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| LEARNING OBJECTIVES |  |

* Explain why the Introduction to MIS class is the most important class in the business school.
* Explain how MIS will affect you.
* Define what is meant by “MIS.”
* Explain how to use the five-component model.
* Explain what is meant by “information.”
* Describe necessary data characteristics.
* Anticipate the technology of the year 2026.

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| CHAPTER OUTLINE |  |

* Why is Introduction to MIS the most important class in the business school?
* The digital revolution
* Evolving capabilities
* Moore’s Law
* Metcalfe’s Law
* Other forces pushing digital change
* This is the most important class in the school of business
* How will MIS affect me?
* How can I attain job security?
* How can Intro to MIS help you learn nonroutine 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
* What is information?
* Definitions vary
* Where is information?
* What are necessary data characteristics?
* Accurate
* Timely
* Relevant
* Just barely sufficient
* Worth its cost
* 2026?

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| So What? |  |

***The Biggest IPO Ever: Alibaba***

1. *Take a few minutes to browse Alibaba.com and look at some examples of products that are for sale on the site. What are some of the logistical differences between buying something on Alibaba.com and buying something on Amazon.com?*

Some of the differences students may notice include: Alibaba functions more as a clearinghouse or middleman, whereas in most cases Amazon sells directly to the consumer. With Alibaba you face uncertainty about the supplier, how the transaction will be processed, the shipping methods used, and the ease/difficulty of getting customer service after the transaction. Amazon shoppers do not face these uncertainties since Amazon supplies the customer service function.

1. *How has reading this article changed your perception of the difficulty associated with starting a new business?*

Student answers will vary. Students are likely to be impressed with the relatively short amount of time it took for Alibaba to grow to its current status. They should also recognize some of the difficulties that have been faced with this business model that the company is still trying to address (e.g., the issue of counterfeit goods).

1. *Think about companies that currently have high stock prices. Do these companies sell a product or service, or do they offer something else? How is Alibaba.com similar to or different from these companies?*

The highest priced stock on the NYSE at present is Berkshire Hathaway, an enormous holding company. Several of the other high priced stocks from IT-based companies include Google and Priceline. Alibaba is similar to Priceline in the sense that both provide a “middleman” service, bringing buyers and sellers together. Google provides IT-based products and services (e.g., search; email).

1. *What are some of the challenges associated with operating an international business not discussed in this feature?*

Several issues not mentioned include currency exchange rate issues; shipping challenges; import/export tariffs and restrictions; varying safety standards; product quality issues; and inspection requirements.

1. *Think about your own purchasing habits and the buying habits of your friends/coworkers. Can you identify a product that people need that is available on Alibaba.com? Is there a different Web site on which you could purchase this product for wholesale prices and sell it to customers for a profit?*

Student answers will vary. One example of a product available for sale on Alibaba that many people “need” is coffee beans. These can be purchased on Alibaba, but can also be purchased at wholesale prices on US-based web sites such as coffeebeandirect.com

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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)

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)

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)

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)

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)

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 higher projected value. (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

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

Student answers will vary. Bell’s Law, for example, states that digital devices will evolve so quickly that they will enable new platforms, programming environments, industries, networks, and information systems every 10 years. Right now, smartphones and tablet devices are predominant platforms for consumers, but how will that evolve and what does that mean for current smartphone/tablet providers? Will smart watches finally catch on, or some other “wearable” product? (LO: 1, Learning Outcome: Describe the components of an information system (IS), AACSB: Reflective Thinking)

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)

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)

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)

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)

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)

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)

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)

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)

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)

1. *Job Security*
2. *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)

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)

1. *As a team, do you agree that improving your skills on the four dimensions in Collaboration Exercises 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)

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)

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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)

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)

1. *At the April 2015 stock price of $14.59, the market values zulily at $1.86 billion. This is a big drop from the February 2014 high of $68.39 a share price. Describe zulily’s principle assets. Does a $1.86 billion valuation seem appropriate, given your description of the company’s assets? Justify your answer.*

Zulily’s most essential assets are its customers, 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 previous level of success is rare and therefore very valuable. However, as is often the case, companies must work very hard to sustain their success, and zulily found that it was unable to meet market expectations for growth. Customers acquired from product- and event-specific marketing drove higher initial purchases, they also resulted in lower lifetime values and higher customer churn. As a result, zulily decided to prudently slow marketing, and retool its processes with long-term returns on investment in mind. Recently, zulily’s stock price has rebounded from the lows experienced earlier in 2015 due to a combination of cost management, progress in marketing strategy, and the result of prior investments aimed at improving zulily's supply chain. In addition, the company will be acquired by Liberty Interactive, the parent company of QVC Group, which is expected to strengthen the brand. (LO: 1, Learning Outcome: Explain how IS can be used to gain and sustain competitive advantage, AACSB: Reflective Thinking)

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