

CHAPTER 1: BUSINESS INFORMATION SYSTEMS

Information is everywhere. Information is a strategic asset. Without information, an organisation simply could not operate. Organisations have access to increasing amounts of data now. This brings new benefits but also raises questions. What and how much data should they collect or purchase? Where will they store it and how will they use it? What about privacy concerns and regulations? This chapter introduces students to several core business strategies that focus on using information to gain a competitive advantage, including:

* the difference between information technology and information systems
* data, information, business intelligence, knowledge
* common functional areas in an organisation
* information technology’s impact on business operations
* systems thinking
* roles and responsibilities in information technology
* generic information systems in business and using them to make decisions and gain competitive advantage
* why is competitive advantage temporary?
* Porter’s Five Forces Model
* Porter’s three generic strategies
* value chain analysis
* adding value by using Porter’s value chain analysis
* global IT.

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.

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| SECTION 1.1**INFORMATION SYSTEMS IN BUSINESS** | SECTION 1.2**BUSINESS STRATEGY** |
| * Business and the information age
* Information technology versus information systems
* Data, information, business intelligence and knowledge
* Common functional areas of an organisation
* A systems-thinking approach to information technology
* People: roles and responsibilities in information technology
* Fundamental information systems in business
 | * Identifying competitive advantages
* Porter’s Five Forces Model—evaluating industry attractiveness
* Porter’s three generic strategies—choosing a business focus
* Value chain analysis—executing business strategies
* Global IT
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| Bee1_leftSECTION 1.1 INFORMATION SYSTEMS IN BUSINESS |

LEARNING OUTCOMES

Learning outcome 1:1 Differentiate between information technology and information systems.

Learning outcome 1.2: Describe the differences between data, information, business intelligence and knowledge.

Learning outcome 1.3 Outline the common functional areas in an organisation.

Learning outcome 1.4: Explain a systems-thinking approach in relationship to business.

Learning outcome 1.5: Describe and compare the different roles and responsibilities in information technology.

Learning outcome 1.6: Identify the three main types of information systems, and how business personnel can use these systems to make decisions and gain competitive advantage.

Learning outcome 1.7: Explain competitive advantages and the role IT plays in its achievement

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.

**DISCUSS: Pluses and minuses**

The line famously quoted in the film *Spider-Man*, ‘With great power comes great responsibility’, applies to every type of technology you encounter in business. Technology provides countless opportunities for businesses, but can also lead to pitfalls and traps. Online trading, for instance, brought many companies profits but has cost many individual investors their life savings through fraud. Ponzi schemes, for example, attract inexperienced investors with promises of high-yield investments but no real profits are generated. Online anonymity means the promoters disappear when the schemes end. Sites such as Craigslist and eBay allow anyone to become a provider of goods or services and a few unethical individuals have even used it to run online prostitution rings. A manager must be able to analyse the good and the bad associated with technology.

Classroom opener 1

GREAT BUSINESS DECISIONS: The Apple iPod, iPhone and iPad

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. They founded the Apple Computer, Inc. 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. Through the decades, Apple has been the developer of gadgets which end by taking the world by storm—the iPod, the iPhone, the iPad. Each of these devices has captured the market on release and often seen off its imitators as well through a combination of original design, user friendliness and excellent marketing.

Ask students to put up their hands if they have a mobile and then ask each one, how many mobile phones they have owned since their first mobile phone. This always brings out how fast people change over their own technology and the reasons they do this for—which is what mobile phone companies rely on to maintain their sales targets.

Steve Jobs passed away in 2012, but his legacy continues in the Apple company of bold and left-of-field business decisions and directions. The students can watch this video on Steve Job’s legacy:

<http://money.cnn.com/video/technology/2011/08/24/t_steve_jobs_apple_legacy.fortune/?iid=HP_Highlight>[[1]](#endnote-1)

This article explores the effect of Steve Job’s death on Apple’s future: [www.washingtonpost.com/business/technology/steve-jobss-death-leaves-apple-facing-challenges-without-its-lead-visionary/2011/10/05/gIQAbV5xOL\_story.html](http://www.washingtonpost.com/business/technology/steve-jobss-death-leaves-apple-facing-challenges-without-its-lead-visionary/2011/10/05/gIQAbV5xOL_story.html)[[2]](#endnote-2)

And this video on the Apple versus Samsung patent infringement case which won US$1.05 billion in damages: <https://www.youtube.com/watch?v=Ul7Z3UKvXpM>[[3]](#endnote-3) (8 minutes)

Classroom opener 2

GREAT BUSINESS DECISIONS: Sam Walton’s discounting of America

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

Samuel Moore Walton lived in the same neighborhood in Bentonville, Arkansas, for 40 years. Walton was the sort of man that would rather borrow a newspaper than pay a quarter for a new one. He was also the sort of man that would invite a struggling young family out to lunch with his family every Sunday.

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

Sam Walton succumbed to cancer in 1992 and the news was sent via satellite directly to the company’s 1,960 stores; when the announcement played at some stores, clerks started crying. The *New York Times* obituary estimated Sam’s fortune at the time of his death at US$28 billion. However, this fortune didn’t mean as much to Sam Walton as the news that one of his beloved Wal-Mart associates, a cashier, had US$262 000 in her retirement account after working for Wal-Mart for 24 years.

This article covers how Sam ensured his decisions used information to keep the business profitable: <http://beginnersinvest.about.com/od/samwalton/p/aasamwalton.htm>[[4]](#endnote-4)

Classroom opener 3

The role of information 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.

**Learning outcome 1.1:**Differentiate between information technology and information systems.

Information technology is primarily concerned with hardware and software (for example servers, operating systems, web services, code, devices, network, and information systems is primarily concerned with the people, processes and the technology. IS refers to systems designed to create, gather, store, manipulate or disseminate information. IS deal with obtaining, storing and retrieving information.

Classroom exercise 1.1 (LO 1.1)

The difference between information technology and information systems

Have the class watch this video and then discuss how they see the differences in terms of study majors and future careers:

<https://www.youtube.com/watch?v=oCvjromf-rk>

[[5]](#endnote-5) (1 minute)

**Learning outcome 1.2:**Describe the differences between data, information, business intelligence and knowledge.

We live in the information age, when infinite numbers 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 analyses 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.

Classroom exercise 1.2 (LO 1.2)

Data, information, business intelligence and knowledge

Data (as facts and opinions) are available digitally to everyone in unprecedented amounts now through multiple communication channels. Important skillsets for business include finding and recognising truthful data from unsubstantiated opinion, and then mining and combining and contextualising the relevant and useful data into information. Drawing business intelligence from data and information requires analytical skills and software. Transforming data, information and business intelligence into your professional knowledge base is a human skill. It requires not only access to the data and information but also the time, mentoring and past experiences to process it into knowledge.

This link to a 1989 resource on 'Data, Information, Knowledge, and Wisdom' musings has some excellent short explanations on the difference between data, information and knowledge with good examples. It would be useful to show this in class and challenge students to discuss the definitions. As this is a 1989 resource, students can see how these terms were thought about in the early days of the internet and contrast them with today’s ideas.

Data, information, knowledge and wisdom: [www.systems-thinking.org/dikw/dikw.htm](http://www.systems-thinking.org/dikw/dikw.htm)[[6]](#endnote-6)

For a TED talk by David McCandless on transforming data into information using diagrams, see David McCandless: ’The beauty of data visualization

[www.ted.com/talks/david\_mccandless\_the\_beauty\_of\_data\_visualization.html](http://www.ted.com/talks/david_mccandless_the_beauty_of_data_visualization.html%20)[[7]](#endnote-7)

Classroom exercise 1.3 (LO 1.2)

Following the loss of the personal records of some 25 million child-benefit recipients by Her Majesty’s Revenue and Customs, the UK government is acutely aware of how quickly mismanagement of technology can lead to serious problems. Fast forward to 2012 and have the students read this website with in depth analysis of how government organisations lose peoples’ data. <https://www.thebureauinvestigates.com/2012/05/23/is-your-data-safe-government-departments-plagued-by-data-losses/>[[8]](#endnote-8)

**Learning outcome 1.3:**Outline the common functional areas in an organisation.

Companies are typically organised 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 organisation 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.

DISCUSS: Improving public health response rates: sharing data in real time

Dr Heinz Feldmann, of the National Institute of Health (NIH), recently said in an article about the ebola outbreak in West Africa that scientists must share data with colleagues in real time to improve the public health response.

Influenza and SARS response times were improved when real-time data was made available, which helped to address the fast-spreading viruses. The faster the data is made available, the faster the test results can be produced and success rate determined.

The report is available at: [www.niaid.nih.gov/news/newsreleases/2014/Pages/EbolaPerspective-.aspx](file:///J%3A%5CPublishing%5CProjects%20in%20Progress%5CBaltzan%203e%5Cdigital%20resources%5CIRM%5Cedited%20manuscript%5Cwww.niaid.nih.gov%5Cnews%5Cnewsreleases%5C2014%5CPages%5CEbolaPerspective-.aspx)[[9]](#endnote-9)

Question: Discuss who would use the data and the advantages of sharing data in real time for the ebola outbreak.

Answer: Frontline medical staff can take samples and send them to diagnostic laboratories that can rapidly identify diseases. In outbreaks that have no cure, control of the outbreak and information sharing amongst the World Health Organization and involved countries is paramount in stopping the spread of disease in countries and becoming global pandemics. Real-time access to this data is vital for all those concerned with the control of disease outbreaks.

Learning outcome 1.4:
Explain a systems-thinking approach in relationship to business.

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. Systems thinking provides an end-to-end view of how operations work together to create a product or service.

Classroom exercise 1.4 (LO 1.4)

Systems thinking

Explaining systems thinking and the importance of the feedback element can be facilitated by this video on how systems thinking can be applied to social and business systems. This is a good cartoon video to show the students to help them understand systems thinking. [www.systemswiki.org](http://www.systemswiki.org) has posted ‘A conversation between Nit & Wit about Systems Thinking’, at <http://youtu.be/OhbhaN3IGP4>[[10]](#endnote-10)

This video is from YouTube and is presented by Robert Cantillo of the Antioch University Seattle Center for Creative Change: <http://youtu.be/26-tNhHfo0Y>[[11]](#endnote-11)

This resource introduces students to systems thinking: [www.iseesystems.com/Online\_Training/course/module1/1-01-4-0-estimated.htm[[12]](#endnote-12)](http://www.iseesystems.com/Online_Training/course/module1/1-01-4-0-estimated.htm)01

Learning outcome 1.5:
Describe and compare the different roles and responsibilities in information technology.

Most organisations have an IT department that is responsible for performing the IS function. This is similar to an organisation having an accounting department that is responsible for performing the accounts payable and accounts receivable functions. IT in and of itself is not useful unless the right people know how to use and manage it efficiently and effectively.

People, information and information technology—in that order of priority—are inextricably linked. If one fails, they all fail.

Chief information officer (CIO): oversees all uses of IT and ensures the strategic alignment of IT with business goals and objectives.

Chief technology officer (CTO): responsible for ensuring the throughput, speed, accuracy, availability and reliability of IT.

Chief security officer (CSO): responsible for ensuring the security of the IT system.

Chief privacy officer (CPO): responsible for ensuring the ethical and legal use of information.

Chief knowledge officer (CKO): responsible for collecting, maintaining and distributing the organisation’s knowledge.

Discuss: *The Internship*

The movie *The Internship* (www.imdb.com/video/imdb/vi1707648537/?ref\_=tt\_ov\_vi)[[13]](#endnote-13) is about two salesmen—whose careers have been torpedoed by the digital age—who find their way into a coveted internship at Google, where they must compete with a group of young, tech-savvy geniuses for a shot at employment. View the movie, then discuss the communication traits that helped these salesmen land a job.

Answer: The communication traits these salesmen demonstrate include working with people from different cultural and social backgrounds, team-building abilities, supportive listening and talking, leadership, making colleagues feel respected and valuing their knowledge and contributions.

**Learning outcome 1.6:**Identify the three main types of information systems, and how business personnel can use these systems to make decisions and gain competitive advantage.

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The three main types of information systems are operational (transaction processing systems),

managerial (decision support systems) and strategic (executive information systems).

Being able to sort, calculate, analyse and slice-and-dice information is critical to an organisation’s success. Without knowing what is occurring throughout the organisation there is no way that managers and executives can make solid decisions to support the business. The different operational, managerial and strategic support systems include:

* operational—a transaction processing system (TPS) is the basic business system that serves the operational level (analysts) in an organisation. The most common example of a TPS is an operational accounting system such as a payroll system or an order-entry system
* managerial—a decision support system (DSS) models information to support managers and business professionals during the decision-making process
* strategic—an executive information system (EIS) is a specialised DSS that supports senior level executives within the organisation

Classroom exercise 1.5 (LO 1.6)

Great example of DSS

The Analyst™ is a diagnostic tool, now accessible online, that fills the gap between what you need and what busy, human doctors can offer. With less and less time to address a patient’s individual needs and yet more and more research and other information to digest, incorrect and incomplete diagnoses are frequently made. On this site there is a great diagram that compares The Analyst to a doctor.

[www.diagnose-me.com/?page=dizz&gclid=CIbdzaP785ECFQwcawodfCXpxA](http://www.diagnose-me.com/?page=dizz&gclid=CIbdzaP785ECFQwcawodfCXpxA)[[14]](#endnote-14)

Classroom exercise 1.6 (LO 1.6)

Something to get their attention

Sheena Lyengar did her thesis on ‘How people make decisions’. This is a great TEDtalk to show your students.

[www.ted.com/talks/sheena\_iyengar\_on\_the\_art\_of\_choosing.html](http://www.ted.com/talks/sheena_iyengar_on_the_art_of_choosing.html)[[15]](#endnote-15)

Classroom exercise 1.7 (LO 1.6)

DSS everywhere!

Organise students into groups and ask them to compare sensitivity analysis, what-if analysis and goal-seeking analysis and to provide a business example of when they would use each type.

* Sensitivity analysis studies the impact on a single change in a current model. For example, if we continually change the amount of inventory we carry, how low can our inventories go before issues start occurring in other parts of the supply chain? This would require changing the inventory level and watching the model to see ‘how sensitive’ it is to inventory levels.
* What-if analysis determines the impact of change on an assumption or an input. For example, if the economic condition improves, how will it affect our sales?
* Goal-seeking analysis solves for a desired goal. For example, we want to improve revenues by 30 per cent; how much do sales have to increase and costs have to decrease to meet this goal?

Learning outcome 1.7:
Explain competitive advantages and the role IT plays in their achievement.

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, organisations 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.

Video

 **Enabling competitive advantage in the digital experience**

This video explains how businesses can harness technology to gain and keep competitive advantage:

<https://www.youtube.com/watch?v=-7_wMN92H_Y>[[16]](#endnote-16) (2 minutes)

Videos

Use these videos to jump-start a case discussion and get your students thinking about how they are going to apply the concepts they are learning in real-business and real-world situations.

Thomas Friedman: *The World is Flat*

The MIT website offers a video lecture by Thomas Friedman discussing his book *The World is Flat*. The following link 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://video.mit.edu/watch/the-world-is-flat-30-9321>[[17]](#endnote-17)

Apple Watch applications for business

www.techrepublic.com/article/best-apple-watch-apps-for-business/[[18]](#endnote-18)

Apple iPad—for business

Students can choose according to their interests from these Apple videos profiling how businesses and organisations large and small use iPads in their operations.

[www.apple.com/ipad/business/profiles](http://www.apple.com/ipad/business/profiles)[[19]](#endnote-19)

PowerPoint presentations

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

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| SECTION 1.2 BUSINESS STRATEGY |

LEARNING OUTCOMES

**Learning outcome 1.8:** Describe and explain Porter’s Five Forces Model as an aid in understanding competition and forming business strategies.

**Learning outcome 1.9:** Compare and contrast Porter’s three generic strategies when choosing a business focus.

**Learning outcome 1.10:** Demonstrate how a company can add value by using value chain analysis.

**Learning outcome 1.11:** Recognise the role and challenges of information systems in the global world of business.

This section discusses how an organisation can identify competitive advantages using tools such as Porter’s Five Forces, Porter’s three generic strategies and value chains. Gaining competitive advantages are critical for organisations. Organisations 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.
Answer: 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 organisation.
* How many students in your class are currently using Windows?
* What are the competitors to Windows?
Answer: Linux and Macintosh
* Why are there only three primary competitors (Microsoft, Macintosh and Linux) in this large operating system market?

**Learning outcome 1.8:**Describe and explain Porter’s Five Forces Model as an aid in understanding competition and forming business strategies.

Porter’s Five Forces Model analyses 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, labour 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.

Classroom exercise 1.8 (LO 1.8)

Handout showing Porter’s Five Forces

A very useful free photocopy or printable diagram of Porter’s Five Forces is available at: [www.businessballs.com/portersfiveforcesofcompetition.htm](http://www.businessballs.com/portersfiveforcesofcompetition.htm)[[20]](#endnote-20)

These can be reproduced and handed out in class for the students and used to analyse different businesses.

Classroom exercise 1.9 (LO 1.8)

Porter videos on YouTube

Michael Porter—What is Strategy? (1 hour—watch the start and the students can watch it later in their own time)

https://www.youtube.com/watch?v=KvYwKM5bY0s[[21]](#endnote-21)

Michael Porter: The Five Competitive Forces That Shape Strategy (13 mins)

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

Classroom exercise 1.10 (LO 1.8)

Analysing Porter’s Five Forces

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

* Desktop computer
* Address book
* Tablet
* BluRay Player
* Polaroid camera
* Telephone
* Textbook

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

Now organise students into groups and ask them to choose two products from the list below to perform a Porter’s Five Forces analysis on. The two products must compete in the same market.

* Laptop computer and desktop computer
* Tablet and laptop computer
* DVD player and BluRay player
* Digital camera and Polaroid camera
* Mobile phone and Blackberry
* Coca-Cola Plastic Bottle and Coca-Cola Glass Bottle
* GPS device and street directory
* Rollerskates and Rollerblades
* Printed books and e-books
* Printed newspaper and online newspaper

**Sample analysis for airline industry**



**Sample analysis for milk**



Classroom exercise 1.11 (LO 1.8)

Strategy and the Internet

Ask your students to visit Michael Porter’s Institute for Strategy and Competitiveness. There are numerous articles, videos, book excerpts, etc., for the students to dig into.

[www.isc.hbs.edu](http://www.isc.hbs.edu/)[[22]](#endnote-22)

View the Porter and Heppelmann video on ‘how IoT changes competition and companies’

<https://www.youtube.com/watch?v=S2ZtsQfiPH4> [[23]](#endnote-23)

Have your students discuss the importance of these new technologies on business strategy. What has changed since d the earlier internet days?

Rivalry among existing competitors is high when competition is fierce in a market and low when competition is more complacent.

Classroom opener 4

GREAT BUSINESS DECISIONS: Cyrus McCormick’s reaper

On a hot summer day in 1831, several dozen farmers and hired labourers gathered in a wheat field in Virginia to watch a horse-drawn wood-and-iron device mow down rows and rows of golden wheat. On this day, 22-year-old Cyrus McCormick demonstrated the reaper that his father invented and changed history as the mechanisation of farming began. Soon the process of industrialisation began, which turned the nation’s economy into the world’s most productive workforce. As the historian, William Hutchinson noted: ‘Of all the inventions during the first half of the nineteenth century which revolutionised agricultures, the reaper was probably the most important.’

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

Classroom opener 5

GREAT BUSINESS DECISIONS: Henry Luce decides to rank companies in the Fortune 500

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

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

**Learning outcome 1.9:**
Compare and contrast Porter’s three generic strategies when choosing a business focus.

Organisations 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.

Classroom exercise 1.12 (LO 1.9)

Video of Porter’s three generic strategies

Cartoon video of Porter’s generic strategies:

<http://youtu.be/-FA-eJvHP_s>[[24]](#endnote-24)

PowerPoint slideshow of the generic strategies with examples:

[www.slideshare.net/dipalij07/porters-generic-strategies-with-examples](http://www.slideshare.net/dipalij07/porters-generic-strategies-with-examples)[[25]](#endnote-25)

**Learning outcome 1.10:**
Demonstrate how a company can add value by using value chain analysis.

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

Classroom exercise 1.13 (LO 1.10)

Value chain analysis

These reports on businesses demonstrate the use of value chain analysis.

* Within Biorefineries:
[www98.griffith.edu.au/dspace/bitstream/handle/10072/20872/51368\_1.pdf;jsessionid=C44835E7AFF5AF6A0DBA2E2BBECDB14B?sequence=1](http://www98.griffith.edu.au/dspace/bitstream/handle/10072/20872/51368_1.pdf;jsessionid=C44835E7AFF5AF6A0DBA2E2BBECDB14B?sequence=1)[[26]](#endnote-26)
* The World Bank looks at African economies through value chain analysis: https://openknowledge.worldbank.org/bitstream/handle/10986/2401/524610PUB0AFR0101Official0Use0Only1.pdf?sequence=1[[27]](#endnote-27)

 DISCUSS: Want to start your own business? Just find a problem to solve

How I did it: Inc’s start-up founders, serial entrepreneurs and business starters

[www.inc.com/hidi](http://www.inc.com/hidi)[[28]](#endnote-28)

See the following site for a video about starting a business to solve a real problem. This is good for starting discussions on which businesses succeed and why many fail.
www.inc.com/john-rampton/want-to-start-a-business-colorjar-s-jeff-hoffman-recommends-solving-a-problem-pe.html[[29]](#endnote-29)

**Learning outcome 1.11:**

Recognise the role and challenges of information systems in the global world of business.

Traditional forms of business are simply not good enough in a global environment. The Internet is changing business in many ways; for example, it is creating shorter product life cycles, multifaceted, increased and instantaneous communication and global competition. The Internet is changing the way we do business.

Classroom exercise 1.14 (LO 1.11)

# World Economic Forum Global Information Technology Report 2015

Students can visit this website, read the reports and watch the video. This will generate interesting discussions about the reach and benefits to a globalised IT industry. http://reports.weforum.org/global-information-technology-report-2015/[[30]](#endnote-30)PowerPoint presentations

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.

|  |
| --- |
| CHAPTER 1END OF CHAPTER solutionsBee1_left |

OPENING CASE STUDY

Google: King of search (and therefore information)

1. **What other web search engines are available? Are they as popular as Google? Why/why not?**

*Suggested answer:*

There seems be a new search engine every week. At the time of writing, the most popular web search engines are Google, Yahoo!Search, Live Search/Bing, ask.com,  Dogpile and DuckDuckGo. A list of search engines used for differing purposes can be found at <https://en.wikipedia.org/wiki/List_of_search_engines>.

Google is the most popular search engine for several reasons:

* it is the biggest (that is, it has the most traffic)
* ‘to Google’ has become synonymous with searching (‘google’ as a verb is now in the dictionary)
* Google ranks sites—the best rankings become the most popular (and is hopefully also accurate information and what the searcher requires)
* Google searches numerous file formats (e.g. html, pdf, doc, xls)
* retrieving results is very fast
* the Google interface is very simple
* Google applications can be added to the Google menu bar for easy and quick access

Other search engines don’t have (or don’t have to the same extent) the customer loyalty, expectations and accurate results that Google has—all of which have made Google what it is today.

1. **Explore the full list of Google products, then determine under which one of the following categories they would be used (more than one category is possible). Use at least the following headings: operational, strategic, business personnel, IT personnel, decision support, global and value creation.**

*Suggested answer:*

The diversity of possible uses makes Google applications very acceptable for use in a broad range of situations. For a full list, see: [www.google.com.au/intl/en/about/products/](http://www.google.com.au/intl/en/about/products/) (Accessed October 2015).

|  |  |
| --- | --- |
| **Use**  | **Google product name (only some are listed)**  |
| Operational  | Gmail, Hangouts, Calendar, Groups, Google+, Docs, Sheets, Slides, Forms, Sites  |
| Strategic  | Gmail, Hangouts, Calendar, Groups, Google+, Docs, Sheets, Slides, Forms, Sites  |
| Business personnel  | Gmail, Hangouts, Calendar, Groups, Google+, Docs, Sheets, Slides, Forms, Sites  |
| IT personnel  | Gmail, Hangouts, Calendar, Groups, Google+, Docs, Sheets, Slides, Forms, Sites  |
| Decision support  | Groups, Google+, Docs, Sheets  |
| Global   | Gmail, Hangouts, Calendar, Groups, Google+, Docs, Sheets, Slides, Forms, Sites  |
| Value creation  | Calendar, Google+, Docs, Sheets, Slides, Forms, Sites  |

1. **Use Porter’s Five Forces Model and his Generic Business Strategies to analyse Google products in relation to businesses.**

*Suggested answer:*

Porter’s Three Business Strategies applied to a selection of Google products

|  |  |
| --- | --- |
|   | **Cost strategy**  |
| *Low cost*  | *High cost*  |
|      **Competitive Scope**   | *Broad market*  | Gmail Calendar Hangouts Groups  Google+ Docs Sheets Slides Forms   |   |
| *Narrow market*  |  Sites                                                                  Google for Work |

CLOSING CASE STUDY 1.1
E-exam trial at CQU

1. **For the university, what business benefits and costs could accrue from switching from all-paper exams to all-electronic exams? For students, what are the advantages and disadvantages?**

*Suggested answer:*

For CQU, business benefits could include reduced production costs associated with paper exams such as printing, distribution, and secure post-exam transfers and storage/disposal costs. Additional but intangible benefits could come from being seen as being more on the cutting edge, and employers in particular would be attracted to the enhanced authenticity afforded through maximising the tools available in e-exams.

Balanced against this would be the initial capital costs of acquiring and setting up enterprise-wide infrastructure to support e-exams. This would include equipment to enable large-scale replication of e-exam USBs.

Finally, utilising multimedia tools to create authenticity is not easy—most academics would need training or assistance. For students, advantages could include better exam answers due to ease of editing, and the use of a familiar computer (one’s own laptop) which might help reduce exam stress. Many may also find typing much easier than writing by hand. Additionally, more practical application of theory is possible than with paper exams.

Disadvantages could include that one’s own laptop may be old and slow compared to others, not all students find typing easier than writing, not all feel that they are computer-literate, and risks such as battery failure or computer malfunction.

1. **What other issues or questions not directly discussed in the Case could you suggest might arise during this period of feasibility testing and evaluation?**

*Suggested answer:*

Some issues or questions that may make for good class discussions that touch on both business and technology could include (but are not limited to):

* Do you think it was necessary that the trial e-exam be the actual ‘do or die’ end-of-term exam?
* Is e-cheating possible in electronic exams? How and what safeguards could be used to reduce or eliminate this factor? (Research online.)
* Why use USB booting—why not boot into a secured wireless or wired network instead, and what would be the implications of doing so?
* What would be the pros and cons of going to a commercial product instead of using all open-source elements?
* What backup mechanisms would be necessary or desirable in e-exam setups?
1. **An example was given of how an e-exam might bring more authenticity to a medical exam. Can you think of several ways an e-exam could make an ICT exam more ‘authentic’?**

*Suggested answer:*

The range of possible answers is only limited by one’s imagination if given an ‘ideal’ e-exam setup. ICT students could be asked in an exam to use a real network emulation program similar to that used by professional network designers to diagram a small business network, or use drawing tools applications to draft a use-case or program logic flowchart, or even to design and code a real working solution (literally writing a mini-application to solve an exam problem).

They could also view a video of a typical IT help-desk call-out and critique the approaches and methods employed by the IT technician in responding to the call, or view a schematic of a troubled network and identify the problem areas. A similar range of authentic scenarios could be created for many other vocational subjects such as engineering, accounting, legal studies, and psychology.

1. **If you were on the evaluation team for this trial, what do you think could be some of the business, organisational or technical issues that might be raised following the successful trial?**

*Suggested answer:*

Answers will vary (and that’s good!), and could foster discussion, but may include:

Scalability: Impact on costs, manpower, and logistics if a small, relatively inexpensive trial were expanded to be enterprise-wide across all campuses, all students and all courses.

User acceptance and ethical considerations: The need arises to evaluate student and staff attitudes toward possible compulsory e-exams, or what problems might occur if it remained voluntary. For example, is there any risk of perceptions of inequity arising? Would there be a perception that those using computers have some kind of advantage over those who opt not to? If a single room was used, would the noise of many keyboards being used be distracting to those not using keyboards?

BYOD-related issues: The use of protected environments on a USB largely negates most problems (but not all). However, if e-exams were administered over a network, then security, anti-cheating and systems backup considerations come into play and could be significant. (Hint: this can be related to part of Q2 above).

Workflow changes: How would workflows in exam administration have to change to accommodate the way that the e-exam system would work?

1. **Opt-in and opt-out are often issues relating to IT and business ethics, particularly relating to online facilities. What do you see as the pros and cons of opt-in or opt-out when it comes to e-exams?**

*Suggested answer:*

The choice should exist as a general principle; greater onus is on the university to ensure a foolproof system.

**6. How could you ‘sell’ the idea to reluctant students?**

*Suggested answer:*

Reduce perceived and actual risk (e.g. use institutional computers); increase benefit/reward; make compulsory (this shifts operational responsibility, and hence the risks, squarely onto the university).

CLOSING CASE STUDY 1.2
Apple: complications made simple

1. Could the Apple Watch be your only electronic device as you go about your daily life? Explain with examples.

No, the watch could not be your only device; it requires interacting with an iPhone for various basic functions.  This information is available from the case, and also the student's wider reading.  The examples should make this clear, and could come from the case and further reading.

2. Research other websites and describe other potential advantages of devices such as the Apple Watch, using features not mentioned in the brief description above.

The features of compactness and portability offer a lot of potential for the imaginative student.  Obvious are the location services, health monitoring and payment by proximity communication, but there are many others.

3. The IBM PC might be described as another electronic device that helped the market move from ‘niche to mainstream’. Investigate and explain.

The IBM PC development provides a wealth of different stories, from IBM venturing into the personal computer business, to the method and speed of development, to the outsourcing of lots of aspects of both hardware and software.  The replies are limited only by the student's research abilities and imagination.

1. The Apple Watch released in April 2015. Take a virtual look at it. Does it appeal to you? Why/why not? What has been its uptake? What competitive advantage do you see this product has given Apple?

Student answers will vary according to how much they like Apple products or the Apple watch. The competitive advantages include strong branding and a protected operating system; that is, only Apple products run iOS.

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. 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.

* Harvard Business School Institute for Strategy and Competitiveness: [www.isc.hbs.edu](http://www.isc.hbs.edu/)[[31]](#endnote-31)
* The Five Competitive Forces that Shape Strategy: [www.youtube.com/watch?v=mYF2\_FBCvXw](http://www.youtube.com/watch?v=mYF2_FBCvXw)[[32]](#endnote-32)
* Michael Porter on Competitiveness: [www.youtube.com/watch?v=y5I\_cnpP99U](http://www.youtube.com/watch?v=y5I_cnpP99U)[[33]](#endnote-33)
* Michael Porter on Strategy: [www.youtube.com/watch?v=ibrxIP0H84M](http://www.youtube.com/watch?v=ibrxIP0H84M)[[34]](#endnote-34)

The types of professionals your students might list include:

* Warren Buffet (He famously did not invest in technology companies until very late. Ask students to find out and explain why this master investor waited so long.)
* Bill Gates
* Steve Jobs
* Seth Godin
* Travis Kalanick
* Garrett Camp
* Malcolm Gladwell
* John Kotter
* Jim Collins
* Peter Drucker
* Clayton Christensen
* Jack Welch
* Stephen Covey
* Dale Carnegie.
1. RENTING MOVIES

**Project purpose:** To apply Porter’s Five Forces Model to the video rental industry.

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

* Buyer power is high as customers have many choices to rent movies including Quickflix, Foxtel On Demand and video rental stores. They can also choose to purchase movies at a number of different stores.
* Supplier power is high as there are only a few movie distributors who price movies accordingly.
* Competition is high and rivalry is fierce.
* Threat of new entrants is low as anyone can open a video store.
* Threat of substitute products is high as new forms of online entertainment offer substitutes to renting movies.

After analysing 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 2015 list of top 100 companies to work for can be found at the following link: http://fortune.com/best-companies/ [[35]](#endnote-35)

Data items could include:

* perks
* benefits
* location
* turnover
* profitability
* employee trust
* layoff history.

If the data analysed 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 analysing this list can gain insight into the types of companies they might want to work for upon graduation. Potential questions students can answer by analysing 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?
* Which industries score best for diversity employment strategies?
* 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. JOB SURVEYS

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

**Potential solution:** This is a great project to help your students understand the numerous opportunities available in MIS. Many students will be unfamiliar with the many job opportunities available for MIS majors and the high compensation that accompanies these jobs. If you are looking to attract MIS majors this is a great classroom exercise to demonstrate the potentially lucrative careers in the MIS field. Students can use the website below to check their future salary.

Resource: [www.payscale.com](http://www.payscale.com/)[[36]](#endnote-36)

1. COMMUNICATION IS KEY

Project purpose: To demonstrate the value of communication skills for MIS students

Potential solution: Students will see how communication skills can help them succeed in the MIS field. The interns demonstrate leadership, team building and teamwork, working well in a diverse environment, and listening and learning from colleagues.

1. THE FIVE FORCES MODEL AT WORK

**Project purpose:** Using Porter’s Five Forces to perform a competitive analysis

**Potential solution:**

* Buyer power—high when buyers have many choices of whom to buy from and low when their choices are few
* Supplier power—high when buyers have few choices of whom to buy from and low when their choices are many
* Threat of substitute products or services—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—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—high when competition is fierce in a market and low when competition is more complacent
1. COMPLACENCY CAN RESULT IN LOST COMPETITIVE ADVANTAGE

Project purpose: To explain the value of first mover status as competitive advantage

Potential solution: Students may name different companies or products, however, Uber, SAP, Java and Cisco were first movers in their field. Students should be made aware that first movers often do not stay in front.[[37]](#endnote-37)

1. APPLYING THE THREE GENERIC STRATEGIES

**Project purpose:** Understanding Porter’s three generic strategies

**Potential solution:** Organisations typically follow one of Porter’s three generic strategies when entering a new market: (1) broad cost leadership, (2) broad differentiation and (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. TOP FIVE 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 answers than the following depending on their familiarity with technology.

* Number 1 refers to using Twitter.
* Number 2 refers to Jeopardy and other game shows based on a person’s own memory.
* Number 3 refers to movie theatres before on-demand and Quickflix downloads.
* Number 4 refers to social networking profiles.
* Number 5 refers to cloud computing.

APPLY YOUR KNOWLEDGE

**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.

PROJECT ONE: CAPITALISING 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 organisation. This project discusses the importance of getting general business managers 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 realise 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, MYOB
* finance—Oracle financials, payroll systems, QuickBooks
* management—HR systems that can pinpoint potential employee issues and risks
* marketing—Blogs, e-marketing, RSS, podcasts, sales force automation
* IT/MIS—Design tools such as ERwin or the [Rational products](https://en.wikipedia.org/wiki/Rational_Software_Architect)
* statistics—SAS, R
* operations—i2, supply chain systems, logistic systems.

Potential industries:

* telecommunications
* health care
* finance
* education
* strategy services
* products
* energy
* fashion.

PROJECT TWO: ACHIEVING ALIGNMENT

Most companies would like to be in the market-leading position of Jetstar or Dell, which have used MIS to 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. The future belongs to those who are perceptive enough to grasp the significance of IT and resourceful enough to synchronise business management and information management.

1. How do companies monitor competitive intelligence and create competitive advantages?

This site has some excellent ideas, see how many of them the students come up with on their own! http://lighthouse8.com/competitor-analysis/[[38]](#endnote-38)

1. 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:

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

* biometric devices
* crime
* data encryption standards
* Australian national security
* disaster planning
* encryption
* hackers
* risk management
* security hardware
* security management
* security software
* security standards
* security systems
* storage management
* systems implementation
* wireless.

**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 ‘mobilise’ 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.

**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 the following:

1. Companies buy computers and invest in information technology because they believe those investments will improve their productivity. However, the impact of IT expenditures on a company’s productivity is far less clear—and harder to quantify.
2. Companies have been able to measure IT 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 IT expenditures through productivity metrics, among other measures. Not surprisingly, this involves a change in how companies think about their IT investments and the impact these investments have on their bottom line.
3. IT 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.

4. Who or what is the moving force behind MIS decisions for most companies?

1. Traditionally, the chief information officer (CIO) and the IT department have been responsible for making IT 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.
2. Many companies are subjecting the business cases for IT 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.
3. The IT 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 IT decisions with business goals to ensure a productive result.
4. Peer recommendations and staff inputs can be considered important.

PROJECT THREE: PORTER’S FIVE FORCES

Porter’s Five Forces Model is an easy framework to understand and offers a quick way to analyse a market. Porter’s Five Forces Model was introduced in the text and you can post the below examples for students to review to ensure they have a solid understanding of each force. Feel free to use the Porter’s Five Forces template below for your assignment.

**Sample analysis for airline industry**



**Sample analysis for milk**



**Template**



PROJECT FOUR: ADDING VALUE

A firm must identify the business processes required to create its products or services. Of course, it will want to ensure the processes add value and create competitive advantages. 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. Primary value activities, shown at the bottom of the value chain, acquire raw materials and manufacture, deliver, market, sell and provide after-sales services. As a group, discuss the following in relation to Gloria Jeans:

* Inbound logistics: Acquires raw materials and resources and distributes to manufacturing as required.
* Operations: Transforms raw materials or inputs into goods and services.
* Outbound logistics: Distributes goods and services to customers.
* Marketing and sales: Promotes, prices and sells products to customers.
* Service: Provides customer support after the sale of goods and services.

Support value activities, along the top of the value chain, include firm infrastructure, human resource management, technology development and procurement. Not surprisingly, these support the primary value activities. As a group, discuss the following in relation to Gloria Jeans:

* Firm infrastructure: Includes the company format or departmental structures, environment and systems
* Human resource management: Provides employee training, hiring and compensation
* Technology development: Applies MIS to processes to add value
* Procurement: Purchases inputs such as raw materials, resources, equipment and supplies.

PROJECT FIVE: FLAT COMPETITION

Hopefully, everyone immediately recognises 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.
* Quickflix 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 Nepal, 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 Africa—Antarctica has no villages just scientific outposts.

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, waiter, 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.

PROJECT SIX: GARBAGE IN-GARBAGE OUT

Australia is rolling out an online eHealth system (www.ehealth.gov.au/). An individual eHealth record allows you and your doctors, hospitals and other healthcare providers to view and share your health information to provide you with the best possible care. Explore the website to determine the risk of data ‘garbage in/garbage out’ situations. Suggest several ways for both the individual and the medical professionals to overcome this problem.

Answer: If the systems allow patients to view their personal data, identify errors and request corrections on the spot, then many careless or mistaken data transcription errors will be avoided. For other data entry, data validation and verification on entry will reduce errors in postcodes etc. For medical data and prescriptions, expert systems and verification databases will check dosages etc to ensure they are in the correct range.

PROJECT SEVEN: 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 analyse any market for competitive advantages, innovative ideas, and competitive intelligence.

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2. Michael S. Rosenwald, ‘Steve Jobs’s death leaves Apple facing challenges without its lead visionary’, 2011, www.washingtonpost.com/business/technology/steve-jobss-death-leaves-apple-facing-challenges-without-its-lead-visionary/2011/10/05/gIQAbV5xOL\_story.html, accessed 20 June 2015. [↑](#endnote-ref-2)
3. Computing Forever, ‘Samsung Lawsuit: Apple, Just Stop it!!, <https://www.youtube.com/watch?v=Ul7Z3UKvXpM>, accessed 6 October 2015. [↑](#endnote-ref-3)
4. Joshua Kennon, ‘Sam Walton aka Samuel Moore Walton ’, http://beginnersinvest.about.com/od/samwalton/p/aasamwalton.htm, accessed 25 June 2015. [↑](#endnote-ref-4)
5. Novalhap, ’The Difference between IST and Computer Science’, 2009, https://www.youtube.com/watch?v=oCvjromf-rk, accessed 26 June 2015. [↑](#endnote-ref-5)
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