MANAGEMENT INFORMATION SYSTEMS: BUSINESS DRIVEN mis

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CHAPTER

This guide provides many classroom activities, videos, and debates to accompany Business Driven 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
* SWOT analysis
* 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 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.

**CORE MATERIAL**

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Please review [www.Baltzan.net](http://www.Baltzan.net) for current videos, discussions, activities, and cases related to the core 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.

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| CHAPTER ONE  CLOSING MATERIAL |

**OPENING CASE QUESTIONS**

**The Internet of Things**

1. **Knowledge: Explain the Internet of Things and list three IoT devices.**

Imagine your toothbrush telling you to visit your dentist because it senses a cavity. How would you react if your refrigerator placed an order at your local grocery store because your milk and eggs when about to expire? Over 20 years ago, a few professors at Massachusetts Institute of Technology (MIT) began describing the Internet of Things (IoT), which is a world where interconnected, Internet-enabled devices or “things” can collect and share data without human intervention. Another term for the Internet of Things is machine to machine (M2M), which allows devices to connect directly to other devices. With advanced technologies, devices are connecting in ways not previously thought possible, and researchers predict that more than 50 billion IoT devices will be communicating by 2020. Kevin Ashton, cofounder and executive director of the Auto-ID Center at MIT, first mentioned the Internet of Things in a presentation he made to Procter & Gamble. Here’s Ashton’s explanation of the Internet of Things:

1. **Comprehension: Explain why it is important for business managers to understand that data collection rates from IoT devices is increasing exponentially.**

If your students are wondering why they need to take this course then this case study should scare them into becoming a believer in the power of technology in business. Managers of the future are going to be tasked with analyzing terabytes of data right on their desk – something new to industry. With M2M data managers are going to have access to incredible amounts of business intelligence – if they know how to handle it.

1. **Application: Demonstrate how data from an IoT device can be transformed into information and business intelligence.**

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

1. **Analysis: Analyze the current security issues associated with IoT devices.**

Security is covered in detail in Chapter 4 but we want to get the students thinking about ethics and security in every chapter. Security issues with IoT devices are many including:

* Privacy – how can a device ensure the wrong user is not accessing the data?
* Privacy – tracking the devices can be done by anyone
* Hackers – Devices can be hacked just like any other technology
* Viruses – Devices can have viruses just like any other technology

1. **Synthesis: Propose a plan for how a start-up company can use IoT device data to make better business decisions.**

Students should be able to discuss how a company can use Porter’s Five Forces to analyze an industry to determine how attractive it would be to enter. Once determining if it would be profitable to enter a certain industry the company would need to determine which of Porter’s three generic strategies it should follow to ensure success. Once the company is up-and-running it can use Porter’s value chain analysis to examine and redefine its business processes to ensure it is operating as efficiently and effectively as possible.

IoT devices can be used in any of these areas to track data on correct functioning, usage, malfunctions, locations, patterns, and activity. All of these will provide tremendous insight into how the market is using the device and how the market views the device. Hopefully, these are in line with corporate strategy.

1. **Evaluate: Argue for or against the following statement: “The Internet of Things is just a passing fad and will be gone within a decade.”**

For this debate the important point is that your students can justify their point of view. Some students will agree and others will disagree. The important part of the debate is their justification of how they view IoT.

**REVIEW 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 SWOT analysis, 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.

**CLOSING CASE ONE QUESTIONS**

**BUY EXPERIENCES, NOT THINGS**

1. **Imagine you are working for Costco as a manager in its Chicago store. Your boss does not understand the difference between data, information, business intelligence, and knowledge. Using examples of products and services available at Costco, provide examples of each to help your boss understand these important concepts.**

Staff employees at a Costco store will look at data – how much is a certain item, how many items do they have in stock, what hours are they working, when are their days off, etc. Executives at Costco’s corporate headquarters require information – do we have enough inventory to meet demand, are prices too high or too low, what is employee turnover per store, where should we build a new store, should we close a store, etc. Of course, store employees use information to do their jobs also, it is just at a store level, not a corporate level. Executives require information from many stores and the volumes of data they use to gain information are significantly larger than store employees. This is a great question to help students understand the power of this course. Here are a few examples you can share with your students.

* **Data**: item sold, date sold, amount of invoice, customer number, time of sale, quantity purchased
* **Information**: Best selling day of week, best selling product by hour, worst selling product by day, best store in a city, worst store in a state, average time for customer to check out, busiest time of day for produce sales
* **Business Intelligence**: Impact on sales for minimum wage increase, best location for placement of a new store, forecasts for sales of camping gear for next year,number of employees retiring over the next six months predicting number of new hires per location
* **Knowledge**: The regional manager for Denver is unhappy and planning on quitting in two weeks. The vendor for cheese has been charged with fraudulent business practices and is anticipating the entire business going bankrupt, Steve, a 20-year employee in the vision department is looking for a new job based on his recent MBA degree.

1. **Explain why it is important for Costco’s corporate accounting, marketing, and operations management business units to access and analyze information about your store’s sales. What could happen if your store sales were not shared with the different business units at Costco’s headquarters?**

Businesses operate cross-functionally. Accounting must have data from every department to function and marketing needs to know what operations is doing to create great marketing campaigns. For example, if operations create a new Costco generic product such as milk then marketing will want to advertise the benefits of purchasing the product direct from Costco to increase sales. If one store is selling more of an item they would want to understand the different market segments for each store to ensure they have the right marketing campaigns for each area. Costco does not want to sell ice cream in Alaska and hot chocolate in Hawaii.

1. **Explain systems thinking and how MIS solves the issue with information silos throughout Costco’s entire worldwide organization.**

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 Costco store continuously monitors the expiration dates on its frozen and fresh foods and a warning light will go on if all the milk is about to expire notifying marketing to create a campaign to help reduce the price of milk to ensure it all sells before it expires. 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. **Imagine you are working for Costco as a manager in its Chicago store. Using Porter’s Five Forces Model, analyze buyer power and supplier power for Costco.**

Buyer power is low for Costco. As a member of Costco, you can only purchase what is currently in the warehouse and you are never guaranteed that a product will be reordered or available in your size. Of course, buyers can choose not to become a member of Costco and join Sam’s Club or shop at other retail stores – driving buyer power higher. Supplier power is low for Costco because if you want the company to carry your products you must adhere to their rules and technology requirements.

1. **Which of the three generic strategies is Costco following?**

Costco is choosing to compete on price across all its products: Low cost, broad differentiation strategy.

1. **Only members of Costco can purchase products at Costco. Which of Porter’s Five Forces did Costco address through the introduction of its members-only program?**

Costco is using a loyalty program and switching costs to ensure its buyer power remains low.

**CLOSING CASE TWO QUESTIONS**

**THE WORLD IS FLAT**

1. **Knowledge: Define Globalization 1.0, 2.0, and 3.0 and provide a sample of the type of business data managers collected during each era.**

* Globalization 1.0 started when Christopher Columbus discovered the world is round and the world shrank from large to medium. For the next several hundred years, countries dominated by white men controlled business. Data examples would include all attributes associated with trade via shipping routes.
* Globalization 2.0 began around 1800, during the Industrial Revolution, when the world went from medium to small. In this era international companies dominated by white men controlled business. Data examples would include all attributes associated with trade via corporations.
* Globalization 3.0 began in early 2000, removing distance from the business equation, and the world has gone from small to tiny. In this era, people of all colors from the four corners of the world will dominate business. Farmers in remote villages in Nepal carry the iPhone to access the world’s knowledge at, say, Wikipedia or the stock market closing prices at Bloomberg. Data examples would include all attributes associated with trade via individual people.

1. **Comprehension: Explain Friedman’s flat world and the reasons why it is important for all businesses, small or large, to understand.**

If your students are wondering why they need to take this course, then this case study should scare them into becoming a believer in the power of technology in business. I tell all my students that my goal in life is to never see them on the top 10 worst business decisions of all time. If they pay attention in this course they might just avoid an embarrassing moment in business.

1. **Application: Demonstrate how students competing for jobs in a “flat world” can create competitive advantages to differentiate themselves in the marketplace.**

Learning about information technology and how they can use IT to gain a competitive advantage in their industry or for their organization is key. Most organizations operate using technology and understanding how business and technology relate will help students achieve success.

* Negative: In a flat world it is far more difficult to get a job because competition is increasing at an incredible rate. There are 1 billion people online in 2006. It is anticipated that 4 billion people will be online by 2010. As the next 3 billion people come online over the next 4 years competition is going to dramatically increase.
* Positive: Students can now perform a global job search right from their apartment. Students in Chicago can accept jobs all over the world without ever leaving their apartment. They can even work remotely and continue to live in Chicago while working for a company based in Japan.

1. **Analysis: Analyze the current business environment and identify a new flattener not mentioned on Friedman’s list**.

The answer to this question will vary. A few include:

* Cheaper technology, such as the $100 laptop from MIT, allowing more people access to the Internet
* Video phones and collaboration tools allowing people to meet face-to-face even when they are in various parts of the world
* Technologies such as Voice-over-IP that offer a cheap alternative to traditional long-distance carriers

1. **Synthesis: Propose a plan for how a start-up company can use any of Porter’s strategies to combat competition in a global world.**

Students should be able to discuss how a company can use Porter’s Five Forces to analyze an industry to determine how attractive it would be to enter. Once determining if it would be profitable to enter a certain industry the company would need to determine which of Porter’s three generic strategies it should follow to ensure success. Once the company is up-and-running it can use Porter’s value chain analysis to examine and redefine its business processes to ensure it is operating as efficiently and effectively as possible.

1. **Evaluate: Argue for or against the following statement: “The world is not flat (in Friedman’s sense of the term) because many undeveloped countries are not connected electronically.”**

For this debate the crucial point is that your students can justify their point of view. Some students will agree with Friedman that technology has made the world flat. Others, will disagree with Friedman stating that there are still many people that do not have access to technology and for them the world is still round.

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**CRITICAL BUSINESS THINKING**

**Instructor Note**: There are few right or wrong answers in the business world. There are really only efficient and inefficient, and effective and ineffective business decisions. If there were always right answers businesses would never fail. These questions were created to challenge your students to apply the materials they have learned to real business situations. For this reason, the authors cannot provide you with one version of a correct answer. When grading your students’ answers, be sure to focus on their justification or support for their specific answers. A good way to grade these questions is to compare your student’s answers against each other.

1. **FOCUSING ON FRIEDMAN**

**Project Purpose:** To understand the global business environment.

**Potential Solution:** There is a great overview of Friedman’s text at <http://www.thomaslfriedman.com/bookshelf/hot-flat-and-crowded>.

Hot, Flat, and Crowded: Why We Need a Green Revolution - And How it Can Renew America

Thomas L. Friedman's no. 1 bestseller The World Is Flat has helped millions of readers to see globalization in a new way. Now Friedman brings a fresh outlook to the crises of destabilizing climate change and rising competition for energy—both of which could poison our world if we do not act quickly and collectively. His argument speaks to all of us who are concerned about the state of America in the global future.

Friedman proposes that an ambitious national strategy—which he calls "Geo-Greenism"—is not only what we need to save the planet from overheating; it is what we need to make America healthier, richer, more innovative, more productive, and more secure.

As in The World Is Flat, he explains a new era—the Energy-Climate era—through an illuminating account of recent events. He shows how 9/11, Hurricane Katrina, and the flattening of the world by the Internet (which brought 3 billion new consumers onto the world stage) have combined to bring climate and energy issues to Main Street. But they have not gone very far down Main Street; the much-touted "green revolution" has hardly begun. With all that in mind, Friedman sets out the clean-technology breakthroughs we, and the world, will need; he shows that the ET (Energy Technology) revolution will be both transformative and disruptive; and he explains why America must lead this revolution—with the first Green President and a Green New Deal, spurred by the Greenest Generation.

Hot, Flat, and Crowded is classic Thomas L. Friedman—fearless, incisive, forward-looking, and rich in surprising common sense about the world we live in today.

1. **PURSUING PORTER**

**Project Purpose:** To see the amount of online information about famous business professionals.

**Potential Solution:** The following offer interviews and videos of Michael Porter.

<http://www.isc.hbs.edu/> Harvard Business School Institute for Strategy and Competitiveness

<http://www.youtube.com/watch?v=mYF2_FBCvXw> The Five Competitive Forces that Shape Strategy Video

<http://www.youtube.com/watch?v=y5I_cnpP99U> Michael Porter on Competitiveness Video

<http://www.youtube.com/watch?v=ibrxIP0H84M> Michael Porter on Strategy Video

The types of professionals your students might list include:

* Bill Gates
* Steve Jobs
* Seth Godin
* Malcolm Gladwell
* John Kotter
* Jim Collins
* Peter Drucker
* Clayton Christensen
* Jack Welch
* Stephen Covey
* Dale Carnegie

1. **STREAMING MOVIES**

**Project Purpose:** To apply Porter’s Five Forces model to the Streaming Movies

**Potential Solution:** The following offers one potential solution:

* Buyer power is high as customers have many choices for streaming movies including Netflix, Hulu, Cable channels, On-demand, and Amazon. They can also choose to purchase movies at many different stores or rent from Redbox.
* Supplier power is low as there are numerous competitors in this fiercely competitive market including Amazon Prime, Netflix, Xfinity Cable, Hulu, etc.
* Competition is high and rivalry is fierce.
* Threat of new entrants is high as more and more individuals are making indie movies and offering them on YouTube and Hulu.
* Threat of substitute products is high as new forms of online entertainment hit the markets yearly including virtual reality and gaming.

After analyzing this market the majority of students will determine that the industry is highly competitive and risky to attempt to enter.

1. **WORKING FOR THE BEST**

**Project Purpose:** To understand the value of data.

**Potential Solution:** The goal of higher education is to arm our students with the types of skills required to start an amazing fulfilling career. Looking at current top companies can help students understand early the skills they require to be competitive. What skill will they receive from this course that they can put on their resume or LinkedIn account? This activity is a great eye-opener for students skeptical of taking this course.

Ask your students to find a list of the top companies to work for in the current year according to Fortune magazine. Data items could include:

* Perks
* Benefits
* Location
* Turnover
* Profitability
* Employee trust
* Layoff history

If the data analyzed by Fortune was inaccurate the listing would be inaccurate and readers and subscribers to Fortune would lose faith in the company and discontinuing reading the magazine. Students analyzing this list can gain insight into the types of companies they might want to work for upon graduation. Potential questions students can answer by analyzing this list include:

* Which industry has the greatest number of Fortune 100 top companies to work for?
* Which industry has the least number of Fortune 100 top companies to work for?
* What are the top five locations for Fortune 100 companies?
* What are the bottom five locations for Fortune 100 companies?
* What types of perks and benefits do top companies offer?
* How many of the Fortune 100 companies are currently hiring?

1. **MANIPULATING DATA TO FIND YOUR VERSION OF THE TRUTH**

**Project Purpose:** To demonstrate the value of MIS

**Potential Solution:** This is a great project to help your students understand the problems associated with interpreting data. Many students will be unfamiliar with data and how they are going to interact with corporate data, customer data, competitor data, market data, etc. Economists use all kinds of data including GDP, inflation, housing sales, taxes, exchange rates, currency, etc.

1. **STARTING YOUR OWN BUSINESS**

**Project Purpose:** To demonstrate the value of MIS

**Potential Solution:** Students who are unfamiliar with MIS might not realize its power. Many startups today focus on technology or use technology to create competitive advantages. This is another great project that will show your students how MIS impacts business and by understanding the power of MIS they could start their own business – what a great incentive to become an MIS major!

1. **INFORMATION ISSUES IN THE INFORMATION AGE**

**Project Purpose:** Understanding data, information, business intelligence, knowledge

**Potential Solution:** The types of information stored on a thumb drive could include student age, student birthdate, student address, student phone, student contact, student major, student classes, student loans, student social security number, student license plate, student work history, student grades and degree. Losing this information could put every student at risk of identity theft. The school should have a policy that student data cannot be stored on personal devices!

1. **10 BEST THINGS YOU WILL SAY TO YOUR GRANDCHILDREN**

**Project Purpose:** Demonstrate how quickly MIS changes and the value of keeping current

**Potential Solution:** Your students may find different answer then the following depending on their familiarity with technology.

**1.** Refers to using Twitter

2. Refers to global warming and the loss of snow

3. Refers to Jeopardy and other game shows based on a person’s own memory

4. Refers to movie theaters before on-demand and Netflix downloads

5. Refers to social networking profiles

6. Refers to globalization

7. Refers to vitamins

8. Refers to cloud computing

9. Refers to iPhone updates

10. Refers to cloning animals

1. **IOT IN THE ROOM**

**Project Purpose:** To understand how machine generated data is creating big data that must be analyzed.

**Potential Solution:** Take a pool of your students and ask how many have IOT devices on them right now? Fitbits, iWatches, cell phones – all are tracking massive amounts of data every hour. Some students may not even realize that their cell phones are tracking locations, text messages, cell service. How are your students using these devices to manage their lives? Are they using a Fitbit to ensure they are getting enough exercise and their resting heart rate is low?

1. **TEDDY THE GUARDIAN**

**Project Purpose:** To understand how IoT devices can impact healthcare.

**Potential Solution:** What child wouldn’t want Teddy the Guardian on their beds? There are so many incredible IOT devices being deployed to help society and Teddy the Guardian is one of the best! The ethical and security issues surround IOT devices are huge as many unethical people will find ways to use the technology against society.

1. **DEATH OF A PRODUCT**

**Project Purpose:** Understanding how quickly technological devices become outdated.

**Potential Solution:** Answer to this question will vary – below is a template for your students to use as they analyze their products.



1. **APPLYING THE THREE GENERIC STRATEGIES**

**Project Purpose:** Helping students understand how a generic strategy can drive business success.

**Potential Solution:** 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. Student answers will vary depending on which industries they choose to research.

1. **IOT TIME MANAGEMENT**

**Project Purpose:** The impact an IoT device can have on student success.

**Potential Solution:** Answer to these questions will vary – below is a template for your students to use as they analyze their products.



1. **WHO REALLY WON THE 2014 WINTER OLYMPICS**

**Project Purpose:** Understanding how interpreting raw data can generate different results.

**Potential Solution:** This is such a splendid example of identical data being deployed in diverse ways due to analysis. Who it right and who is wrong truly depends on how you look at the data – and more likely who you are when you are looking at the data. Your students will enjoy analyzing these two different reports from the exact same dataset.

**APPLY YOUR KNOWLEDGE BUSINESS PROJECTS**

**Instructor Note**: There are few right or wrong answers in the business world. There are really only efficient and inefficient, and effective and ineffective business decisions. If there were always right answers businesses would never fail. These questions were created to challenge your students to apply the materials they have learned to real business situations. For this reason, the authors cannot provide you with one version of a correct answer. When grading your students’ answers, be sure to focus on their justification or support for their specific answers. A good way to grade these questions is to compare your student’s answers against each other.

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| **AYK I: CAPITALIZING ON YOUR CAREER** |

Managers need to be involved in information technology – any computer-based tool that people use to work with information and support the information and information-processing needs of an organization. This project discusses the importance of getting general business mangers involved in information technology.

Student answers to this project will vary depending on their area of expertise. This project is aimed at getting your students excited about information technology, even though they are not IT majors. By researching the IT implications for their majors, they will begin to realize how important IT will be in their future. The most important part of your students’ answers will be the justification for their analysis.

If your students are still determining their potential majors and areas of expertise you can break your students into groups and assign each group a different major or industry to research. Have your students present their findings to the entire class. This helps provide an overview of all areas and related IT influences.

**Potential majors:**

* Accounting – Oracle financials, payroll systems, QuickBooks
* Finance - Oracle financials, payroll systems, QuickBooks
* Management – HR systems that can pinpoint potential employee issues and risks
* Marketing – Blogs, eMarketing, RSS, podcasts, sales force automation
* IT/MIS – Design tools such as Irwin or Rational Rose or Rational RUP
* Statistics - SAS
* Operations – i2, supply chain systems, logistic systems

**Potential industries:**

* Telecommunications
* Health care
* Finance
* Education
* Strategy services
* Products
* Energy
* Fashion

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| **AYK II: ACHIEVING ALIGNMENT** |

Most companies would like to be in the market-leading position of JetBlue, Harrah's, Dell, or Wal-Mart. Infor­mation technology has helped them secure their respec­tive spots in the marketplace. These companies have a relentless goal of keeping the cost of technology down by combining the best of MIS and business leadership. Companies that master the art of finely tuned, cost-effective MIS management will have a major advantage in business. Their success will force their competitors to also master the art or fail miserably. The future belongs to those who are perceptive enough to grasp the significance of MIS and resourceful enough to synchronize business management and information management.

1. **How do companies prioritize the demands of various business units as they relate to MIS?**
2. **Aligning MIS and Business Objectives** - MIS organizations have been using operational systems such as project management and resource management to streamline their overall process and “do things right”. However, they might still be working on a wrong set of priorities. Alignment between business and technology enables them to prioritize MIS investments and work on “the right things.”
3. **Asset Rationalization** - Solutions that enable MIS executives to plan asset rationalization initiatives and reduce their overall MIS expenditure on infrastructure assets. Rationalization projects require MIS organizations to identify the right opportunities for data center/server consolidation, vendor rationalization, infrastructure re-deployment and contract renegotiation, and then create optimal plans. With over 50% of the MIS spent going towards infrastructure assets within most companies, smart rationalization enables MIS executives to find the money to fund other strategic initiatives.
4. **Risk Reduction** - Solutions that enable information technology executives to reduce risk to their business operations from internal and external MIS factors. The risk from internal factors is primarily attributed to poor planning and execution of projects and initiatives.
5. **What are some of the greatest MIS challenges for the coming year?**

Answers will certainly vary here; however, most students should be able to identify many of the following:

1. **Security** – This is a very broad topic area, yet it is the most important in terms of MIS challenges. Represented in this area are security issues, such as:

* Biometric Devices
* Crime
* Data Encryption Standards
* Department of Homeland Security
* Disaster Planning
* Encryption
* Hackers
* Risk Management
* Security Hardware
* Security Management
* Security Software
* Security Standards
* Security Systems
* Storage Management
* Systems Implementation
* Wireless

1. **More Mobile Service With Less Bandwidth** – This topic area has roots embedded in the security issues listed above. However, there is a challenge in developing and extending the infrastructure needed to support these types of services. Enterprise users planning to "mobilize" access to corporate applications must look beyond the mobile service providers to the application developers and the handset manufacturers for end-to-end solutions that support specific applications over a mobile telephone network.
2. **Business Intelligence** – Business Intelligence systems will grow from being a “cool” IT “buzzword” to a valuable function that will drive business. However, the challenge will be how to integrate, such as OLAP, data warehouses, data mining, with existing systems.
3. **What drives MIS decisions?**

Responses will vary here; however, some students may wish to answer this from a historical perspective. Some typical answers should include:

1. Companies buy computers and invest in information technology because they believe those investments will improve their productivity. However, the impact of MIS expenditures on a company's productivity is far less clear — and harder to quantify.
2. Companies have been able to measure MIS expenses — from acquisitions to the maintenance of computer networks, security, and so on — without much ado. But they are now finding ways to measure the value of MIS expenditures through productivity metrics, among other measures. Not surprisingly, this involves a change in how companies think about their MIS investments and the impact these investments have on their bottom line.
3. MIS investments are increasingly linked to a company's business goals. To look at productivity effectively involves understanding a company's business goals and what makes the company successful.
4. Solutions are mapped to support business objectives. The costs and benefits of the investment must then be quantified, along with the risk of implementation — the risk, in other words, that inadequate training, turf battles or other factors could compromise the productivity benefit.
5. **Who or what is the moving force behind MIS decisions?**
6. Traditionally, the chief information officer (CIO) and the MIS department have been responsible for making MIS decisions. The reason was simple: they were the ones who knew the most about computers and computing technology. But merely acquiring (or building) the right technology is no longer sufficient. Companies must continue to examine each technology decision throughout its investment life cycle, thereby ensuring its proper implementation, its productive use, and its measurable results.
7. Many companies are subjecting the business cases for MIS decisions to the same criteria they apply to other company decisions. The CIO now needs to justify that each decision (namely that of an investment) has the same potential return as, say, building a new factory.
8. The MIS industry has been under pressure to keep up with the newest technologies, answering to many departments often without clear goals. The result: Technologies that did not make smart business sense were sometimes implemented at significant costs. The more rigorous, business-case approach, however, helps CIOs and executives align their MIS decisions with business goals to ensure a productive result.
9. Peer recommendations and staff inputs can be considered important.

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| **AYK III: MARKET DISSECTION** |

Organizations must formulate a strategy for entering new markets. An organization can follow Porter’s three generic strategies when entering a new market: (1) broad cost leadership, (2) broad differentiation, or (3) a focused strategy. Broad strategies reach a large market segment, while focused strategies target a niche market. A focused strategy concentrates on either cost leadership or differentiation. Trying to be all things to all people, however, is a recipe for disaster, since it is difficult to project a consistent image to the entire marketplace. Porter suggests that an organization is wise to adopt only one of the three generic strategies.

To illustrate the use of the three generic strategies, consider the figure in the question. The matrix shown demonstrates the relationships among strategies (cost leadership versus differentiation) and market segmentation (broad versus focused).

* Hyundai is following a broad cost leadership strategy. Hyundai offers low-cost vehicles, in each particular model stratification, that appeal to a large audience.
* Audi is pursuing a broad differentiation strategy with its Quattro models available at several price points. Audi’s differentiation is safety, and it prices its various Quattro models (higher than Hyundai) to reach a large, stratified audience.
* Kia has a more focused cost leadership strategy. Kia mainly offers low-cost vehicles in the lower levels of model stratification.

Hummer offers the most focused differentiation strategy of any in the industry (including Mercedes-Benz). Student solutions to this project will vary. The most important part of their answer is their justification for each product placement.

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| **AYK IV: FIXING THE POST OFFICE** |

This is an excellent project for helping students understand the competitive environment in package delivery and how technology is changing the world. Student answers to this question will vary, again the important part is to look at the justification for their answers. Below are a few examples you can share with your students to get them heading in the right direction.

**Template**



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| **AYK VI: FLAT COMPETITION** |

Hopefully, everyone immediately recognizes the importance of this course as they watched the Friedman video. As you begin to compete in a Flat World you need all the technology skills and experience you can possibly find! I've never heard anyone say - "My career was right on track until I learned about technology - I sure wish I had never learned technology it ruined my career".

* Amazon is a book selling company - not a technology company.
* Netflix is a video rental business - not a technology company.
* eBay is a consumer trading business - not a technology company.

All of these businesses were started by BUSINESS people who understood the value of technology so well that they fundamentally changed the primary business processes of buying books, renting videos, and trading goods. Every BUSINESS person should understand technology, without it they won't be able to spot the competitive advantages that are just waiting for the next brilliant entrepreneur to discover.

There are huge strides in third world countries. We now have Internet carts that can drive around and provide remote villages in Neap and India and Africa with computers and access. Some argue that the world between the haves and the have-nots is widening because of technology - I personally believe it is closing. With a computer I can literally get a PHD from an online school no matter where I am located - a remote village in Antarctica.

Here is a question for your students. Is the world flat for everyone? When I view Friedman and try to think of a job that isn't flat I actually tend to come up with blue collar jobs. White collar jobs are easily outsourced - CPAs are doing our taxes in China, Legal work is done is Africa, Architecture work is done in India, Programming code is done is Ukraine, Doctors are reading our x-rays in India, etc. But can a nurse, garbage man, house painter, contractor, waitress, librarian, (service industry) jobs be outsourced? Don't get me wrong - I completely agree that the best thing you can invest in is your education - but in a flat world I no longer agree that it means your skill set won't be outsourced.

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| **AYK VII: MEASURING EFFICIENCY AND EFFECTIVENESS** |

Efficiency implies doing things right and effectiveness implies doing the right things. Efficiency MIS metrics focus on technology and include throughput, which is the amount of information that can travel through a system at any point in time. Efficiency metrics include speed, availability, accuracy, web traffic, and response time. Effectiveness MIS metrics focus on an organization’s goals, strategies, and objectives and include usability, customer satisfaction, conversion rates, and financial metrics. Ideally, an organization wants to operate with significant increases in both efficiency and effectiveness.

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| **AYK VIII: ADDING VALUE** |

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.

A screenshot of a cell phone

Description generated with very high confidence

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| **AYK IX: LISTEN TO SPIDERMAN: HE KNOWS WHAT HE IS TALKING ABOUT** |

Student answer to this question will vary depending on the company the student chooses. This is a great activity to place your students in groups and have them begin to apply all the material they have read in Chapter 1 and how it can help or hinder a business. Have your students discuss their findings with other groups that have reviewed the same company.

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| **AYK X: GET THE COW OUT OF THE DITCH** |

First: Get the cow out of the ditch. What can your students do to raise sales in the Asian and European markets?

Second: Find out how the cow got in the ditch. What happened in the Asian and European markets to cause sales to decline. It could be the different competitive market, the customer preferences, or the operating system. Understanding what happened will help your students solve the sales decline problem.

Third: Ensure the cow doesn’t get in the ditch again. Tracking metrics on customer satisfaction could help the company pinpoint sales issues before they occur. Ask your students to brainstorm how to get the cow out of the ditch for common business problems.

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| **AYK XI: I LOVE TED!** |

There are so many amazing videos on Ted that your students will find a wealth of information on all sorts of interesting topics. Gaining knowledge and information on new technologies, new business strategies, different perspectives, global views, etc. is a great way to analyze any market for competitive advantages.