   applications. That is, what you see on your computer screen is brought to you by your MIS
   department operating "behind" your screen. Second, you will be in a position to enhance the

quality of your organization's IT applications with your input. Third, even as a new graduate, you will quickly be in a position to recommend — and perhaps help select — the IT applications that your organization will use. Fourth, being an informed user will enable you to keep abreast of both new information technologies and rapid developments in existing technologies. Remaining "on top of things" will help you to anticipate the impacts that "new and improved" technologies will have on your organization and to make recommendations on the adoption and use of these technologies. Finally, you will understand how IT can be used to improve your organization's performance and teamwork as well as your own productivity.

Level: Medium
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Comprehension
AACSB Category: Technology

3. Discuss the various career opportunities offered in the IT field.

ANSWER
Career opportunities in IS are strong and are projected to remain strong over the next ten years. In fact, when Money Magazine's Best Jobs in America (http://money.cnn.com/pf/best-jobs/2015/list/index.html) listed the "top jobs" in America in 2015, 11 of the top 40 jobs related directly to information technology. These jobs (with their ranks) are:
(1) Software Architect: 10-year growth projection: 23% Median pay: $124,000
(2) Video Game Designer: (19% / $79,900)
(8) Database Designer: (23% / $88,300)
(9) Information Assurance Analyst: (37% / 96,400)
(14) User Experience Designer: (18% / $89,300)
(17) IT Program Manager: (15% / $122,000)
(27) Health Information Management Director (23% / $81,900)
(32) Software Quality Assurance Manager (15% / $110,000)
(38) IT Security Consultant: (37% / $110,000)
(39) Telecommunications Network Engineer: (15% / $90,500)
(40) Technical Consultant: (23% / $101,000)

Have your students check the site (http://money.cnn.com/pf/best-jobs/2015/list/index.html) for the current year.

You also look at Michigan State University's Recruiting trends for 2015-2016 (http://www.ceri.msu.edu/wp-content/uploads/2015/10/Recruiting-Trends-Brief-3-Starting-Salaries-10-19-15.pdf). It lists five computer or information technology related jobs in the top ten highest paying jobs that require a college degree.

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Knowledge
AACSB Category: Technology

> Before You Go on… 1.2

1. What is a computer-based information system?

ANSWER
A computer-based information system (CBIS) is an information system that uses computer technology to perform some or all of its intended tasks. Although not all information systems are computerized, today most are. For this reason the term "information system" is typically used synonymously with "computer-based information system.

Level: Easy
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Knowledge
AACSB Category: Technology

2. Describe the components of computer-based information systems.

ANSWER
● Hardware is a device such as the processor, monitor, keyboard, and printer. Together, these devices accept data and information, process them, and display them.
● Software is a program or collection of programs that enable the hardware to process data.
● A database is a collection of related files or tables containing data.
● A network is a connecting system (wireline or wireless) that permits different computers to share resources.
● Procedures are the set of instructions about how to combine the above components in order to process information and generate the desired output.
● People are those individuals who use the hardware and software, interface with it, or utilize its output.

Level: Medium
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Knowledge
AACSB Category: Technology

3. What is an application program?

ANSWER
An application (or app) is a computer program designed to support a specific task or business process.

Level: Easy
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Knowledge
AACSB Category: Technology

4. Explain how information systems provide support for knowledge workers.

ANSWER
Knowledge workers make decisions about situations that can significantly change the manner in which business is done. Information systems provide the databases, communications, and applications which allow them to store critical data used in analysis and tactical decision making.

Level: Easy

Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Comprehension
AACSB Category: Technology

5. As we move up the organization's hierarchy from clerical workers to executives, how does the type of support provided by information systems change?

ANSWER
At the lower organizational levels, systems are used primarily to automate routine tasks. Moving up in the organization, systems are used to analyze information for decision making purposes.

Level: Easy
Section/Learning Objective: Section 1.2 /Learning Objective 1.2
Bloom's Category: Comprehension
AACSB Category: Technology

Before You Go on… 1.3

1. Why should employees in all functional areas become knowledgeable about IT?

ANSWER
Information systems are important for several reasons, regardless of the employee's functional area of responsibility. (1) IT facilitates the organizational activities and processes of today's businesses. (2) Most jobs students will go to after graduating will require some knowledge of information technology. (3) Employees' that are able to use information technology will be able to give themselves an important advantage over their peers in the workplace. (4) Students will find that information systems will make their job easier and more efficient.

Level: Medium
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Comprehension
AACSB Category: Technology

2. Describe how IT might change the manager's job.

ANSWER
IT often provides managers with near real-time information, meaning that managers have less time to make decisions, making their jobs even more stressful

Level: Easy
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Comprehension
AACSB Category: Technology

3. Discuss several ways in which IT impacts employees at work.

ANSWER

Many people have experienced a loss of identity because of computerization. They feel like "just another number" because computers reduce or eliminate the human element that was present in non-computerized systems.

The Internet threatens to exert an even more isolating influence than computers and television. Encouraging people to work and shop from their living rooms could produce some unfortunate psychological effects, such as depression and loneliness.

They can adversely affect individuals' health and safety. To illustrate this point, we consider two issues associated with IT: job stress and long-term use of the keyboard.

Computers can create new employment opportunities for people with disabilities by integrating speech- and vision-recognition capabilities.

Level: Easy
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Application
AACSB Category: Technology

Before You Go on… 1.4

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1. What are some of the quality-of-life improvements made possible by IT? Has IT had any negative effects on our quality of life? If so, explain, and provide examples.

ANSWER
The workplace can be expanded from the traditional 9-to-5 job at a central location to 24 hours a day at any location. IT can provide employees with flexibility that can significantly improve the quality of leisure time, even if it doesn't increase the total amount of leisure time.

However, IT can also place employees on "constant call" where they are never truly away from the office, even when they are on vacation.

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

2. Describe the robotic revolution, and consider its possible implications for humans.

ANSWER
In fact, "cyberpooches," nursebots, and other mechanical beings may be our companions before we know it. Around the world, quasi-autonomous devices have become increasingly common on factory floors, in hospital corridors, and in farm fields. In our homes, iRobot (www.irobot.com) produces the Roomba to vacuum our floors, the Scooba to wash our floors, the Dirt Dog to sweep our garages, the Verro to clean our pools, and the Looj to clean our gutters.

We also have to look at advances made in building robotic devices to replace hands, legs, and arms.

To do some tasks, companies have started to replace human-workers with robotic workers.

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

3. Explain how IT has improved healthcare practices.

ANSWER
Medical personnel use IT to make better and faster diagnoses and to monitor critically ill patients more accurately. IT also has streamlined the process of researching and developing new drugs. Expert systems now help doctors diagnose diseases, and machine vision is enhancing the work of radiologists. Surgeons use virtual reality to plan complex surgeries. They have also used a surgical robot to perform long-distance surgery by controlling the robot's movements. Finally, doctors discuss complex medical cases via videoconferencing. New computer simulations recreate the sense of touch, allowing doctors-in-training to perform virtual procedures without risking harm to an actual patient.

Level: Medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

Discussion Questions

1. Describe a business that you would like to start. Discuss how information technology could: (a) help you find and research an idea for a business, (b) help you formulate your business plan, and (c) help you finance your business

ANSWER
This will be different depending on each student's background and major. The response related to global outsourcing will depend on the product verses service the business would be providing.

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Comprehension
AACSB Category: Technology

2. Your university wants to recruit high-quality high school students from your state. Provide examples of (1) the data that your recruiters would gather in this process, (2) the information that your recruiters would process from these data, and (3) the types of knowledge that your recruiters would infer from this information.

ANSWER
Senior testing scores - potential for success in college classes
ACT/SAT scores - potential for success in college classes
Location – some students may want to stay close to home

Alumni parents (legacy students) – chance parents would want their children to attend same school as they did
Other factors that may be unique to your school..

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Comprehension
AACSB Category: Technology

3. Can the terms data, information, and knowledge have different meanings for different people? Support your answer with examples.

ANSWER
Yes. Students will have different responses based on their personal experiences and possibly their majors..

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Comprehension
AACSB Category: Technology

4. Information technology makes it possible to "never be out of touch." Discuss the pros and cons of always being available to your employers and clients (regardless of where you are or what you are doing.)

ANSWER
This discussion should touch on email and Instant Messaging and their impact on a 24/7/365 business environment. If you are teaching an online class or the students are familiar with the concept, discuss how being available has changed the way you are interacting with students. Applications such as FACEBOOK, GOOGLE+, and Twitter should also be considered in the overall discussion given that businesses have embraced these as marketing tools.

Level: Medium
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Comprehension
AACSB Category: Technology

5. Robots have the positive impact of being able to relieve humans from working in dangerous conditions. What are some negative impacts of robots in the workplace?

ANSWER
Potentially reducing or eliminating some non-skilled repetitive production line jobs.

Level: Easy
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Comprehension
AACSB Category: Technology

6. Is it possible to endanger yourself by accessing too much medical information on the Web? Why or why not? Support your answer.

ANSWER
   Discuss the issue of reliability of the sources of information and danger of self diagnosis.
   Also discuss problems related to non-tested "miracle cures" and possible negative
   interactions with medications a patient may be taking for other conditions.

Level:
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Application
AACSB Category: Technology

7. Describe other potential impacts of IT on societies as a whole.

ANSWER
   Most of your students have grown up using technology and will not remember a time when it
   was not around. Open the discussion by asking how many students have FACEBOOK (FB)
   and/or GOOGLE+ profiles. Ask them how they kept up with their friends before FB?   Then
   open the discussion as to how they use FACEBOOK/GOOGLE+, how often the access their
   account, how many "friends" they have and do they block any, how often they post?   If any
   students have hundreds of friends in FB, ask why and do they consider it a problem (why or
   why not?) Ask how many of the students have smartphones? Ask of and how often they use
   text messaging on the including and for what? Do they maintain an electronic calendar to
   remind them of events (including birthdays and doctor appts). This questions has a number
   of possibilities..

Level: Medium
Section/Learning Objective: Section 1.4/Learning Objective 1.4
Bloom's Category: Comprehension
AACSB Category: Technology

8. What are the major reasons why it is important for employees in all functional areas to
   become familiar with IT?

ANSWER
   Hopefully this course will in the end provide an answer to the question. However the basis of
   the answer is to help the employee understand what is going on around them within the
   business and industry so that they might be able to make knowledge-based decisions on
   ways technology can be used to strategically support or enhance the business process.

Level: Easy
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Application
AACSB Category: Technology

9. Given that information technology is impacting every industry, what does this mean for a
   company's employees? Provide specific examples to support your answer.

ANSWER
   Have your students express their own opinions and, possibly, experiences. Some examples
   might include, access to employee HR information, including benefits, and job postings.
   Reduction of paperwork (process automation), email, etc..

Level: Easy
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Analysis
AACSB Category: Technology

10. Given that information technology is impacting every industry, what does this mean for students attending a college of business? Provide specific examples to support your answer.

ANSWER
   Your students are going to have a wide range of answers to this. Based on my experience, some will think they know everything about tech and business, when in fact they know very little. Others will be tech-phobic and will not have a clue of a business-technology link..

   Some examples might include, technology provides business students access to business real-world process simulations. Textbooks can be digitized. etc…

Level: Easy
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Analysis
AACSB Category: Technology

11. Is the vast amount of medical information on the Web a good thing? Answer from the standpoint of a patient and from the standpoint of a physician.

ANSWER
   Patient …
      Good.. provides the patient with information that they can discuss with the doctor. Provides the patient more information and possibly options not mentioned by physician.

      Bad.. provides some erroneous or false information which might be misinterpreted by the patient, possibly wasting the physician's time or causing a misdiagnosis done by the patient themselves.

   Physician …
      Good.. provides current trends assisting to diagnosis and treatments. Collaboration with other physicians. If patient records are available online, can view test results that were done at other locations.

      Bad… patient records security issues (i.e. HIPPA) .

Level: Medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Analysis
AACSB Category: Technology

Problem Solving Activates

1. Visit some Web sites that offer employment opportunities in IT. Prominent examples are : www.dice.com, www.hotjobs.com, www.monster.com, www.collegerecruiter.com, www.careerbuilder.com, www.jobcentral.com, www.job.com, www.career.com, www.simplyhired.com and www.trucareers.com. Compare the IT salaries offered to accountants, marketing personnel, financial personnel, operations personnel, and human resources personnel. For other information on IT salaries check Computerworld's annual salary survey.

ANSWER
   Students will provide comparisons about IT positions (suggest classifications – analyst, developers, support) and salary ranges using the sites listed.

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category:
AACSB Category:

2. Enter the Web site of UPS (www.ups.com).
   a.   Find out what information is available to customers before they send a package.

ANSWER
   The site provides a detailed interface to interact with the company and information about its multitude of services.

   b.   Find out about the "package tracking" system.

ANSWER
   Visit http://www.ups.com/content/us/en/resources/track/check/index.html?WT.svl=Footer to get information about the Tracking system and its policies.

   c. Compute the cost of delivering a 10" × 20" × 15" box, weighing 40 pounds, from your hometown to Long Beach, California (or to Lan- sing, Michigan, if you live in or near Long Beach). Compare the fastest delivery against the least cost. How long did this process take? Look into the business services offered by UPS. How do they make this process easier when you are a business customer?

ANSWER
      Cost can vary from ~ $200 for overnight to $42 for slowest option.

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Knowledge
AACSB Category: Technology

3. Surf the Internet for information about the Department of Homeland Security. Examine the available information, and comment on the role of information technologies in the department.

ANSWER
   Students should discuss their findings after searching the Internet.

Level: Easy
Section/Learning Objective: Section 1.3 /Learning Objective 1.3
Bloom's Category: Knowledge
AACSB Category: Technology

4. Access www.irobot.com, and investigate the company's Education and Research Robots. Surf the Web for other companies that manufacture robots, and compare their products with those of iRobot.

ANSWER
    Students will discuss their findings after searching the site.

Level: Easy
Section/Learning Objective: Section 1.1 /Learning Objective 1.1
Bloom's Category: Knowledge
AACSB Category: Technology

Closing Case 1: The United States Postal Service Utilizes Information Technology to Modernize

1. Provide specific examples of how information technology is negatively impacting the USPS.

ANSWER
    Increased use of email and the electronic transfer of digitized documents has reduced the amount of physical mail being processed by the USPS. This has, in turn, reduced revenue from postage.

Level: Medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Analysis
AACSB Category: Technology

2. Provide specific examples of how information technology is positively impacting the USPS.

ANSWER
    Individual letters and packages can be electronically tracked from sending-point to receiving-point by the sender.

Level: Medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Analysis
AACSB Category: Technology

3. Describe how information technology both positively and negatively impacts your university.

ANSWER
    Your students will have their own ideas about this. But here are a few ideas.

    Positive impact…

Much, if not all, of what had to be mailed via snail mail in the past can now be sent via email and electronic document transfer at a much lower cost.

Student-related information (grades, financial aid, etc) can be stored and retrieved quickly online.

Students can research a topic without having to go to the library.

Students can collaborate on projects and share information electronically.

Negative Impact…

Processes such as student advising can be automated, lessing or even removing the one-on-one personal interaction between students and their academic advisors.

Some students might not have the proper mindset to handle taking a class in an online format.

Level: Medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Comprehension
AACSB Category: Technology

4. Is it possible to generalize and describe information technology as a "two-edged" sword for all organizations? Why or why not?

ANSWER
Your students will have their own ideas about this. But here are a few suggestions…
- automated processes can be more efficient, but less personal for the customer.
- organizations will usually have to rethink or redesign processes that, in the short-term, may increase costs.
- technology may displace or remove the need for some staff
- increased costs for training staff to use new technologies to increase staff productivity

Level: Medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Analysis
AACSB Category: Technology

Closing Case 2: New Delivery Services Use Information Technology

1. Describe the information technology used and developed by the entrepreneurs who founded Instacart, Postmates, GrubHub/Seamless, Uber, Sidecar, and Ola Cabs. What is the impact of these technologies on the costs of starting a business?

ANSWER
Instacart
- Web site and smartphone app
- No general overhead for warehousing items, but need for a database of stores and locations within the stores where ordered items can be found.

- Mapping/routing information

Postmates
- The company analyzes data such as food-preparation times to become more effective at stacking—as their couriers drop off one order, their next pickup is already assigned and being prepared.
- Technology requires a smartphone app and database of restaurants or groceries where items its customers order can be found.

GrubHub/Seamless
- database of restaurant partners and their menus
- web site and mobile app

Uber
- Smartphone app that using GPS technology to know where a customer is in relation to a restaurant.
- Database that tracks current menu items

Sidecar
- database of drivers and their locations via GPS

Ola Cabs
- web site and mobile app used to reserve cabs (in India)

Entry into this market place is relatively small as compared to a brick and mortar business or delivery service that owns its own flat of deliver vehicles.

Technology can be leveraged to permit the business to provide unique and specialized services to the customers. Technology can also be used to manage the business' contractors because these contractors are operating in a decentralized environment.

Level: Medium
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Comprehension
AACSB Category: Technology

2. What are the advantages and disadvantages of being an independent contractor for a company?

ANSWER
Your students may come up with addition advantages/disadvantages. However, a few are….
Advantages
- independent contractors can work hours/days that fit their schedule
- potential to earn more

Disadvantages
- contractors might not be available or able to work when the company needs them to
- work at the convenience of the company
- no employee benefits (health insurance, retirement, etc)
- may have to pay self-employment taxes

- no paid vacation or sick leave
- have to use/maintain own vehicle (gas, oil, insurance, etc)

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Analysis
AACSB Category: Technology

3. Would you consider a job as a courier for one of these companies? Why or why not?

ANSWER
    This response depends on your students.

Level: Easy
Section/Learning Objective: Section 1.4 /Learning Objective 1.4
Bloom's Category: Analysis
AACSB Category: Technology