**Chapter 1**

**Introduction to MIS**

**Study Questions**

* Why is Introduction to MIS the most important class in the business school?
* What is MIS?
* How does MIS relate to organizational strategy?
* What five forces determine industry structure?
* What is competitive strategy?
* How does competitive strategy determine value chain structure?
* How do value chains determine business processes and information systems?

**List of Key Terms**

* **Abstract reasoning** – the ability to make and manipulate models – to conceive of something and to structure and manipulate it in an alternative or alternate form.
* <para><link linkend="ch03term02" preference="0"><keyterm preference="0">**Competitive strategy** – the strategy by which an organization differentiates itself from its industry competitors.
* **Experimentation** – making a careful and reasoned analysis of an opportunity, envisioning potential products or solutions or applications of technology (abstract reasoning), developing those ideas that seem to have the most promise, consistent with available resources, and learning from the outcome. </keyterm></link></para>
* <para><link linkend="ch03term01" preference="0"><keyterm preference="0">**Five forces model** – developed by Michael Porter as an abstract model of the potential profitability of an industry. The five forces are competition from vendors of substitutes; competition from new competitors; competition from existing rivals; bargaining power of suppliers; and bargaining power of customers.
* <para><link linkend="ch03term08" preference="0"><keyterm preference="0">**Linkages** – interactions between and among value chain activities.
* **Margin** – the difference between value chain costs and value chain benefits.</keyterm></link></para>
* **Management** **Information** **Systems** – the management and use of processes, information systems, and information to help organizations achieve their strategies. </keyterm></link></para>
* **Management (of MIS)** – the creation, monitoring, and adapting of processes, information systems, and information.
* **MIS** – See *Management Information Systems.*
* **Moore’s Law** – posited in 1965 by Gordon Moore, cofounder of Intel Corporation — “The number of transistors per square inch on an integrated chip doubles every 18 months.”
* <para><link linkend="ch03term06" preference="0"><keyterm preference="0">**Primary activities** – value chain activities that contribute *directly* to the production, sale and service of a product.</keyterm></link></para>
* <para><link linkend="ch03term07" preference="0"><keyterm preference="0">**Support activities**– value chain activities that contribute *indirectly* to the production, sale and service of a product.</keyterm></link></para>
* <para><link linkend="ch03term09" preference="0"><keyterm preference="0">**Switching costs** – the cost born by a customer for switching from one supplier to another.
* **Systems thinking** – the ability to model the components of a system and to connect the inputs and outputs among those components into a sensible whole, one that explains the phenomenon observed. </keyterm></link></para>
* **Value** – defined by Porter as the amount of money a customer is willing to pay for a resource.
* <para><link linkend="ch03term05" preference="0"><keyterm preference="0">**Value chain** – a network of value-creating activities.</keyterm></link></para></keytermset>

**Suggested Answers to InClass Exercise Questions**

1. **The following pairs of Web stores have industry segments that overlap in some way. Briefly visit each site of each pair:**

[www.sportsauthority.com](http://www.sportsauthority.com) vs. [www.soccer.com](http://www.soccer.com)

[www.target.com](http://www.target.com) vs. [www.sephora.com](http://www.sephora.com)

[www.woot.com](http://www.woot.com) vs. [www.amazon.com](http://www.amazon.com)

[www.petco.com](http://www.petco.com) vs. [www.healthyfoodforpets.com](http://www.healthyfoodforpets.com)

[www.llbean.com](http://www.llbean.com) vs. [www.REI.com](http://www.REI.com)

1. **Select two pairs from the above list. For each pair of companies, answer the following questions:**

Example: [www.woot.com](http://www.woot.com) vs. [www.amazon.com](http://www.amazon.com)

* 1. **How are the companies’ markets / market segments different?**

The type of consumer that each targets is slightly different. Amazon appeals to online consumers that are looking for a specific item and want access to a broad selection in a single location. Woot appeals to online customers who are “opportunity shoppers”, or who might be referred to as “point of purchase” or “end isle” shoppers in a bricks and mortar store.

Amazon sells products at all stages of product life, introduction to discontinuation. Woot mostly sells products that are discontinued at clearance prices. Woot customers are probably more akin to Home Shopping Network customers than they are to Amazon customers—extremely limited selection, limited quantities, limited opportunity time window.

* 1. **How are their competitive pressures different?**

This is addressed from the perspective of the three competitive forces in Porter’s model.

* Substitutes
  + Amazon sells a wide range of products for which there are many substitutes.
  + Woot sells an extremely narrow range of products at any given time for which there are substitutes, but the limited availability window somewhat limits customers’ opportunity to search for and compare substitute goods.
* New Entrants
  + Amazon probably has the largest network of suppliers of any online retailer in the world. Although every new entrant into online retail is a potential threat, the threat is minimized by the sheer size of Amazon’s selection and the resulting bargaining power they have with suppliers and the cost of developing an online retail system as comprehensive as Amazon’s. Further, Amazon’s affiliate program allows new entrants to become part of the Amazon affiliate program rather than compete with their own Web site—brilliant.
  + Woot’s online presence would not be difficult nor expensive to replicate and new entrants would almost immediately have products and services equivalent to those offered by Woot. New entrants threat is high, but it is unlikely that new entrants would be selling the same product during the same availability window—which would mitigate the negative effects somewhat.
* Rivals
  + Both companies have competitive threats from rivals. Customer switching costs are essentially zero. The Internet makes locating and shopping at rivals’ Web sites easy.
  1. **How are their competitive strategies different?**

Amazon’s competitive strategy is to have hundreds of thousands of products available for sale at very competitive prices, quickly delivered at competitive, even free, shipping rates. Small competitors in particular, are given the opportunity to affiliate rather than compete.

Woot’s competitive strategy is to offer an extremely limited inventory, selling (probably discontinued or overstocked items) only one item per day at rock-bottom prices. Customers will have to return to the site each day to determine what is for sale. Different markets are targeted with different Web sites: wine.woot.com, shirts.woot.com, kids.woot.com, etc.

* 1. **How is the ‘feel’ of the content of their Web sites different?**

Amazon’s content is more complete. Woot does not include much of an opportunity for customer product reviews, obviously. Woot may be able to make better use of Twitter and other social networking technologies than can Amazon due to the rapid change in limited product offerings, although one could argue Woot is not doing a very good job of it by excluding information such as product price from announcements.

* 1. **How is the ‘feel’ of the user interface of their Web sites different?**

Amazon’s interface is more polished and professional—not surprising given the resources expended on it. Woot’s interface seems a bit haphazard and almost appears that Woot’s designers are attempting to be a bit counter-culture—but badly.

* 1. **How could either company change its Web site to better accomplish its competitive strategy?**

Woot could improve their site by treating product sale information as something of value only if shared. For example, in the FAQ section, Woot’s management is adamant that the number of items left in inventory will never be posted because it would “spoil the fun” and that either the Russian mob, or INTERPOL, or the fact that they just don’t feel like it is responsible for Woot not posting prices in their blog posts. Some customers will find this amusing, many however will see this as an indicant that Woot is not serious about its business. Information is a free commodity on the World Wide Web; don’t supply it, and customers will turn to other sites for information AND products.

* 1. **Would the change you recommend in item f necessitate a change in one or more of the companies’ value chains? Explain your answer.**

No, it would necessitate the means by which the service value chain, or information value chain (if Woot recognizes there is such a thing) is utilized.

1. **Use your answers in question 2 to explain the following statement:**

**“The structure of an organization’s information system (here a Web store) is determined by its competitive strategy.”**

**Structure your answer so that you could use it in a job interview to demonstrate your overall knowledge of business planning.**

Amazon’s competitive strategy to basically be a one-stop ecommerce shop for consumers of non-perishables requires a site that is highly complex and requires a Web site that simplifies the interface a much as possible while still allowing the customer to quickly filter through hundreds of thousands of products to find a desired product, or range of products. In such a complex environment, information is important to allow the customer to intelligently differentiate between different product opportunities. User reviews and lengthy and accurate product descriptions and photographs assist customers in making purchase decisions.

Woot’s competitive strategy to offer an extremely limited product line—a single product per Web site per day (or until it sells out and then another product is offered for sale). This strategy does not require any search capabilities, product categorization, product caparison tools, or for that matter much in the way of site personalization. The limited product offerings and consequently limited content results in a need for Woot to include other content to draw users back to the site: cultural surveys, videos, a tongue-in-cheek description of the product that is for sale, a blog, etc.

**Answers to Using Your Knowledge Questions**

**<general-problem id="ch01ps12gen001" label="1" maxpoints="1"><inst>1. </inst><question id="ch01ps12q001"><para>Do you agree that this course is the most important course in the business school? Isn’t accounting more important? No business can exist without accounting. Or, isn’t management more important? After all, if you can manage people, why do you need to know how to innovate with technology? You can hire others to think innovatively for you.**

**On the other hand, what single factor will impact all business more than IS? And, isn’t knowledge and proficiency with IS and IT key to future employment and success?**

**Give serious thought to this question and write a single page argument as to why you agree or disagree.**

Student responses to this question should address the need for strong, nonroutine cognitive skills: abstract reasoning, systems thinking, collaboration and ability to experiment and address how an MIS class can help with the development of these skills. Further if the student does not agree that MIS is the most important class in the business school, s/he should identify the class they feel is the most important and what skills it will teach that are more important than the nonroutine cognitive skills listed above. There is no wrong answer to this question, although the position defended by the student must be well reasoned and answered in the terminology and within the parameters of this text.

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**<general-problem id="ch01ps12gen002" label="2" maxpoints="1"><inst>2. </inst><question id="ch01ps12q002"><para>Describe three to five personal goals for this class. None of these goals should include anything about your GPA. Be as specific as possible, and make the goals personal to your major, interests, and career aspirations. Assume that you are going to evaluate yourself on these goals at the end of the quarter or semester. The more specific you make these goals, the easier it will be to perform the evaluation.**

As with question 1, there isn’t an incorrect answer to this question. The objective is to get students thinking about what they wish to learn in the class, to think about what parts of the class will assist them with achieving their goals, and to think about how to focus their efforts toward achieving their goals.

**3. </inst><question id="ch03ps11q003"><para>Suppose you decide to start a business that recruits students for summer jobs. You will match available students with available jobs. You need to learn what positions are available and what students are available for filling those positions. In starting your business, you know you will be competing with local newspapers, Craig’s List (<ulink url="http://www.craigslist.org">*www.craigslist.org*</ulink>), and with your college. You will probably have other local competitors as well.</para>**

**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>Analyze the structure of this industry according to Porter’s five forces model.**

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| --- | --- | --- | --- |
| **Type** | **Competitive Force** | **Threat** | **Strength Assessment** |
| **Competitive** | **Substitutes** | Local newspapers  (Expensive but ubiquitous, also probably online)  Craigslist.org (zero switching costs—for most cities)  College placement office (zero switching costs, possibly limited listings)  Bulletin boards (zero switching costs, not convenient for most employers) | Local newspapers threat: strong  Craigslist.org threat: medium  College placement office: medium  Bulletin boards: weak |
| **New Entrants** | Barriers to entry: Credibility with employers, access to students | Threat of new entrants: weak |
| **Rivalry** | Customers influenced by price/marketing/ position volume | Rivals threat: strong |
| **Supply Chain Bargaining Power** | **Supplier** | Employers (Low switching costs)  Internet Service Provider (Web site – many competitors including free services) | Employers bargaining power: strong due to many substitutes  ISP bargaining power: weak |
| **Customer** | Students (weak bargaining power) | Student bargaining power: weak |

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**<listitem><inst>b. </inst><para>Given your analysis in part a, recommend a competitive strategy.**

Example:

The vast majority of rivals in this industry build a database of available jobs (the product) as an attractant for students seeking jobs (customers). A reversal of the model may be an effective competitive strategy—build a database of students seeking jobs (the product) as an attractant for employers (the customer). Collect resumes and job interests from as many students as possible and then sell the database to potential employers, or match students to employer positions and charge a fee if the student is hired. This model also inherently includes the opportunity to provide premium services to the students such as a resume service, priority placement, interview training and job specific interview information and questions, etc.

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**<listitem><inst>c. </inst><para>Describe the primary value chain activities as they apply to this business.**

* Inbound logistics – Once students and employers have had contact with the business, the process by which they are included in the database of students or employers such that student/employer matches can be made. This process will likely take two forms, student/employer self-entered via the Web, and captured by business personnel.
* Operations/manufacturing – matching students based on their resumes and interests to employer opportunities.
* Outbound logistics – notification of student/employer matches to both the students and employers—email, text messaging and Twitter would work, along with telephone, of course. Additionally, the delivery of premium services to students mentioned in the business model is part of outbound logistics.
* Sales and Marketing 1 – process by which students are recruited</para></listitem> to be included in the database. Tools include YouTube, Facebook, LinkedIn, campus bulletin boards, a Web site, email lists, contacts in student organizations—viral marketing, as well as the student newspaper, campus radio and television, and potentially a working relationship with the University/College Placement Center—as a nonprofit, there is an opportunity there that may not exist with for-profit services.
* Sales and Marketing 2 – process by which employer opportunities are identified and employers are recruited to notify the business of available positions for college students. Would likely include telephone calls, personal visits, Web searches and to a lesser extent Facebook and LinkedIn.
* Customer service – follow-up with students and employers once matches have been communicated to each. Follow-up regarding the satisfaction of each party once a student is hired and has worked for a while.

**<listitem><inst>d. </inst><para>Describe a business process for recruiting students.**

Students are a major source of potential employees, but the manner in which they can be recruited, in fact their preferred means of recruitment, is constantly evolving with their use of social technologies. A business such as this is expected to have a well formed and informative Web site, where students can learn about and sign up for the business and its services. The Web site is generally not the first point of contact, however; other recruiting activities are focused on directing interested students to the Web site.

Initial student awareness of the business is most likely to come from Facebook, LinkedIn, YouTube, email, etc. Student organizations could be asked to become affiliates of the business and to distribute information.

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**<listitem><inst>e. </inst><para>Describe information systems that could be used to support the business process in part d.**

The information system required for this business would include several components:

* A Web site with information about the business for both students and employers. It would include interactive forms by which students and employers could enter their information into the database.
* </para></listitem>An email system that is used in the sales and marketing, inbound logistics, outbound logistics and customer service value chains.
* IntIIInitially, a formalized and integrated system for utilizing Facebook, Twitter, email, etc. would not be necessary, but may be cost effective as the business grows.
* A decision would need to be made either to purchase an in-house accounting system or to outsource that function.

**<listitem><inst>f. </inst><para>Explain how the process you described in part d and the system you described in part e reflect your competitive strategy.**

1. The system reflects the need to recruit both students and employers, and uses different technologies targeted to each. The competitive strategy to focus as much or more on students than on employment opportunities is reflected in the use of Facebook, Twitter, LinkedIn, YouTube, etc.

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**<general-problem id="ch03ps11gen004" label="4" maxpoints="1"><inst>4. </inst><question id="ch03ps11q004"><para>Consider the two different bike rental companies in <link linkend="fg03\_00700" preference="0">Figure 1-9<xref linkend="fg03\_00700" label="3-7"><inst>1-9</inst></xref></link>. Think about the bikes that they rent. Clearly, the student bikes will be just about anything that can be ridden out of the shop. The bikes for the business executives, however, must be new, shiny, clean, and in tip-top shape.**

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**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>Compare and contrast the operations value chains of these two businesses as they pertain to the management of bicycles.**

The two operations value chains are very similar, yet the differences can be traced back to the differing competitive models and different target markets. The low-cost business utilizes minimal information and no automation to track sales and collections, no customer relationship management and probably limited product selection.

The high-service business uses customer-tracking and past sales information (CRM to some extent) to enhance the customer experience and to aid in product inventory, selection and collection.It is

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**<listitem><inst>b. </inst><para>Describe a business process for maintaining bicycles for both businesses.**

Low-cost: Clerk does a visual check of the bike on return and puts it back in inventory.

High-cost: The bikes inventory tag is scanned upon return and probably a bicycle mechanic checks it over before putting it back in inventory.

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**<listitem><inst>c. </inst><para>Describe a business process for acquiring bicycles for both businesses.**

1. </para></listitem>CullDeDeteddddDDDetermine which bicycles currently in inventory must be replaced and make a list.
2. Send the list to several vendors for bids.
3. Collect bids and determine which vendor will supply new bicycles.
4. Purchase new bicycles.
5. Take delivery of new bicycles and cull inventory.

**<listitem><inst>d. </inst><para>Describe a business process for disposing of bicycles for both businesses.**

1. Examine bicycles culled from inventory to identify those that are resalable and those that are not resalable.
2. Sell non-resalable bicycles for scrap after removing any serviceable parts.
3. Sell resalable bicycles via Craigslist, EBay, the newspaper or some other outlet, or trade-in on new bicycles.

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**<listitem><inst>e. </inst><para>What roles do you see for information systems in your answers to the earlier questions? The information systems can be those you develop within your company or they can be those developed by others, such as Craig’s List.**

1. Low-cost: Low-tech information system to control inventory, rentals, returns and collections.
2. High-cost: An integrated CRM and Point-of-Sale system that itself is integrated with the resort’s billing system.
3. Both: Craigslist, EBay or a similar system to sell culled inventory.
4. Twitter or text messaging could be effectively used by either business to notify potential customers of rental availability and to notify customers when bicycles are soon due to be returned.

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**<general-problem id="ch03ps11gen005" label="5" maxpoints="1"><inst>5. </inst><question id="ch03ps11q005"><para>Samantha Green owns and operates Twigs Tree Trimming Service. Samantha graduated from the forestry program of a nearby university and worked for a large landscape design firm, performing tree trimming and removal. After several years of experience, she bought her own truck, stump grinder, and other equipment and opened her own business in St. Louis, Missouri.</para>**

**<para>Although many of her jobs are one-time operations to remove a tree or stump, others are recurring, such as trimming a tree or groups of trees every year or every other year. When business is slow, she calls former clients to remind them of her services and of the need to trim their trees on a regular basis.</para>**

**<para>Samantha has never heard of Michael Porter or any of his theories. She operates her business “by the seat of her pants.”**

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**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>Explain how an analysis of the five competitive forces could help Samantha.**

An analysis of Porter’s five competitive forces would help Samantha understand the competitive nature of the tree trimming industry in St. Louis and help her to formulate a competitive strategy that could help maximize the profitability of her business.

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**<listitem><inst>b. </inst><para>Do you think Samantha has a competitive strategy? What competitive strategy would seem to make sense for her?**

Samantha does not have a competitive strategy. She is basically operating in survival mode.

Samantha should consider a focused-differentiation strategy. Better trimming, faster service and she should sell periodic service where she trims landscape plants on a schedule for clients such that every trimming does not require a separate sale.**Saman**

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**<listitem><inst>c. </inst><para>How would knowledge of her competitive strategy help her sales and marketing efforts?**

Samantha might recognize that she is not in the tree and landscape trimming business, she is in the service business. A lot of competitors can trim trees and landscape plants—home owners and businesses can do it themselves—superior skill and impeccable service (possibly regularly scheduled) may be differentiators.

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**<listitem><inst>d. </inst><para>Describe, in general terms, the kind of information system that she needs to support sales and marketing efforts.</para></listitem></orderedlist></question></general-problem>**

She needs an information system that will at a minimum accomplish the following:

* Tie sales to a scheduling system, potentially with GPS capabilities to minimize travel time/maximize service time per day.
* Schedule recurring sales and assist in contacting customers prior to regularly scheduled service to verify contracted services.
* Handle billing and accounts receivable.

**Answers to Collaboration Exercises**

<problemset id="ch01ps13" role="qonly"><supertitle id="ch01ps13.supertitle">**Collaboration Exercise 1**</supertitle>

**<instruction><para>Collaborate with a group of fellow students to answer the following questions. For this exercise do not meet face to face. Coordinate all of your work using email and email attachments, or Blackboard, or Google apps, or SharePoint, or some other collaboration system. (You can read more about using such tools in Chapter 9.) Your answers should reflect the thinking of the entire group, and not just one or two individuals. </para></instruction>**

**<general-problem id="ch01ps06gen001" label="1" maxpoints="1"><inst>1. </inst><question id="ch01ps06q001"><para>Abstract reasoning.</para>**

**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>Define <emphasis>*abstract reasoning,*</emphasis> and explain why it is an important skill for business professionals.**

Abstract reasoning is the ability to formulate and manipulate models. It is a vital skill for business professionals because the formulation and manipulation of models is a primary means by which new idea are vetted and initial experiments can be conducted without having to expend physical resources.

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**<listitem><inst>b. </inst><para>Explain how a list of items in inventory and their quantity on hand is an abstraction of a physical inventory.**

The list of inventory items and the quantity on hand of each item in inventory is an abstraction of a physical inventory (or an abstract model of inventory) because it is not the physical inventory itself, yet it accurately represents inventory in a model that, given knowledge of what inventory items match the item descriptions (the descriptions themselves representing an abstraction), a person reading the inventory list and QOH figures will have an accurate understanding of what the physical inventory actually is.**The TheThe**

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**<listitem><inst>c. </inst><para>Give three other examples of abstractions commonly used in business.**

An accounting system is an abstraction of the actual financial status of the business.

A customer list is an abstraction of a business’ actual customers.

A technical drawing of a product is an abstraction of the actual product that is manufactured.TAn AnAn AAAAAAAA

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**<listitem><inst>d. </inst><para>Explain how Jennifer failed to demonstrate effective abstract-reasoning skills.**

She was unable to create a mental abstract model of the Flextime that may have allowed her to better understand how the business works and to generate and experiment with alternative models that might improve the business.

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**<listitem><inst>e. </inst><para>Can people increase their abstract-reasoning skills? If so, how? If not, why not?**

Abstract reasoning is highly correlated with IQ, which is highly dependent on auditory and visual skills. To some extent abstract reasoning ability is innately defined, yet it is generally accepted that abstract reasoning, and consequently IQ, can be improved with practice.

Word puzzles and number puzzles such as Sudoku are often cited as examples of exercises that improve intelligence and abstract reasoning. [www.increasebrainpower.com](http://www.increasebrainpower.com) lists more than a dozen ways to increase intelligence, from creatine supplementation to exercise to writing (writing is a form of abstraction as well).

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**<general-problem id="ch01ps06gen002" label="2" maxpoints="1"><inst>2. </inst><question id="ch01ps06q002"><para>Systems thinking.</para>**

**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>Define <emphasis>*systems thinking,*</emphasis> and explain why it is an important skill for business professionals.**

Systems thinking, simply defined, is the understanding that every component in a system has an effect on other components in a system and that every system has effects on other systems. Systems thinking is important for business professionals because business processes are part of a business system, change an activity in a process or a component in a system, it is vital to understand how the change will affect other components, activities and the system as a whole.

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**<listitem><inst>b. </inst><para>Explain how you would use systems thinking to explain why Moore’s Law caused a farmer to dig up a field of pulp wood trees. Name each of the elements in the system, and explain their relationships to each other.**

Moore’s Law states that the number of transistors that can be placed in a square inch on an integrated chip will double every 18 months. This exponential doubling of computing power every 18 months has held true, more or less. The result is a computing industry that has also grown exponentially. Integrated circuits lead to the development of microcomputers. By as early as 1990 almost every office worker’s desk sported a microcomputer and every microcomputer was connected to a printer.

Millions of microcomputers connected to printers means that a LOT more paper is used for printing documents. A LOT more printing paper means an increased demand for pulp wood to make paper, which would mean an increase in price for pulp wood. The price of pulp wood likely increased to the point where the margin associated with clearing a field of pulp wood increased to the point where the farmer could justify clearing the field for agricultural use.

At a very high level, the elements in the system include the microcomputer industry, the business community as a whole, the paper industry and a farmer with a field of pulp wood trees. The relationship among these system components is explained above.

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**<listitem><inst>c. </inst><para>Give three other examples of the use of systems thinking with regard to consequences of Moore’s Law.**

1. The manifestation of Moore’s Law made fighting fires and searching for survivors at ground zero safer after the World Trade Center towers fell 2001/09/11.
2. The manifestation of Moore’s Law resulted in an exponential increase in the number of network administrators.
3. The manifestation of Moore’s Law helped gold traders make billions of dollars.

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**<listitem><inst>d. </inst><para>Explain how Jennifer failed to demonstrate effective systems thinking skills.**

Jennifer failed to demonstrate effective systems thinking a couple of times. First when she failed to consider the business activity that occurred after her workday. She didn’t realize the night manager is an important part of the system. Second she was unable to produce a diagram of the client life cycle.

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**<listitem><inst>e. </inst><para>Can people improve their systems thinking skills? If so, how? If not, why not?**

Systems thinking requires the creation of a mental model of systems—abstract reasoning. If abstract reasoning can be improved, systems thinking can be improved. By learning more about systems, value chains and business processes and their interrelatedness, systems thinking can be improved—basically with practice, systems thinking can be improved.**SystSsssss**

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**<general-problem id="ch01ps06gen003" label="3" maxpoints="1"><inst>3. </inst><question id="ch01ps06q003"><para>Collaboration.</para>**

**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>Define <emphasis>*collaboration,*</emphasis> and explain why it is an important skill for business professionals.**

Collaboration is working with others toward a common objective in a critical yet constructive manner.

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**<listitem><inst>b. </inst><para>Explain how you are using collaboration to answer these questions. Describe what is working with regards to your group’s process and what is not working.**

This will vary student to student. Probably there is no correct answer and the only incorrect answer is “I did not collaborate to answer these questions”.

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**<listitem><inst>c. </inst><para>Is the work product of your team better than any one of you could have done separately? If not, your collaboration is ineffective. If that is the case, explain why.**

Here again, there is probably no incorrect answer.

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**<listitem><inst>d. </inst><para>Does the fact that you cannot meet face to face hamper your ability to collaborate? If so, how?**

This will depend on the student. Some students will find it advantageous, some will not.

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**<listitem><inst>e. </inst><para>Explain how Jennifer failed to demonstrate effective collaboration skills.**

JejjjjjjJennifer failed to work with her colleagues, for the most part, at all. She failed to seek advice, to vet her ideas with her colleagues, to ask for clarification of job assignments, to brainstorm, etc. She basically failed to be what her employer would define as a colleague, let alone a collaborator.

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**<listitem><inst>f. </inst><para>Can people increase their collaboration skills? If so, how? If not, why not?**

Yes, they can. Through practice, training, introspection, education, etc.

Some students may respond that this is not possible, and possible for some personalities it is not, but for the majority, collaboration skills can be improved.

</para></listitem></orderedlist></question></general-problem>

**<general-problem id="ch01ps06gen004" label="4" maxpoints="1"><inst>4. </inst><question id="ch01ps06q004"><para>Experimentation.</para>**

**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>Define <emphasis>*experimentation,*</emphasis> and explain why it is an important skill for business professionals.**

Experimentation is making a careful and reasoned analysis of an opportunity, envisioning potential products, solutions or applications of technology, and then developing those ideas that seem to have the most promise within the resources you have available. Inherent in experimentation is learning from the results.

**</para></listitem>**

**<listitem><inst>b. </inst><para>Explain several creative ways you could use experimentation to answer this question.**

**</para></listitem>**Answers to this question will be widely varied and hopefully creative. Once again, there are no wrong answers, but possibly answers that are poorly conceived.

Example answers:

* Write a definition of “experimentation” and then start a threaded discussion on a site like [www.freeforums.org](http://www.freeforums.org).
* Use Twitter to tweet a definition to friends and contacts and then gather feedback.
* **exaExE**Post a definition on Facebook and gather further information from those who post replies on your wall.

In each case, gathered feedback would result in modifications to the definition, posting the new definition and gathering more feedback—basically an iterative process of improvement.

**<listitem><inst>c. </inst><para>How does the fear of failure influence your willingness to engage in any of the ideas you identified in part b.**

This will be a very individualized answer, possibly different for every student. There is not a wrong answer. Some may say “I have no fear of failure”. That may be true, some may be paralyzed by it. The important thing is that students do a sincere introspection regarding their own level of fear of failure and consider the degree to which that may limit their life/career.

**</para></listitem>**

**<listitem><inst>d. </inst><para>Explain how Jennifer failed to demonstrate effective experimentation skills.**

Jennifer clearly indicated that she is “just not comfortable with that” when told by Kelly the organization members develop “ideas and then kick them around with each other”. That is a form of collaborative experimentation. She also failed to develop any of her own ideas, choosing instead to work on ideas from Kelly.

**</para></listitem>**

**<listitem><inst>e. </inst><para>Can people increase their willingness to take risks? If so, how? If not, why not?**

Fear of failure is actually the fear of the consequences of failure. Yes, people can increase their willingness to take risks, but they must know they are in an environment where taking risks and failing does not carry negative consequences.

Jennifer was apparently in such an environment but was still unwilling to take risks and experiment, but it is also possible she truly didn’t understand the nature of the work environment and the reward structure.

**</para></listitem></orderedlist></question></general-problem>**

**f. Do you think IS make experimentation easier or harder?**

Both. Experimentation is easier because IS makes massive amounts of data available for modeling and experimentation, information systems tools like spreadsheets, simulation and modeling software allow users to experiment with new models and to do so with environmentally representative data.

Experimentation is more difficult in that utilization of IS data and tools requires expertise that many people do not possess. As well, some processes and activities that might be the focus of an experiment are supported by IS that make modifications to the process/activity difficult and expensive.

**<general-problem id="ch01ps06gen005" label="5" maxpoints="1"><inst>5. </inst><question id="ch01ps06q005"><para>Job security.</para>**

**<orderedlist numeration="loweralpha" spacing="normal" inheritnum="ignore" continuation="restarts"><listitem><inst>a. </inst><para>State the text’s definition of <emphasis>*job security*</emphasis>.**

Job security is “a marketable skill and the courage to use it.” In today’s environment of rapid technological change and zero data and information costs, strong nonroutine cognitive skills are vital in creating the value that will create job security.

**</para></listitem>**

**<listitem><inst>b. </inst><para>Evaluate the text’s definition of job security. Is it effective? If you think not, offer a better definition of job security.**

There is no correct answer to this question, although disagreement with the text’s definition must be followed with a well written definition that is broken down into well-defined and well-defended components.

**</para></listitem>**

**<listitem><inst>c. </inst><para>As a team, do you agree that improving your skills on the four dimensions in Collaboration Exercise 1 will increase your job security?**

The answer to this question must be “Yes”. If it is “No”, one should question not only why the students on the team are in this class, but why they are seeking higher education at all.

**</para></listitem>**

**<listitem><inst>d. </inst><para>Do you think technical skills (accounting proficiency, financial analysis proficiency, etc.) provide job security? Why or why not. Do you think you would have answered this question differently in 1980? Why or why not?</para></listitem></orderedlist></question></general-problem></problemset>**

As defined in the text, these skills are classified as routine skills—skills that can be performed by any adequately trained person. While routine skills add value, the value is finite and stable. The opportunity for skills such as these to create new value is extremely limited.

In 1980, the answer to this question would have been different, but the relative values of routine and nonroutine skills were not different. Nonroutine skills that create new value have always been considered of higher value than routine skills, although in 1980, outsourcing of routine skills was not as common so job security for routine skills was far better.

<case id="ch01cs03" type="cs1"><supertitle id="ch01cs03.supertitle">**Case Study 1**</supertitle>

<supertitle id="part01acs01.supertitle">Case</supertitle><title id="part01acs01.title"><inst> </inst>Getty Images Serves Up Profit and YouTube Grows Exponentially

</title>

**<general-problem id="part01aps02gen001" label="1" maxpoints="1"><inst> 1. </inst><question id="part01ps02q001"><para>Visit <ulink url="http://www.gettyimages.com">*www.gettyimages.com*</ulink>, and select “Images/Creative/Search royalty-free.” Search for an image of a major city of interest to you. Select a photo and determine its default price. Follow the link on the photographer’s name to find other images by that photographer.**

Students’ answers will depend on their personal preferences. However responses should fully address each of the items above.

**</para></question></general-problem>**

**<general-problem id="part01aps02gen002" label="2" maxpoints="1"><inst> 2. </inst><question id="part01ps02q002"><para>Explain how Getty Images’ business model takes advantage of the opportunities created by IT as described in <link olinkend="ch01" preference="0">Chapter <xref olinkend="ch01" label="1"><inst>1</inst></xref></link>.**

Getty’s business model utilizes IT to acquire, store and distribute digital images. Their IT system has allowed them to build the largest repository of digital images in the world, to charge a fair price for the images, to allow customers to purchase varying levels of rights to the images, and to affiliate with photographers across the globe to continually acquire new images.

**</para></question></general-problem>**

**<general-problem id="part01aps02gen003" label="3" maxpoints="1"><inst> 3. </inst><question id="part01ps02q003"><para>Evaluate the photography market using Porter’s five forces. Do you think Getty Images’ marginal cost is sustainable? Are its prices sustainable? What is the key to its continued success?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Type** | **Competitive Force** | **Threat** | **Strength Assessment** |
| **Competitive** | **Substitutes** | Digital clip art (lacks realism and often professionalism) | Threat of substitutes: Very weak |
| **New Entrants** | Barriers to entry: Access to customers  Critical mass of digital inventory is time consuming to acquire | Threat of new entrants: weak |
| **Rivalry** | Commercially available DVDs  Other photo services such as shutterstock.com (low price competitor)  Self-taken (amateur) photos | Commercially available DVDs: medium (selection is fixed after the DVD is purchased)  ShutterStock.com, etc. threat: High (can’t gain exclusive rights to ShutterStock photos)  Amateur photos threat: low (quality issues) |
| **Supply Chain Bargaining**  **Power** | **Supplier** | Photographers (Low switching costs, individual photographers)  Internet Service Provider (commodity service) | Photographer bargaining power: Weak due to many substitutes  ISP bargaining power: weak |
| **Customer** | Customers (mostly commercial) | Customer bargaining power: weak |

**</para></question></general-problem>**

**<general-problem id="part01aps02gen004" label="4" maxpoints="1"><inst> 4. </inst><question id="part01ps02q004"><para>What seems to be Getty Images’ competitive strategy?**

Industry-wide differentiation – they don’t produce images, they acquire and sell them. Digital rights management is a best practice differential service. The sheer number and quality of images is the best inventory selection in the industry.

**</para></question></general-problem>**

**<general-problem id="part01ps02gen005" label="5" maxpoints="1"><inst> 5. </inst><question id="part01aps02q005"><para>Explain how Getty Images’ use of information systems contributed to the company’s value when it was acquired.**

Getty Images’ information systems seamlessly automate virtually every activity in the value chain. Images can be received, inventoried, marketed and sold (and payment collected), delivered and much of customer service all within Getty’s information systems with little or no human interaction or intervention and at little or no per-unit cost.

**</para></question></general-problem>**

**<general-problem id="part01aps02gen006" label="6" maxpoints="1"><inst> 6. </inst><question id="part01aps02q006"><para>How did the availability of near-free data communication and data storage facilitate YouTube’s success? Would YouTube have been possible without them?**

YouTube is a high band-width model—videos require a lot of band-width and a lot of storage space. Any data communication and/or data storage priced beyond near-free would preclude YouTube’s free upload/free download inbound and outbound logistics.

**</para></question></general-problem>**

**<general-problem id="part01aps02gen007" label="7" maxpoints="1"><inst> 7. </inst><question id="part01aps02q007"><para>Even though the cost of data communication and data storage is very low, for the volume at which YouTube operates there are still substantial expenses. How did YouTube fund these expenses? (Search the Internet for “History of YouTube” to find information to answer this question.)**

Initially, YouTube funded operations through angel investment. From the beginning YouTube’s business model was advertising-based and their first major customer was Nike.

**</para></question></general-problem>**

**<general-problem id="part01aps02gen008" label="8" maxpoints="1"><inst> 8. </inst><instruction><para>How does YouTube (now owned by Google) earn revenue?**

YouTube earns revenue by selling advertising—advertising that appears in the Web interface and at the beginning of popular videos.

**</para></instruction><question id="part01aps02q008"><para>Using the cases of Getty Images and YouTube as a guide, answer the following questions:</para></question></general-problem>**

**<general-problem id="part01aps02gen009" label="9" maxpoints="1"><inst> 9. </inst><question id="part01aps02q009"><para>Choose a corporation located in the geographic vicinity of your college or university. In what ways is it already taking advantage of the low cost of data communication and data storage?**

This will differ for most students in the class. If you wish to “narrow the field” give students a list of corporations you want them to choose from, or give them one.

**</para></question></general-problem>**

**<general-problem id="part01aps02gen010" label="10" maxpoints="1"><inst>10. </inst><question id="part01aps02q010"><para>Using the corporation you identified in question 9, identify three innovative ways that the corporation could take advantage of the low cost of data communication and storage.**

Once again, the answer to this question will be dependent upon which corporation the student chooses for question 9.

The innovations suggested by students should address the part(s) of the value chain each suggestion targets and how it will strengthen the corporation’s competitive strategy.

**</para></question></general-problem>**

**<general-problem id="part01aps02gen011" label="11" maxpoints="1"><inst>11. </inst><question id="part01aps02q011"><para>Create an outline of a statement about the importance of near-zero cost data storage and data communication that you could use in a job interview. Assume you wish to demonstrate that you have knowledge of the power of emerging technology as well as the capacity to think innovatively. Incorporate the example you used in your answer to questions 9 and 10 in your answer.**

This answer will as well, of course, be dependent upon which corporation the student addressed in questions 9 and 10. In any case the statement will likely be a repackaging of the answers to questions 9 and 10.

A possible outline would address the following:

* Near-zero cost data storage and communication is an opportunity to exploit the power of MIS and IT to redefine the nature of conducting business in an industry or industry segment. This could be addressed using Porter’s Five Forces model.
* How do the opportunities created by near-zero data storage and communication possibly affect competitive strategy? What must the organization do in a near-zero storage and communication environment just to maintain competiveness? Where might there be opportunities to gain a competitive advantage?
* What is the fit between the opportunities and the corporation’s value chain? Where in the value chain is the greatest opportunity to redefine the industry or industry sector?
* Is it possible that near-free data and communications will actually change the source of corporate margin in the value chain or even change the corporation’s business focus?