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| **UNIT ONE**  **Achieving Business Success** |

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

* Competitive advantages
* Porter’s Five Forces Model
* Porter’s three generic strategies
* Value chain
* Supply chain management
* Customer relationship management
* Business process reengineering
* Enterprise resource planning
* IT efficiency metrics
* IT effectiveness metrics
* Organizational structures
* Ethics
* Security

Many of these concepts and strategies will be new to your students. Be sure to explain to your students that this Unit 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. For example, customer relationship management is introduced in Unit One and discussed in detail in several additional chapters and in the business plug-ins. The chapters in Unit One include:

* **Chapter One** – Business Driven Technology
* **Chapter Two** – Identifying Competitive Advantages
* **Chapter Three** – Strategic Initiatives for Implementing Competitive Advantages
* **Chapter Four** – Measuring the Success of Strategic Initiatives
* **Chapter Five** – Organizational Structures That Support Strategic Initiatives

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| **CHAPTER ONE**  **Business Driven Technology** |

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.

**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: Identify the different departments in a company and why they must work together to achieve success.**

Companies are typically organized by department or functional area such as accounting, finance, human resources, marketing, operations management, and sales. Although each department has its own focus and own 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. Functional areas are anything but independent in a business. In fact, functional areas are interdependent. Sales must rely on information from operations to understand inventory, place orders, calculate transportation costs, and gain insight into product availability based on production schedules. For an organization to succeed, every department or functional area must work together sharing common information and not be a “silo.” Information technology can enable departments to more efficiently and effectively perform their business operations.

**Learning Outcome 1.3: 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 OPENER**

**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>

**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, 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.com**

<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.

**CLASSROOM EXERCISE**

**THOMAS FRIEDMAN – THE WORLD IS FLAT**

**The World is Flat Discussion at MIT - Video**

The MIT website offers a video lecture by Thomas Friedman discussing his book The World is Flat. This is an amazing video to show your students how technology has integrated into the business environment and changed the fundamental processes that drive business. Try showing the video to your students or assign it as homework. Friedman is an entertaining speaker and your students will enjoy his lecture.

<http://mitworld.mit.edu/video/266/>

**CLASSROOM EXERCISE**

**PLUSES AND MINUSES**

The line famously quoted in the film Spider-Man, “With great power comes great responsibility,” should apply to every type of technology you encounter in business. Technology provides countless opportunities for businesses, but it can also lead to countless pitfalls and traps. Online trading, for instance, brought many companies profits but cost many individual investors their life savings through fraud. Bernard Madoff, the owner of a high-profile New York investment company, forged investment statements and spent billions of dollars of his client’s money. Sites such as Craigslist and eBay allow anyone to become a provider of goods and services and a few unethical individuals have even used it to run online prostitution rings.

A manager must be able to analyze the good and the bad associated with technology. Review some companies that primarily operate on the Internet such as Netflix, Craigslist, or Amazon, and compile a list of the business opportunities and the potential pitfalls associated with doing business online.

**CLASSROOM EXERCISE**

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

How can global warming be real when there is so much snow and cold weather? That’s what some people wondered after a couple of massive snowstorms buried Washington, DC, in the winter of 2009–2010. Politicians across the capital made jokes and built igloos as they disputed the existence of climate change. Some concluded the planet simply could not be warming with all the snow on the ground.

These comments frustrated Joseph Romm, a physicist and climate expert with the Center for American Progress. He spent weeks turning data into information and graphs to educate anyone who would listen as to why this reasoning was incorrect. Climate change is all about analyzing data, turning it into information to detect trends. You cannot observe climate change by looking out the window; you have to review decades of weather data with advanced tools to really understand the trends.

Increasingly we see politicians, economists, and newscasters taking tough issues and boiling them down to simplistic arguments over what the data mean, each interpreting the data and spinning the data to support their views and agendas. You need to understand the data and turn them into useful information or else you will not understand when someone is telling the truth and when you are being lied to.

Brainstorm two or three types of data economists use to measure the economy. How do they turn the data into information? What issues do they encounter when attempting to measure the economy? As a manager, what do you need to understand when reading or listening to economic and business reports?

**CLASSROOM EXERCISE**

**INFORMATION ISSUES IN THE INFORMATION AGE**

We live in the information age where the collection, storage, and use of data are hot topics. One example of inappropriate data handling occurred at a college where the monitoring of restrooms occurred every 15 seconds to observe the use of toilets, mirrors, and sinks. Students, faculty, and staff began complaining that the data collection was an invasion of their privacy and a violation of their rights.

Another example of inappropriate data handling occurred when a Professor of accounting at a college lost a flash drive containing information for more than 1,800 students including Social Security numbers, grades, and names. Social Security numbers were included because the data went back to before 1993 when the college used Social Security numbers to identify students.

What types of student data does your college collect? What could happen if your professor lost a thumb drive with all of your personal information? What types of issues could you encounter if someone stole your personal data? What can your college do to ensure this type of data storage violation does not occur?

**Fighting Back Against Identity Theft - Video**

<http://www.ftc.gov/bcp/edu/microsites/idtheft/video/avoid-identity-theft-video.html>

**CLASSROOM EXERCISE**

**THE COMPETITIVE LANDSCAPE FOR STUDENTS**

According to the Economic Policy Institute, over the past decade the United States has lost an estimated 2.4 million factory jobs to China. Factories in South Korea, Taiwan, and China are producing toys, toothpaste, running shoes, computers, appliances, and cars. For a long-time U.S. firms, did not recognize these products as competition; they regarded Asia’s high-tech products as second-rate knockoffs and believed Asian countries maintained a “factory culture”— they could imitate but not innovate. In hindsight, it is obvious that once these countries did begin designing and creating high-end products, they would have obvious competitive advantages, with high-value research and development coupled with low-cost manufacturing of unbeatable goods and services. Asia is now on the rise in all industries from wind turbines to high-speed bullet trains. According to Bloomberg Businessweek’s 2010 ranking of the most innovative companies, 15 of the top 50 are Asian, up from just 5 in 2006. In fact, for the first time, the majority of the top 25 are based outside the United States.

How do you, as a business student, view these statistics? What type of global business climate will you be competing in when you graduate? If you wanted to gather competitive intelligence about the job market, where would you look and what types of data would you want to analyze? What can you do to create personal competitive advantages to differentiate yourself when searching for a job?

**CLASSROOM EXERCISE**

**FIXING THE POST OFFICE**

Is there anything more frustrating than waiting in line at the post office? Not only are those lines frustrating, but they are also unprofitable. The U.S. Postal Service has faced multibillion-dollar losses every year for the past few years, making for one of the greatest challenges in its history.

What is killing the post office? Perhaps it is Stamps.com, a website that allows you to customize and print your own stamps 24 hours a day. Getting married? Place a photo of the happy couple right on the stamp for the invitations. Starting a business? Place your business logo on your stamps. Stamps.com even keeps track of a customer’s postal spending and can recommend optimal delivery methods. Plus, Stamps.com gives you postage discounts you can’t get at the post office or with a postage meter.

Evaluate the U.S. Postal Service using Porter’s Five Forces Model. How could the Postal Service create new products and services to help grow its business? What types of competitive advantages can you identify for the Postal Service?

**CLASSROOM EXERCISE**

**WANT TO START YOUR OWN BUSINESS? JUST FIND A PROBLEM TO SOLVE**

Derek Johnson, a student at the University of Houston, was having lunch with his friend who happened to be the communications director for her sorority. During lunch Derek’s friend was telling him how hard it was to communicate with all of her sisters in the sorority. She had to send out important announcements about meetings, charitable events, and even dues. She had tried everything including Facebook, email, and message boards but so far nothing was working. As Derek pondered his friend’s dilemma he came up with a solution, mass text messaging.

Johnson began researching mass text messaging products and was surprised to find that none existed for the average consumer. Spotting an entrepreneurial opportunity Derek quickly began working on a product. Within a few months, he launched his website, Tatango, and began offering group text messaging at a reasonable price. Now, a few years later, Tatango offers customers subscription plans starting under $20 a month that allows groups to send text messages to all members at once—whether 10 or 10,000—from any device.

In a group, brainstorm a list of problems you are currently experiencing. Decide whether any present potential new business opportunities, and if so, analyze the potential using the tools introduced in this chapter. Be prepared to present your new business to the class

**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.

**OPENING CASE STUDY 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.

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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 a particular 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 of 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.

**CHAPTER ONE CASE**

**The World is Flat – Thomas Friedman**

1. **Do you agree or disagree with Friedman’s assessment that the world is flat? Be sure to justify your answer.**

There is no correct answer to this question, the important 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.

1. **What are the potential impacts of a flat world for a student performing a job search?**

Negative: In a flat world it is far more difficult to get a job because competition is increasing at an incredible rate. There are 5 billion people online in 2016. As more and more people compete online the job market competition dramatically increases.

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. **What can students do to prepare themselves for competing in a flat world?**

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

1. **Identify a current 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.
* Mobile devices allowing anytime anywhere access to the Internet.
* Online collaboration tools allowing people to meet face-to-face even when they are in different parts of the world

**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.

**2. 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.

**3. 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.

**4. 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. **What is MIS and what role does it play in an organization?**

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

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. 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.

**CHAPTER ONE – MAKING BUSINESS DECISIONS**

1. **VIEW FROM A FLAT WORLD**

This is a great discussion question for students to begin understanding the value of MIS in a Flat World. Is success defined by where you are born, how much money you have, or what type of education you received? With MOOCS, online learning, online education, and access to information around the globe why would a child in Nepal have a disadvantage over a child in Chicago? Makes for a great debate to get the course started.

1. **IS TECHNOLOGY MAKING US DUMBER OR SMARTER?**

Another great discussion to get your course started. If you can just Google any information you need – then why learn the material? How has the Internet made us less dependent on learning? What happens when the information on the Internet is inaccurate or incorrect and we depend on that information as our only source of knowledge? Get your students debating these issues and they will soon see the value of this course.

1. **IOT IN THE ROOM**

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?

1. **WORKING FOR THE BEST**

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.

1. **PEOPLE IN CHINA AND INDIA ARE STARVING FOR YOUR JOBS**

Another great debate or online discussion question to get your students understanding the value of MIS in the digital age. Preparation begins with learning all about MIS and data. The managers of tomorrow will have terabytes of data sitting on their desks and they must have the skills required to slice-and-dice the data to make business decisions.

1. **TEDDY THE GUARDIAN**

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.