M: INFORMATION SYSTEMS

**1**

CHAPTER

This guide provides a number of classroom activities, videos, and debates to accompany M: Information Systems. A few course suggestions:

* Create one or two test questions based on the classroom activity to help reward students who attend lectures.
* Many professors have found that assigning an activity and then lecturing on the material helps students gain a deeper understanding of the core MIS concepts as they have already struggled with applying the material to a real-world situation.
* Asking a small group of students to explain their answer to the activity to the entire class after completion ensures students come to class prepared. I select a different group each activity to explain their answer and they do not want to look unprepared in front of their fellow classmates. It is a powerful motivator to get my students reading prior to class. After the activity and student’s presentations then I lecture – keeps my students engaged and helps to achieve a higher level of learning outcomes as they are constantly tasked with applying the concepts during class.
* Create an Ask the Professor Discussion board that runs the entire course where students can ask course and content related questions. I typically promise to respond within 24 hours and I always encourage my students to check the discussion board before sending an email. Many times if one student a questions so do other students.
* \*\*Three Before Me Rule! This is something I have found that saves a great deal of time answering email. I state the Three Before Me rule in my syllabus. Before a student comes to me with a question they must provide three sources they used to answer the question themselves. This significantly cuts down on emails as many times students can find the answer to their questions but it seems easier just to email the professor. Sources can include the syllabus, the Ask The Professor Q&A Discussion Board, classmates, the textbook, etc. If I ask the student for the three sources and they do not have them I dock participation points. Works great on significantly cutting down my emails and helps to prepare my students for the real world!
* The core chapter material is covered in detail in the PowerPoint slides. Each slide contains detailed teaching notes including exercises, class activities, questions, and examples. Please review the PowerPoint slides for detailed notes on how to teach and enhance the core chapter material.

Enjoy your course and best of luck!

Paige Baltzan

Information is everywhere. Information is a strategic asset. Without information, an organization simply could not operate. This chapter introduces students to several core business strategies that focus on using information to gain a competitive advantage, including:

* The core drivers of the information age
* Data, information, business intelligence, knowledge
* Systems thinking
* Competitive advantages
* Porter’s Five Forces model
* Porter’s three generic strategies
* Value chain analysis

Many of these concepts and strategies will be new to your students. Be sure to explain to your students that this chapter offers an introduction to these concepts and they will gain a solid understanding of the details of these concepts as they continue reading the text.

**SECTION 1.1 – BUSINESS DRIVEN MIS**

Competing in the Information Age

The Challenge of Department Companies

The Solutions: Systems Thinking and the MIS Solution

**SECTION 1.2 – BUSINESS STRATEGY**

Identifying Competitive Advantages

The Five Forces Model – Evaluating Industry Attractiveness

The Three Generic Strategies – Choosing a Business Focus

Value Chain Analysis – Executing Business Strategies

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| SECTION 1.1  BUSINESS DRIVEN MIS |

This chapter provides an overview of *Business* *Driven* *Information Systems (BDIS)* along with anticipated learning objectives for students. Explain to your students that the goal of this chapter is to get them excited about BDIS and all the different business and technology concepts they are going to learn. Let your students know that they are going to be introduced to many new concepts that they might be unfamiliar with; however; these concepts are discussed in detail throughout the text.

**LEARNING OUTCOMES**

**Learning Outcome 1.1: Describe the information age and the differences between data, information, business intelligence, and knowledge.**

We live in the information age, when infinite quantities of facts are widely available to anyone who can use a computer. The core drivers of the information age include data, information, business intelligence, and knowledge. Data are raw facts that describe the characteristics of an event or object. Information is data converted into a meaningful and useful context. Business intelligence (BI) is information collected from multiple sources such as suppliers, customers, competitors, partners, and industries that analyzes patterns, trends, and relationships for strategic decision making. Knowledge includes the skills, experience, and expertise, coupled with information and intelligence that creates a person’s intellectual resources. As you move from data to knowledge you include more and more variables for analysis resulting in better, more precise support for decision making and problem solving.

**Learning Outcome 1.2: Explain systems thinking and how management information systems enable business communications.**

A system is a collection of parts that link to achieve a common purpose. Systems thinking is a way of monitoring the entire system by viewing multiple inputs being processed or transformed to produce outputs while continuously gathering feedback on each part. Feedback is information that returns to its original transmitter (input, transform, or output) and modifies the transmitter’s actions. Feedback helps the system maintain stability. Management information systems (MIS) is a business function, like accounting and human resources, which moves information about people, products, and processes across the company to facilitate decision making and problem solving. MIS incorporates systems thinking to help companies operate cross-functionally. For example, to fulfill product orders, an MIS for sales moves a single customer order across all functional areas including sales, order fulfillment, shipping, billing, and finally customer service. Although different functional areas handle different parts of the sale, thanks to MIS, to the customer the sale is one continuous process.

**CLASSROOM OPENER**

**GREAT BUSINESS DECISIONS – Apple’s Decision to Develop the First Saleable Personal Computer (PC)**

Like all great computer companies, Apple began its life in a garage. In 1977, Steve Jobs and Steve Wozniak built the Apple 1, regarded by many as the first real personal computer. This founded the Apple Company and the invention of the Apple 2 and the Apple Macintosh. Apple’s key goal was to make computers accessible to ordinary people. Jobs and Wozniak captured an opportunity and changed the world through a combination of good fortune and technical and marketing brilliance.

Instead of writing commands in computer code, Apple owners invented a mouse to click on easily recognizable icons – for example, a trash can and file folders. Other companies were quick to copy Apple’s competitive advantage, including Microsoft.

The two founders eventually parted, with Wozniak leaving the company to become a teacher and Jobs continuing with the launch of the Apple Macintosh. Unfortunately, Macintosh captured only 20 percent of the desktop market, while Microsoft captured 80 percent of the desktop market with its MS-DOS operating system.

One newspaper described Jobs as a “corporate Huckleberry Finn” and said his early business exploits had already made him part of American folk history. John Sculley, former Pepsi chairman, removed Jobs from Apple in 1985. Sculley was removed from Apple in 1993. Eventually, after a 13-year exile, Jobs returned to Apple in 1998. The man who founded the company had come full circle and was now its only hope for survival.

Jobs’ return brought the creation of the iMac and Apple rediscovered its inventive originality. The iMac sold 278,000 units in the first six weeks and was described by *Fortune* as “one of the hottest computer launches ever.” The iMac and Jobs’ return contributed to doubling Apple’s share prices in less than a year.

**CLASSROOM EXERCISE - Video**

**Steve Job’s Commencement Speech at Stanford University (**Best 40 minutes you could spend in your class!!)

Best way to start off your course! I simply love this speech and it helps to set the tone of the course from one of the greatest innovators in history! After watching the video ask the following questions:

* What was the greatest point Steve Jobs made that you can use for your future?
* What course/skill/class have you taken that will have the greatest impact on your future (similar to Steve Jobs Calligraphy Course)?
* How will learning about technology have a direct impact on your future career in business?

<http://www.youtube.com/watch?v=UF8uR6Z6KLc> (If this link is down please Google Steve Jobs Commencement Speech at Stanford)

**CLASSROOM OPENER**

**GREAT BUSINESS DECISIONS – Sam Walton’s Discounting of America**

Wal-Mart is one of the largest corporations in the United States. Wal-Mart does not produce a single item, the company uses strategic supply chain management to disrupt the retail industry. Wal-Mart’s generic strategy of low cost provider is paying-off big time. Any organization wanting to compete in the 21st century must study Wal-Mart and learn how to compete in new and different ways.

Samuel Moore Walton lived in the same neighborhood in Bentonville, Arkansas, for forty years. Walton was the sort of man that would rather borrow a newspaper than pay a quarter for a new one. He was also the sort of man that would invite a struggling young family out to lunch with his family every Sunday.

Sam Walton controlled over 20 percent of Wal-Mart’s stock, and Sam Walton appeared on Forbes 400 with a net worth of $2.8 billion in 1985 (the holdings are now worth $28 billion). Of all the inventions that helped Sam Walton achieve success and billionaire status, his greatest invention as a CEO was that he himself did not change. Sam managed his 40,000 employees as equal associates, and it was said that only his family meant more to him than his beloved associates. One manufacturer who worked for Sam for decades stated “One of Sam’s greatest contributions to Wal-Mart was his attitude toward experimentation. He constantly encouraged us to experiment on a small basis and if the idea worked, roll it out. If it failed, try something else. It was his attitude of keep trying, and don’t be afraid of failure that made us all so successful.”

Sam Walton succumbed to cancer in 1992, and the news was sent via satellite directly to the company’s 1,960 stores; when the announcement played at some stores, clerks started crying. The *New York Times* obituary estimated Sam’s fortune at the time of his death at $28 billion. However, this fortune didn’t mean as much to Sam Walton as the news that one of his beloved Wal-Mart associates, a cashier, had $262,000 in her retirement account after working for Wal-Mart for twenty-four years.

**CLASSROOM EXERCISE - Video**

**Father Guido Sarducci’s Five Minute University**

I love showing this video on the first day. I start off the class by explaining that we are going to cover hardware, software, telecommunications, and hit the lab to do some actual networking. I then explain that this video show how to take a hard drive apart and there will be a quick quiz after to see how much everyone learned from the video. Then I play the video: gets a number of laughs. <http://www.youtube.com/watch?v=kO8x8eoU3L4v> (If this link is down please Google Gather Guido Sarducci’s Five Minute University)

**CLASSROOM EXERCISE**

**Student Expectations and The MIS Challenge**

Have each student list three things they know and three things they want to know about the content in the course. You can collect this and use as a baseline for teaching.

Ask your students to come up with a business that does not need technology to compete. Whatever the business I can demonstrate how technology can help them be more successful – for example a hot dog stand or a taxi cab.

By having a computer I can research what events are happening in the town and ensure my stand or cab is exactly where the event is occurring for optimum traffic. A lawn service company needs scheduling software to schedule work and maintenance on equipment, a website for advertising and connecting with customers, the Internet for weather forecasting so the company can quickly reschedule due to thunderstorms, email marketing campaigns, payroll processing, and of course Turbo Tax for small business. To date, my students have not yet won the MIS challenge.

**CLASSROOM EXERCISE**

**The World is Flat – Thomas Friedman**

This is the greatest video and Thomas Friedman is engaging and relevant. I also believe it is important to explain how the history of the information age began and Friedman does an excellent job. I show this video to every class I teach from freshman to the Executive MBA.

Friedman explains how technology has flattened the global business environment. The video is long and the first 10 minutes are a bit slow as he discusses the flatteners, but once students understand the flatteners Friedman discusses a number of global businesses including UPS, Southwest Airlines, and many more companies. This is simply the best video to drive home the importance of technology in business today.

Student questions:

* Do you agree or disagree with Friedman’s assessment that the world is flat? Be sure to justify your answer.
* What are the potential impacts of a flat world for a student performing a job search?
* What can students do to prepare themselves for competing in a flat world?
* Which technologies today are further flattening the world?

<http://video.mit.edu/watch/the-world-is-flat-30-9321/> (If this link is down please Google Thomas Friedman The World is Flat Video)

**CLASSROOM EXERCISE**

**Understanding the Relevance of Technology in Business**

This is a great exercise to begin the course. It clearly demonstrates why anyone involved in business must understand technology. It can be a real revelation for students who do not see the need for taking an IT course. This exercise is included briefly in the first paragraph of the text. Having your students perform this exercise on their own is so powerful that we recommend completing it in addition to reading the section in the text.

Bring in several copies of *BusinessWeek, Fortune, Inc, Fast Company,* or any popular business magazine. The magazines do not have to be current. Provide a marking tool such as a small set of Post-It Notes. Ask for a few volunteers and have the students review the magazine and stick a Post-It Note on each technology-related article, advertisement, etc. When the student has completed this task, the magazine will be covered in Post-it Notes, clearly demonstrating that technology is everywhere in business, even in the popular business magazines such as *BusinessWeek*.

Since this task can be time consuming, you can put in the Post-It Notes prior to class and simply show your students the completed magazine. You can have one student sit in the front of the class and begin the exercise, placing Post-It Notes on a copy of *BusinessWeek*. After they have completed several pages on their own, you can produce the same “completed” magazine with all of the Post-It Notes. This saves classroom time and still reinforces the point that technology is everywhere in business.

Be sure to reinforce that these are business magazines, not technology magazines. Yet they are completely filled with technology – which is clearly demonstrated by the Post-It Notes. How can any business student today possibly argue that they do not need to know or understand technology when faced with a magazine, such as *BusinessWeek*, that is filled with technology? Read a few of the articles or advertisements. Ask how many of your students are familiar with Siebel, Oracle, or PeopleSoft and can articulate what they can do for a company?

The goal of this course is to help your students understand the business side of technology. Being able to understand all of the technology articles in *BusinessWeek* is one of the benefits your students will receive upon completion of the course.

**CLASSROOM EXERCISE**

**TED!!**

<http://www.ted.com/>

This is the best site for videos. TED stands for **T**echnology, **E**ntertainment, **D**esign. It started out (in 1984) as a conference bringing together people from those three worlds. Since then its scope has become ever broader. The annual conference now brings together the world's most fascinating thinkers and doers, who are challenged to give the talk of their lives (in 18 minutes). This site makes the best talks and performances from TED available to the public, for free. More than 200 talks from our archive are now available, with more added each week. These videos are released under a Creative Commons license, so they can be freely shared and reposted.

I challenge my students to watch one TED video each week of the course and to report on great videos to fellow students. I create a TED Wiki in Blackboard and allow the students to share their findings!

**CLASSROOM EXERCISE**

**Reorganizing an Organization**

The AAA Management Company specializes in the management of rental properties and generates over $20 million in revenues each year and has over 2,000 employees throughout the United States, Canada, and Mexico. The company has just hired a new CEO, David Paul. David is planning to reorganize the company so that it operates more efficiently and effectively. Below is the new organizational structure that he plans to present to the board of directors on Monday. Break your students into groups and ask them to explain the advantages and disadvantages of such a reporting structure. Ask them to reorganize the reporting structure in the way they feel will be most beneficial to the operations of the company, being sure to give their justifications for the new structure. Student answers to this exercise will vary.

Analysts

Managers

CTO

CEO

CPO

CIO

CSO

Vice Presidents

**AAA Management’s New Organizational Structure**

CKO

**Part Two**

Will your proposed structure work for a video distribution company or will you need to revamp your structure?

**CORE MATERIAL**

The core chapter material is covered in detail in the PowerPoint slides. Each slide contains detailed teaching notes including exercises, class activities, questions, and examples. Please review the PowerPoint slides for detailed notes on how to teach and enhance the core chapter material.

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| SECTION 1.2  BUSINESS STRATEGY |

This section discusses how an organization can identify competitive advantages using tools such as Porter’s Five Forces, three generic strategies, and value chains. Gaining competitive advantages are critical for organizations. Organizations also must understand that competitive advantages are typically temporary since competitors are quick to copy competitive advantages. For example:

* United was the first airline to offer a competitive advantage with its frequent flyer mileage (this first-mover advantage was temporary)
* Sony had a competitive advantage with its portable stereo systems (this first-mover advantage was temporary)
* Microsoft had a competitive advantage with its unique Windows operating system
* Ask your students if Microsoft still has a competitive advantage with its Windows operating system
  + Ans: Perhaps – primarily due to its first-mover advantage since it is difficult to switch operating systems and users face interoperability issues if they are using different operating systems at the same organization.
  + How many students in your class are currently using Windows?
  + What are the competitors to Windows? Ans: Linux and Macintosh
  + Why are there only three primary competitors (Microsoft, Macintosh, and Linux) in this large operating system market?

**LEARNING OUTCOMES**

**Learning Outcome 1.3: Explain why competitive advantages are temporary.**

A competitive advantage is a feature of a product or service on which customers place a greater value than they do on similar offerings from competitors. Competitive advantages provide the same product or service either at a lower price or with additional value that can fetch premium prices. Unfortunately, competitive advantages are typically temporary, because competitors often quickly seek ways to duplicate them. In turn, organizations must develop a strategy based on a new competitive advantage. Ways that companies duplicate competitive advantages include acquiring the new technology, copying business processes, and hiring away employees.

**Learning Outcome 1.4: Identify the four key areas of a SWOT analysis**

A SWOT analysis evaluates an organization’s strengths, weaknesses, opportunities, and threats to identify significant influences that work for or against business strategies. Strengths and weaknesses originate inside an organization or internally. Opportunities and threats originate outside an organization or externally and cannot always be anticipated or controlled.

**Learning Outcome 1.5: Describe Porter’s Five Forces Model and explain each of the five forces.**

Porter’s Five Forces Model analyzes the competitive forces within the environment in which a company operates, to assess the potential for profitability in an industry.

* Buyer power is the ability of buyers to affect the price they must pay for an item.
* Supplier power is the suppliers’ ability to influence the prices they charge for supplies (including materials, labor, and services).
* Threat of substitute products or services is high when there are many alternatives to a product or service and low when there are few alternatives from which to choose
* Threat of new entrants is high when it is easy for new competitors to enter a market and low when there are significant entry barriers to entering a market
* Rivalry among existing competitors is high when competition is fierce in a market and low when competition is more complacent

**Learning Outcome 1.6: Compare Porter’s three generic strategies.**

Organizations typically follow one of Porter’s three generic strategies when entering a new market: (1) broad cost leadership, (2) broad differentiation, (3) focused strategy. Broad strategies reach a large market segment. Focused strategies target a niche market. Focused strategies concentrate on either cost leadership or differentiation.

**Learning Outcome 1.7: Demonstrate how a company can add value by using Porter’s value chain analysis.**

To identify competitive advantages, Michael Porter created value chain analysis, which views a firm as a series of business processes that each add value to the product or service. The goal of value chain analysis is to identify processes in which the firm can add value for the customer and create a competitive advantage for itself, with a cost advantage or product differentiation. The value chain groups a firm’s activities into two categories—primary value activities and support value activities. Primary value activities acquire raw materials and manufacture, deliver, market, sell, and provide after-sales services. Support value activities, along the top of the value chain in the figure, include firm infrastructure, human resource management, technology development, and procurement. Not surprisingly, these support the primary value activities.

**CLASSROOM OPENER**

**GREAT BUSINESS DECISIONS – Cyrus McCormick’s Reaper**

On a hot summer day in 1831, several dozen farmers and hired laborers gathered in a wheat field in Virginia to watch a horse-drawn wood-and-iron device mow down rows and rows of golden wheat. On this day, twenty-two-year-old Cyrus McCormick demonstrated the reaper that his father invented and changed history as the mechanization of farming began. Soon the process of industrialization began, which turned the nation’s economy into the world’s most productive workforce. As the historian William Hutchinson noted, “Of all the inventions during the first half of the nineteenth century which revolutionized agricultures, the reaper was probably the most important.”

Interestingly, the McCormicks were not the only individuals to build and develop a reaper. In fact, many other companies and individuals developed similar technology; however, Cyrus McCormick invented the business of making reapers and selling them to the farmers of America and foreign countries. His real genius was in the area of gaining and protecting patents for his technology. McCormick turned the reaper into a commercially viable product and introduced many new business practices including free trials, money-back guarantees, and installment payment plans.

**CLASSROOM OPENER**

**GREAT BUSINESS DECISIONS – Henry Luce Decides to Rank Companies in the Fortune 500**

Henry Luce founded *Time* magazine in 1923 and *Fortune* magazine in 1929. Luce decided to create a ranking of America’s top 500 companies, called The Fortune 500, which has served as the corporate benchmark for the twentieth century – as well as being a clever marketing tactic for the magazine. The Fortune 500 remains a powerful barometer of who’s up and down in the corporate world. It is also a brilliant marketing tool since every single time its name is mentioned, so is the name of the magazine. However, being ranked on the Fortune 500 does not guarantee that the organization will achieve future success, and its measures of current achievement can also be limited and a bit confusing.

*BusinessWeek* magazine created a similar ranking by introducing its biannual ranking of business schools. The issue routinely outsells all other issues of the magazine in the year.

**CLASSROOM EXERCISE**

**Porter Video on YouTube**

Great YouTube video with Michael Porter on The Five Competitive Forces that Shape Strategy.

<https://www.youtube.com/watch?v=mYF2_FBCvXw>

**Michael Porter – The Five Forces that Shape Strategy (20 Mins)**

<https://www.youtube.com/watch?v=vu-cFbTsY8U>

**Michael Porter – Why Business Can be Good at Solving Social Problems (15 Mins)**

<https://www.youtube.com/watch?v=0iIh5YYDR2o>

**Institute for Strategy and Competitiveness**

Ask your students to visit Michael Porter’s Institute for Strategy and Competitiveness. There are numerous articles, videos, book excerpts, etc. for the students to dig into Porter. <http://www.isc.hbs.edu/>

**CLASSROOM EXERCISE**

**Strategy and the Internet**

Ask your students to visit Michael Porter’s Institute for Strategy and Competitiveness. There are numerous articles, videos, book excerpts, etc. for the students to dig into Porter. <http://www.isc.hbs.edu/>

**Strategy and the Internet**

Discuss Porter’s HBS article Strategy and the Internet by Michael Porter. <http://hbswk.hbs.edu/item/2165.html>

Have your students discuss the importance of technology on business strategy. Since this article was written in 2001 ask your students the following:

* What can be extrapolated to today's competitive environment?
* What has become obsolete about the Internet and strategy?

**CLASSROOM EXERCISE**

**Analyzing Porter’s Five Forces**

Porter's Five Forces is an easy framework to understand and offers a quick way to analyze a market. Porter’s Five Forces was introduced in the text and you can review the below examples to ensure you have a solid understanding of each force. For this assignment, choose a product from the following list and perform a Porter’s Five Forces analysis. Feel free to use the below Porter’s Five Forces template for your assignment.

* Desktop Computer
* Address Book
* Walkman
* VHS Player
* Polaroid Camera
* Telephone
* Textbook

Be sure to add in examples of loyalty programs or switching costs you could implement to help retain your market share.

**Sample Analysis for Airline Industry**



**Sample Analysis for Milk**



**CORE MATERIAL**

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**REVIEW OR DISCUSSION QUESTIONS**

1. **What is data and why is it important to a business?**

Data are raw facts that describe the characteristics of an event or object. Before the information age, managers manually collected and analyzed data, a time-consuming and complicated task without which they would have little insight into how to run their business.

1. **How can a manager turn data into information?**

Information is data converted into a meaningful and useful context. Having the right information at the right moment in time can be worth a fortune. Having the wrong information at the right moment; or the right information at the wrong moment can be disastrous.

1. **What is the relationship between data, information, business intelligence, and knowledge?**

Data is converted into information, business intelligence, and knowledge. Using data, information, business intelligence, and knowledge to make decisions and solve problems is the key to finding success in business. These core drivers of the information age are the building blocks of business systems.

1. **Why is it important for a company to operate cross-functionally?**

Each department performs its own activities. Although each department has its own focus and data, none can work independently if the company is to operate as a whole. It is easy to see how a business decision made by one department can affect other departments. Marketing needs to analyze production and sales data to come up with product promotions and advertising strategies. Production needs to understand sales forecasts to determine the company’s manufacturing needs. Sales needs to rely on information from operations to understand inventory, place orders, and forecast consumer demand. All departments need to understand the accounting and finance departments’ information for budgeting. For the firm to be successful, all departments must work together as a single unit sharing common information and not operate independently or in a silo.

1. **Why would a company want to have a CIO, CPO, and CSO?**

A chief information officer is responsible for (1) overseeing all uses of MIS and (2) ensuring that MIS strategically aligns with business goals and objectives. A chief privacy officer is responsible for ensuring the ethical and legal use of information within a company. A chief security officer is responsible for ensuring the security of business systems and developing strategies and safeguards against attacks by hackers and viruses. Companies need to ensure they have all of the appropriate executives to ensure they are meeting the goals and needs of the business.

1. **Explain MIS and the role it plays in a company and global business.**

Management information systems (MIS) is a business function, like accounting and human resources, which moves information about people, products, and processes across the company to facilitate decision making and problem solving. MIS incorporates systems thinking to help companies operate cross-functionally. For example, to fulfill product orders, an MIS for sales moves a single customer order across all functional areas including sales, order fulfillment, shipping, billing, and finally customer service.

Although different functional areas handle different parts of the sale, thanks to MIS, to the customer the sale is one continuous process. If one part of the company is experiencing problems, however, then, like the car without a steering wheel, the entire system fails. If order fulfillment packages the wrong product, it will not matter that shipping, billing, and customer service did their jobs right, since the customer will not be satisfied when he or she opens the package.

1. **Do you agree that MIS is essential for businesses operating in the information age? Why or why not?**

MIS can be an important enabler of business success and innovation. This is not to say that MIS equals business success and innovation, or that MIS represents business success and innovation. MIS is a tool that is most valuable when it leverages the talents of people who know how to use and manage it effectively. To perform the MIS function effectively, almost all companies, particularly large and medium-sized ones, have an internal MIS department, often called information technology (IT), information systems (IS), or management information systems (MIS). For the purpose of this text, we will refer to it as MIS.

1. **Why is it important for a business major to understand MIS?**

MIS systems drive organizations and all business students will be using MIS systems to perform their jobs. Without adequate knowledge of MIS business students will be unprepared to compete in the information age.

1. **What type of career are you planning to pursue? How will your specific career use data, information, business intelligence, and knowledge?**

Answers to this question will vary depending on the career path the student has chosen.

1. **Explain systems thinking and how it supports business operations.**

Systems thinking is a way of monitoring the entire system by viewing multiple inputs being processed or transformed to produce outputs while continuously gathering feedback on each part. Feedback is information that returns to its original transmitter (input, transform, or output) and modifies the transmitter’s actions. Feedback helps the system maintain stability. For example, a car’s system continuously monitors the fuel level and turns on a warning light if the gas level is too low. Systems thinking provides an end-to-end view of how operations work together to create a product or service. Business students who understand systems thinking are valuable resources because they can implement solutions that consider the entire process, not just a single component.

1. **What business strategies would you use if you were developing a competitive advantage for a company?**

Answers can include Porter’s five forces, Porter’s three generic strategies, or value chain analysis.

1. **Explain Porter’s Five Forces Model and the role it plays in decision making.**

Formally defined, Porter’s Five Forces Model analyzes the competitive forces within the environment in which a company operates to assess the potential for profitability in an industry. Its purpose is to combat these competitive forces by identifying opportunities, competitive advantages, and competitive intelligence. If the forces are strong, they increase competition; if the forces are weak, they decrease competition.

1. **How could a company use loyalty programs to influence buyer power? How could a company use switching costs to lock in customers and suppliers?**

Companies can also reduce buyer power with loyalty programs, which reward customers based on their spending. The airline industry is famous for its frequent-flyer programs, for instance. Because of the rewards travelers receive (free airline tickets, upgrades, or hotel stays), they are more likely to be loyal to or give most of their business to a single company. Keeping track of the activities and accounts of many thousands or millions of customers covered by loyalty programs is not practical without large-scale business systems, however. Loyalty programs are thus a good example of using MIS to reduce buyer power.

One way to reduce buyer power is by manipulating switching costs, costs that make customers reluctant to switch to another product or service. Switching costs include financial as well as intangible values. The cost of switching doctors, for instance, includes the powerful intangible components of having to build relationships with the new doctor and nurses, as well as transferring all your medical history. With MIS, however, patients can store their medical records on DVDs or thumb drives, allowing easy transferability. The Internet also lets patients review websites for physician referrals, which takes some of the fear out of trying someone new

1. **What are Porter’s three generic strategies and why would a company want to follow only one?**

Porter has identified three generic business strategies for entering a new market: (1) broad cost leadership, (2) broad differentiation, and (3) focused strategy. Broad strategies reach a large market segment, while focused strategies target a niche or unique market with either cost leadership or differentiation. Trying to be all things to all people is a recipe for disaster, since doing so makes it difficult to project a consistent image to the entire marketplace. For this reason, Porter suggests adopting only one of the three generic strategies.

1. **How can a company use Porter’s value chain analysis to measure customer satisfaction?**

To identify these competitive advantages, Michael Porter created value chain analysis, which views a firm as a series of business processes that each add value to the product or service. Value chain analysis is a useful tool for determining how to create the greatest possible value for customers. The goal of value chain analysis is to identify processes in which the firm can add value for the customer and create a competitive advantage for itself, with a cost advantage or product differentiation. The value chain groups a firm’s activities into two categories, primary value activities, and support value activities. When performing a value chain analysis, a firm could survey customers about the extent to which they believe each activity adds value to the product or service. This step generates responses the firm can measure to describe how each activity adds (or reduces) value. Then the competitive advantage decision for the firm is whether to (1) target high value-adding activities to further enhance their value, (2) target low value-adding activities to increase their value, or (3) perform some combination of the two.