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| LEARNING OBJECTIVES |  |

* Explain why the Introduction to MIS class is the most important class in the business school.
* Define what is meant by “MIS.”
* Explain how to use the five-component model.
* Explain why the difference between information technology and information systems is important.
* Explain what is meant by “information.”
* Describe necessary data characteristics.
* Anticipate the technology of the year 2025.

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| CHAPTER OUTLINE |  |

* Why is Introduction to MIS the most important class in the business school?
* What are cost-effective business applications of Facebook or Twitter, or whatever else will soon appear?
* How can I attain job security?
* How can Intro to MIS help you learn non-routine skills?
* What is the bottom line?
* What is MIS?
* Components of an information system
* Management and use of information systems
* Achieving strategies
* How can you use the five-component model?
* The most important component—You
* All components must work
* High-tech versus low-tech information systems
* Understanding the scope of new information systems
* Components ordered by difficulty and disruption
* Why is the difference between information technology and information systems important?
* What is information?
* Definitions vary
* Where is information?
* What are necessary data characteristics?
* Accurate
* Timely
* Relevant
* Just barely sufficient
* Worth its cost
* 2025?

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| So What? |  |

***What’s Your Number?***

1. *Compute the cost per MIS session for you. Compare that calculation with those of others in your group. Ensure that you didn’t forget any major costs.*

Students’ cost calculations will vary. If the cost calculations vary a lot among the team members, be sure to try to determine the cause of the differences. This should help the team members discover differing assumptions or find things that may have been omitted.

1. *We (authors of this text) claim MIS is the most important class in the business school. But, we’re selling MIS books. Do you agree? How do we justify that statement? Do you agree with us? What other courses might be more important. Why? Take a stand!*

Student answers will vary. Some students will say that every professor and every textbook author believes his/her subject matter is the most important and it is a totally self-serving position. Others may believe that no course is important unless it is directly linked to their major – accounting majors only consider accounting courses to be important, for example. The fact that this chapter talks expressly about marketable skills may open some student’s minds to consider this course to be very important and they may not have considered it to be so in the past. You should be able to get some lively discussion going on this question, especially if you challenge your students to defend their position and then scrutinize their underlying assumptions.

1. *Suppose you manage the credit department for a parts distributor. As a business professional, do you need to concern yourself with the integration of information systems technology into your business? Justify your answer.*

A credit department manager may not think very broadly about the overall parts distribution business, and therefore may not have much concern about integrating information technology into the business. As long as credit decisions can be made and payments are received, the department manager may be happy. This narrow point of view is not advisable, however, because opportunities for using IT in the business can come from any perspective.

1. *Suppose zulily Corporation (see Case Study 1, page 31) hired you in 2010. In three years, revenue grew from $18 million to $695 million. As a business professional, do you need to concern yourself with the integration of information systems technology in your business? Does your answer to this question differ from your answer to question 3? Should it?*

In answering question 3, the students may take the perspective of the credit department manager and recognize that someone with that role and responsibility may not really think much about integration of information technology. In this question, however, the role and responsibility is not really defined and students should think generally of a business professional in a business that is extremely reliant on information technology for its very business model. Students should recognize the critical role of IT in an organization such as zulily and also recognize that any business professional seeking a long-term association with zulily will need to constantly be thinking about how information technology can be used to improve/enhance the business.

1. *Suppose you manage the credit department for a parts distributor. Do you need to learn abstraction, systems thinking, collaboration, and experimentation? First define what those terms mean, then answer this question.*

Abstract reasoning involves constructing and using a model or representation of the phenomenon under study. Systems thinking involves identifying and modeling the components of a system and connecting the inputs and outputs among those components into a sensible whole, one that explains the phenomenon observed. Experimentation is the willingness and ability to try various approaches to the problem in a systematic way. Collaboration is the ability to work effectively in a team to attack this project effectively. The manager of the credit department does need to learn these non-cognitive skills in order to contribute most effectively to his/her organization.

1. *Suppose zulily hired you in 2010. Do you need to learn abstraction, systems thinking, collaboration, and experimentation? Does your answer to this question differ from your answer to question 5? Should it?*

Anyone seeking a successful business career today should learn these non-cognitive skills, regardless of the specific business involved.

1. *As a business professional, do you care that an information system has five components? What possible use is that knowledge to you?*

The five component model of information systems is important because whenever an information system is under discussion, all five components must be considered. Remembering the five component model limits the chance of leaving something important out (typically, forgetting to explicitly consider the people and procedure components.

1. *Describe a business that is not dependent on information systems. Is that the sort of business in which you want to make your career?*

Student responses will vary. If a student does happen to admit to wanting to find a business that is not dependent on IS, challenge him/her to identify that business and then ask some hard questions about that businesses’ future prospects. In particular, ask how that business will survive if its competition is utilizing information systems that allow it to be more efficient and effective and provide capabilities that are valued by the customers.

1. *Let’s say you look back at your answers to questions 2-7 and you decide that those answers aren’t worth the cost you paid for this class session. You’re stuck, though. You need this class if you want to graduate. So what can you do, on your own, to make this session worth your number?*

If a student recognizes that the answers he/she has provided are not worth the cost paid for the course, then the student needs to add some value to those answers. The best way to do this is to make the course content personal. Challenge your students to add depth and breadth to their answers and relate their answers to their own personal circumstances.

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| COLLABORATION EXERCISE 1 |  |

*Collaborate with a group of fellow students to answer the following questions. For this exercise, do not meet face to face. Coordinate all of your work using email and email attachments, only. Your answers should reflect the thinking of the entire group, and not just one or two individuals.*

1. *Abstract reasoning*
2. *Define* abstract reasoning, *and explain why it is an important skill for business professionals.*

Abstract reasoning is the ability to construct and use a model or representation. Being able to construct a model or representation of a complex situation through abstract reasoning is an important skill for business professionals, who frequently must make decisions under uncertain and highly complex situations. This is a highly marketable skill. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Explain how a list of items in inventory and their quantity on hand is an abstraction of a physical inventory.*

The inventory list and quantity on hand is a representation of the actual items on shelves in the warehouse. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

1. *Give three other examples of abstractions commonly used in business.*

Student answers will vary, but some examples include projects plans, budgets, and business process models. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Explain how Jennifer failed to demonstrate effective abstract-reasoning skills.*

Jennifer was unable to develop a model of the firm’s supply chain. She developed a model that made no sense and had goods placed in inventory before they were even ordered. She claimed that she knew the process but couldn’t put it down on paper. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Can people increase their abstract-thinking skills? If so, how? If not, why not?*

Yes, abstract thinking skills can be developed with practice. Working with existing models is a place to start, but actually creating the models and examining their usefulness is even more essential to develop these skills. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Systems thinking.*
2. *Define* systems thinking, *and explain why it is an important skill for business professionals.*

Systems thinking involves identifying and modeling the components of a system and connecting the inputs and outputs among those components into a sensible whole, one that explains the phenomenon observed. This is an important skill because business people have to be able to identify and understand the relationships among the elements involved in a complex situation. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Explain how you would use systems thinking to define why Moore’s Law caused a farmer to dig up a field of pulp wood trees. Name each of the elements in the system and explain their relationship to each other.*

Pulp wood trees are the input in the production of paper. Moore’s law implies that more and more content will be stored digitally, and there will be less printed material produced. Consequently, the demand for paper will fall. The farmer recognizes that the value of his trees will decline over time as there is less demand for paper, so he decides to use his land to produce a product with a projected value. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Give three other examples of the use of systems thinking with regard to the consequences of Moore’s Law.*

Student answers will vary. Some examples include Kodak shifting its business away from film cameras and film development to digital cameras and photo printers; Google’s project of scanning and digitizing books; and Amazon and Sony’s development of electronic reader devices. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Explain how Jennifer failed to demonstrate effective systems thinking skills.*

Jennifer was unable to understand and model the correct components and relationships between components in the firm’s supply chain. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Can people improve their systems thinking skills? If so, how? If not, why not?*

Yes, systems thinking skills can be developed with practice. Applying existing models to different situations is a place to start, but actually creating the models, critiquing the models, and examining their usefulness is even more essential to developing these skills. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Collaboration*
2. *Define* collaboration, *and explain why it is an important skill for business professionals.*

Collaboration is the ability to work productively with others when developing ideas and plans. A good collaboration results in a final work product that is superior to one that would be developed by a person working alone. (LO: 1, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork )

1. *Explain how you are using collaboration to answer these questions. Describe what is working with regards to your group’s process and what is not working.*

Student answers will vary. It is important that you stress that students should not just divide the work up between the group members and assemble the individual contributions into a whole (a typical student approach to a group project assignment). Good collaboration involves several iterations in which ideas are contributed, reviewed, critiqued, and refined. All members contribute to the development and refinement of ideas. (LO: 1, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork )

1. *Is the work product of your team better than if one of you could have done separately? If not, your collaboration is ineffective. If that is the case, explain why.*

Student answers will vary. It is likely that students have not spent enough time and effort reviewing and evaluating each other’s ideas and improving the work product. Many times student groups are satisfied with whatever is contributed and little attention is paid to critique and refinement. (LO: 1, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork )

1. *Does the fact that you cannot meet face to face hamper your ability to collaborate? If so, how?*

Student answers will vary. Email is not a very easy way to collaborate due to the time lag involved between when messages are sent and eventually read. Because there is no central repository of the work product that all members can access, it is difficult to know what the latest version of the work product is and to keep track of changes to the work product. (LO: 1, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Interpersonal Relations and Teamwork)

1. *Explain how Jennifer failed to demonstrate effective collaboration skills.*

Jennifer was unwilling to share her ideas and work-in-progress with others because she wanted to wait until she felt she was “done.” She failed to seek out the benefit of having others review her ideas as they are developing and help her improve upon them. (LO: 1, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Reflective Thinking Skills)

1. *Can people increase their collaboration skills? If so, how? If not, why not?*

Collaboration skills can definitely be improved with practice. It may be hard for some people to offer half-formed ideas to others and to subject themselves to criticism, but the benefits will help them overcome this reluctance. (LO: 1, Learning Outcome: Explain how IS can enhance systems of collaboration and teamwork, AACSB: Reflective Thinking Skills)

1. *Experimentation.*
2. *Define experimentation, and explain why it is an important skill for business professionals.*

Experimentation involves creating and testing promising new alternatives, consistent with available resources. In today’s demanding business environment, new ideas will be essential to success, and business people have to overcome their fear of failure and pursue new approaches rationally. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Explain several creative ways you could use experimentation to answer this question.*

Students could experiment with different ways of collaborating, other than emailing. For example, the group members could arrange to meet in a chat room and work together on developing their answers by communicating in that forum. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *How does the fear of failure influence your willingness to engage in any of the ideas you identified in part b?*

If any of the group members respond to a suggested process with the comment, “that will never work,” he may be reflecting his fear of failure. Unwilling to try a new way of doing things may be an accurate assessment that the approach is unworkable, but it could also be an unwillingness to work in a new way. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Explain how Jennifer failed to demonstrate effective experimentation skills.*

Jennifer was unable to share new ideas with others. She was willing to do what she was told, but did not have the confidence to discuss any new ideas she had with others in case the ideas did not work out. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Can people increase their willingness to take risks? If so, how? If not, why not?*

It is hard for some people to change their innate willingness to take risks. The best way to overcome this is to work with a group that accepts new ideas with enthusiasm and does not ridicule a member for suggesting a new approach. Once some success is gained, it will be easier to take risks in the future. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

* 1. *Job Security*

1. *State the text’s definition of* job security*.*

The text defines job security as “a marketable skill and the courage to use it.” The text also argues that marketable skills are no longer specific task-related skills, but rather “strong nonroutine cognitive skills.” (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Evaluate the text’s definition of* job security*. Is it effective? If you think not, offer a better definition of* job security*.*

It is likely that students will be dismayed that the more traditional task-oriented skills they are learning (e.g., computer programming, accounting) will not provide them with job security. That is probably contrary to the message they receive from their parents and grandparents. However, this definition of *job security* should cause the students to think critically about what they are getting from their college education and may cause them to think differently about their experiences in college. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *As a team, do you agree that improving your skills on the four dimensions in Collaboration Exercise questions 1-4 will increase your job security?*

Student answers will vary, but we hope that thinking about these dimensions will change their attitudes about what comprises marketable skills and how to work to develop them. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

1. *Do you think technical skills (accounting proficiency, financial analysis proficiency, etc.) provide job security? Why or why not. Do you think you would have answered this question differently in 1990? Why or why not?*

Technical skills are not irrelevant to job security, but they are not sufficient to guarantee job security. This circumstance is very different than in 1990, when technical skills probably were sufficient to get and keep a decent job. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking Skills)

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| CASE STUDY 1 |  |

## zulily

1. *Go to zulily.com and register. Identify features of the site that make shopping entertaining to mothers and explain why those features entertain. Explain why this is important to the zulily business model.*

Some of the features of the site that are fun and entertaining are wide array of items that are available for girls, boys, women, and the home; the way that items are organized by theme (an entire section on princesses, for example); the many colorful pictures; the list of new events and ongoing events at the top of the page; the sense of a limited time to purchase items; the ability to look forward to things that will be available tomorrow; the section containing items on their last day of sale; the automatic daily email announcing specials; (LO: 1, Learning Outcome: Describe the effects of e-commerce on the modern business world, AACSB: Analytic Skills)

1. *Go to Nordstrom.com and shop for children’s clothes. How does the zulily shopping experience differ from that at Nordstrom? Briefly describe the advantages and disadvantages of each type of experience.*

Nordstrom’s site is much different from zulily. Taking the Kids link, there are very few main photos that lead to other sections of the site and many more text links to take you to specific sections. The Nordstrom’s site does not offer the sense of new items, limited time offerings, or things that will be available tomorrow, which are features of the zulily site that will keep customers coming back on a daily basis. With Nordstrom’s you can have a more typical shopping experience by selecting the links of interest to you and viewing the items found there. Zulily offers some sense of urgency and excitement that is missing from Nordstrom’s. However, many shoppers may prefer the more straightforward shopping experience found at Nordstrom’s. (LO: 1, Learning Outcome: Explain how IS can be used to gain and sustain competitive advantage, AACSB: Analytic Skills)

1. *If you were buyer for zulily, what data would you like to have about customer purchase habits?*

Data of interest to buyers would include: what items sold out and how long did it take to sell out; what colors and sizes sold out most quickly; what items took the longest to sell out; what colors and sizes took the longest to sell out; do customers tend to buy frequently in small quantities in an order or infrequently with larger quantities in an order. (LO: 1, Learning Outcome: Discuss the role of information systems in supporting business processes, AACSB: Analytic Skills)

1. *If you were a buyer for zulily, what data would you like to have about past vendor performance?*

Data of interest about vendors would primarily focus on the vendors order fulfillment performance – is the vendor providing the right items of acceptable quality in a timely way? (LO: 3, Learning Outcome: Discuss the role of information systems in supply chain management and performance, AACSB: Analytic Skills)

1. *In the general course of life, 2-year-old boys become 3-year-old boys, 4-year old-girls become 5-year-old girls, etc. How can zulily use this not-so-remarkable phenomenon to customize a customer’s shopping experience? What data would you need to do this?*

By keeping track of the typical items purchased by a customer, say, good for an infant boy, zulily could offer that customer special promotions geared toward that child as he grows, such as clothing, toys, school items, etc. The order data from that customer would be the source of this information. (LO: 1, Learning Outcome: Explain how IS can be used to gain and sustain competitive advantage, AACSB: Reflective Thinking Skills)

1. *As a business professional, it is likely information systems professionals will ask you data questions like those in questions 1-11 to 1-13 above. What is the best way for you to respond? Verbally in a meeting? With a written document? With a sketch or diagram? How will you know if you have been understood?*

Although individuals will vary in terms of their preferred communication style, this is a good place to reinforce with your students how an understanding of information systems will help them regardless of their professional role. The most effective way to communicate these data needs is to show a sketch or diagram of a sample report and be able to discuss in a meeting with the IS staff how you would use the report contents for decision making. The IS staff would have a tangible example of your information needs and will then be able to focus on the task of finding and organizing the data needed to produce your report. You will know if you’ve been understood if you receive some prototype reports that include the information you want, so you know the IS staff is on the right track. (LO: 1, Learning Outcome: Discuss the role of information systems in supporting business processes, AACSB: Reflective Thinking Skills)

1. *At the March 2014 stock price, the market values zulily at $6 billion. Describe zulily’s principle assets. Does a $6 billion valuation seem appropriate, given your description of the company’s assets? Justify your answer.*

Zulily’s most essential assets are its buyers, the relationships it has with its vendors, and its data. As stated in the case study, zulily used available technologies to build an innovative business in a traditional marketplace. The unique success experienced by zulily suggests that the managerial talent that brought zulily to its current level of success is rare and therefore very valuable. (LO: 1, Learning Outcome: Explain how IS can be used to gain and sustain competitive advantage, AACSB: Reflective Thinking Skills)

For an example illustrating the concepts found in this chapter, view the videos in [mymislab.com](http://mymislab.com/" \t "_blank).