

# Solution Manual for Introduction to Information Systems 6th Edition Rainer Prince 1119108004 9781119108009

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## Chapter 1 – Intro to Info Systems

### 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. Identify the reasons why being an informed user of information systems is important in today's world.
2. Describe the various types of computer-based information systems in an organization.
3. Discuss ways in which information technology can affect managers and non-managerial workers.
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 decade ago. However, because these students have grown up surrounded by and using various technologies, information technology has become an integral part of their lives. Unfortunately, many students seldom think about the whys and wherefores behind the technologies they use every day.

I have found they often fail to recognize, understand or even see how information technology impacts them, their lives and their careers. So it is important to let them know what is in it for them, even if they are not majoring in information Systems. The textbook authors do a good job of this by including a "What's In It For Me?" section at the start of 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 Management Information Systems. Unfortunately, if you have not found out already, you will find some students who will think this class is boring or even complain they already "know it all".

Point out that they should look at the "What's In It For Me?" section 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 Decision Support Systems (discussed in a late chapter) have made management decision-making easier and more reliable.

To support your class discussions and examples through the course, 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 you periodically meet with your dean might in you find these sites.

You might also consider supporting your class discussions on the importance of computer technology using examples of how companies have moved to email to save money over using snail mail (postal service). Students can be introduced to the concept that IT must be paired with business processes to harness IT's 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](http://www.usatoday.com)), Payscale.com ([www.payscale.com](http://www.payscale.com)) or Salary.com ([www.Salary.com](http://www.Salary.com)). Historically, there are always a few IT-related jobs in the top 10 highest paying jobs for college grades. 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 IT knowledge.

#### Blackboard/CMS suggestions

Most colleges and universities have design requirements on the structure of online courses and what should be included in the campus' Course Management System where the class is online or as a supplement to an in-class lecture-based class. So what I am including here 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, and 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 estimate what they really know), and if they any fears about technology. For this exercise, I usually do not permit others in the class to comment on another student's response. I use this mainly to gage the knowledge and background of the class.

I always record a short 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 video.

If you are teaching an online class or are looking for a short video for a lecture class, I 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 – AngelList Helps Entrepreneurs Build Companies

1. What are the advantages that AngelList offers to entrepreneurs?

ANSWER:

It makes investing in startup transparent and efficient. It permits groups of investors (i.e. approved syndicates of investors) to pool their funds under the direction of a lead investor .

Level: Easy

Section/Learning Objective: Section 1.1 /Learning Objective 1

Bloom's Category: Comprehension

AACSB Category: Technology

2. What are potential disadvantages that entrepreneurs might encounter by using AngelList? (Hint: What if you listed your company profile on AngelList and no investor provided funding?)

ANSWER:

They limit their services to startups who are trying to obtain funding for the first time. Investing groups/syndicates pay group leaders as much as 20%, plus a plus a percentage of any positive return.

There is the problem of the limitation of only including companies seeking to obtain funding for the first time. So if no investor funding is obtained, can the company modify its direction and post a second time?

Students may also have other ideas.

Level: Medium

Section/Learning Objective: Section 1.1 /Learning Objective 1

Bloom's Category: Application

AACSB Category: Technology

#### IT's About Business - 1.1 Information Technology Supports Students in Georgia

1. Describe how the University System of Georgia manages its information resources vis-à-vis the individual universities in the system.

ANSWER:

The University System of Georgia's (USG) central IT office acts as a clearinghouse for the University System's 31 campuses. The office works with outside software and hardware vendors to contract for services, which individual Universities within the System can choose to or not to use.

The USG's central CIO's office also works with some Universities within the system to develop and/or applications that, for example, make cross-campus courses possible.

(Small disclaimer: Prior to becoming a full-time faculty member, the author of this Instructor Guide, was the Chief Technology Officer at one of the universities in the University System of Georgia.)

Level: Easy

Section/Learning Objective: Section 1.2 /Learning Objective 1

Bloom's Category: Comprehension

AACSB Category: Technology

2. What are the advantages of central management of information systems in the University System of

Georgia?

ANSWER:

Advantages

- Provide the ability for multiple campuses to consolidate financial and technical resources to purchase applications that they might not otherwise be able to afford.
- Provide IT support to small campuses or for campuses with limited technology support resources.
- Ability to offer specialized courses to multiple campuses that might not be available to some students or campuses otherwise

Level: Easy

Section/Learning Objective: Section 1.2 /Learning Objective 1

Bloom's Category: Comprehension

AACSB Category: Technology

3. What are the disadvantages of central management of information systems in the University System of Georgia?

ANSWER:

Disadvantages

- Central control removes the ability for an individual campus to modify an application or to have a format that is unique to them.
- System updates might be made at a time that is inconvenient to a campus.
- Specialized modifications might not be made for an individual campus in a timely matter if made at all.
- Scheduling specialized courses across multiple campuses might not meet the schedule of some students.
- Scheduling centralized meetings of representatives from multiple campuses
- Scheduling the testing of application updates across multiple campus (especially if a campus has limited staffing)

Level: Easy

Section/Learning Objective: Section 1.2 /Learning Objective 1

Bloom's Category: Comprehension

AACSB Category: Technology

#### IT's About Business - 1.2 Warby Parker

1. Provide two examples of how Warby Parker uses information technology to support its business model.

ANSWER:

Warby Parker uses information technology.

- To maintain an online presence where their potential customers can make selections and place orders
- Offers a way for customers to upload photos to virtually try on frames.

Level: easy

Section/Learning Objective: Section 1.2 /Learning Objective 2

Bloom's Category: Comprehension

AACSB Category: Technology

2. How might Warby Parker further use information technology to counter major competitors who want to emulate Warby's business model? Support your answer.

ANSWER:

To counter competitors trying to emulate their business model, Warby Parker might...

- develop an application where customers can design their own frames from available parts.
- Develop a exchange/upgrade program.
- Students may have other suggestions.

Level: medium

Section/Learning Objective: Section 1.2 /Learning Objective 2

Bloom's Category: Application

AACSB Category: Technology

#### IT's About Business - 1.3 Social, Collaborative Robots

1. Rethink Robotics claims that Baxter will not necessarily replace workers; rather it will enable workers to transition into higher paying jobs (e.g., programming Baxter robots and supervising Baxter robots). Will Baxter replace workers in small manufacturing companies? Why or why not? Support your answer.

ANSWER:

There is an increasing potential that Baxter will replace workers in small manufacturing environments. The reason is increased employee costs due to increases in minimum wages and benefits costs.

Level: Easy

Section/Learning Objective: Section 1.4 /Learning Objective 3

Bloom's Category: Comprehension

AACSB Category: Technology

2. Discuss the possible reactions of labor unions to Baxter.

ANSWER:

There will probably be a negative reaction from labor unions because the use of Baxter has the potential of decreasing union membership.

Level: Easy

Section/Learning Objective: Section 1.4 /Learning Objective 3

Bloom's Category: Application

AACSB Category: Technology

3. Identify and discuss additional potential applications for Baxter.

ANSWER:

Other possible applications include;

- fast food restaurants might be able to use it to assemble customer orders (hamburgers, pizzas, etc)
- packaging industry to box customer orders as the items move into the boxing area of the business
- students will be able to make other suggestions

Level: Easy

Section/Learning Objective: Section 1.4 /Learning Objective 3

Bloom's Category: Application

AACSB Category: Technology

IT's About Business - 1.4 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:

Apricot Forest's apps provide a means for the doctors to maintain patient records and for their patients to contact their doctor using MedClip. The patients previously could not directly contact their doctors. It also enables the doctors to have access to patient records via a mobile app if there are treating them in a patient's home.

Level: Easy

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Comprehension

AACSB Category: Technology

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

ANSWER:

Apricot Forest can aggregate and analyze the data the doctors enter into MedClips. This information can be supplied to companies for market research, design, and for the marketing of medical products. Overall, the company's tools provide China's doctors with more information about their patients.

Level: Easy

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Comprehension

AACSB Category: Technology

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

ANSWER:

Potential disadvantages to patients include Apricot Forest selling information about them to researchers, and marketing companies. Another disadvantage is that because the apps include advertisements, marketing companies could possibly track patient/doctor clicks and target marketing towards them. They could also potentially use patient information entered by the doctor for marketing purposes.

Level: Medium

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Application

AACSB Category: Technology

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

ANSWER:

Potential disadvantages to doctors possibly include government health agencies using Apricot Forest

apps to track the quality of service the doctor is provided their patients. Another disadvantage is that because the apps include advertisements, marketing companies could possibly track patient/doctor clicks and target marketing towards them. They could also potentially use patient information entered by the doctor for marketing purposes.

Level: Medium

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Application

AACSB Category: Technology

### Before You Go on... Review Questions

#### Section 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

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 (see Figure 1.1). 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

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 for the current year.

Level: Easy

Section/Learning Objective: Section 1.1 /Learning Objective 1

Bloom's Category: Knowledge

AACSB Category: Technology

## Section 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 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 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 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 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 2

Bloom's Category: Comprehension

AACSB Category: Technology

### Section 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 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 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 3

Bloom's Category: Application

AACSB Category: Technology

## Section 1.4

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?

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 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](http://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 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 4

Bloom's Category: Application

AACSB Category: Technology

#### Discussion Questions

1. Describe a business that you would like to start. Discuss how you would use global outsourcing to accomplish your goals.

ANSWER:

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

Level: Easy

Section/Learning Objective: Section 1.1 /Learning Objective 1

Bloom's Category: Application  
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

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

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 3

Bloom's Category: Application

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 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 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 they 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 4

Bloom's Category: Analysis

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 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:

In order to stay competitive, organizations should look to new advances in the use of information technology. This impacts employees in many ways.

In the case of social media, the automation of the employment process by the HR department and, in a growing number of cases, the use of social media to find and track employees. Employees need to understand social media so they can use it effectively.

Another example is the use of social media for the marketing of the organization's products or services. While some companies still advertise on search sites such as GOOGLE and YAHOO, they are now using sites as Facebook and Twitter for this.

Another area is data analytics. This is very important area for many companies. Employees not only need to understand data analysis, but how to collect, store and manage massive amounts of data.

Have your students research other examples.

Level: Medium

Section/Learning Objective: Section 1.3 /Learning Objective 3

Bloom's Category: Analysis

AACSB Category: Technology

10. Given the 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:

New technologies are being announced or release almost every day. In addition, researchers are discovering or developing new ways to use old technologies. Finally, old applications are being updated to utilize these advancements. What this means for business students is technologies that used or learned about as freshman may no longer be around or even replaced by the time that they graduate.

Examples of this include how businesses have embraced the use of social media, such as Facebook, since 2013. How hiring departments have embraced the use of social media sites such as LinkedIn to find applicants and use sites such as Facebook as part of their background checks.

Another example is the use of mobile apps. Up until around 2014, students had to use a computer to write research papers using a text processor such as MS-Word or Apple's Pages. Mobile apps are now available so students can now use their tables or smartphones (if they really want to).

There are smartphone apps, such as for graphing calculators that are just powerful as a standalone calculator.

Have your students research other examples.

Level: Medium

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Analysis

AACSB Category: Technology

11. Refer to the study at Princess Alexandra Hospital (in section on Improvements in Healthcare). How do you feel about Google searches finding the correct diagnosis in 57 percent of the cases? Are you impressed with these results? Why or why not? What are the implications of this study for self-diagnosis?

ANSWER:

Ask if the students consider 57 percent a good or bad success rate? Why or why not? What are some of the implications of a false positive diagnosis? False negative?

Level: Easy

Section/Learning Objective: Section 1.3 /Learning Objective 3

Bloom's Category: Analysis

AACSB Category: Technology

12. 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 4

Bloom's Category: Analysis

AACSB Category: Technology

Problem Solving Activates
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1.

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

Bloom's Category:

AACSB Category:

2. Enter the Web site of 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.

- a. Find out about the “package tracking” system.

ANSWER:

to get information about the Tracking system and its policies.

- b. Compute the cost of delivering a 10” x 20” x 15” box, weighing 40 pounds, from your hometown to Long Beach, California (or to Lansing, Michigan, if you live in or near Long Beach). Compare the fastest delivery against the least cost.

ANSWER:

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

Level: Easy

Section/Learning Objective: Section 1.1 /Learning Objective 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 will discuss their findings after searching the Internet.

Level: Easy

Section/Learning Objective: Section 1.3 /Learning Objective 3

Bloom's Category: Knowledge

AACSB Category: Technology

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

Bloom's Category: Knowledge

AACSB Category: Technology

#### Closing Case Baxter: What to Do About Commercial Drones

1. Why do you think the FAA took six years to issue regulations on the commercial use of drones? Support your answer.



**ANSWER:**

Prior to 2010, commercial drones (i.e. non- military) really did not exist. Since 2010, the capabilities of drones increased while their cost dropped drastically.

Another view is that with a few exceptions, there were not commercial applications for companies to use drones prior to 2014. However, as drone became more widely accessible, companies found new uses.

Prior to 2014, the FAA did have requirements for hobbies who flew drone type aircraft, but given advances in drone technology, many of these policies no longer apply to the commercial drones.

Level: Easy

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Application

AACSB Category: Technology

**2. What are the advantages of commercial drones (in general)?****ANSWER:**

The advantages of commercial drones include in many applications, they are more cost effective in applications where traditional airplanes or helicopters might have been used in the past. Drones could access areas or provide views that were not available to users in the past. Drone use was also opened to those who could not afford traditional aircraft. Companies will develop new applications for the use of drones as their design and capabilities evolve.

Level: Medium

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Analysis

AACSB Category: Technology

**3. What are the disadvantages of commercial drones (in general)?****ANSWER:**

The more sophisticated drone models require specialized training to operate them. Due to their advanced capabilities, there is the potential for them to interfere with safe operation of commercial and private aircraft. The FAA is considering requiring the licensing of commercial drone pilots. (Auburn University was the first university in the U.S. to receive FAA approval for a program to train commercial drone pilots.)

As the use of drones expands to other venues/applications, such as camera platforms over crowds at concerts or athletic events, issues such as liability issues in the case of a crash, will have to be considered.

Level: Medium

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Analysis

AACSB Category: Technology

**4. Do you think the advantages outweigh the disadvantages, or vice versa? Support your answer.**

ANSWER:

Based on current aviation industry literature, the advantages of the use of drones far exceed the disadvantages. In addition, the expanding use of drones will open up new job and business opportunities. (Your students should expand on this.)

Level: Medium

Section/Learning Objective: Section 1.4 /Learning Objective 4

Bloom's Category: Analysis

AACSB Category: Technology