

ADM2372

MANAGEMENT INFORMATION
SYSTEMS

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Week 1, Lecture 2



Week 1, Lecture 2:
Information Systems & Business Strategy

Week 1 Overview

- **SECTION 1.1 – INFORMATION SYSTEMS IN BUSINESS**
 - ▣ Information Systems' Role in Business
 - ▣ Information Systems Basics
 - ▣ Roles and Responsibilities in Information Systems
- **SECTION 1.2 – BUSINESS STRATEGY**
 - ▣ Identifying Competitive Advantages
 - ▣ The Five Forces Model – Evaluating Business Segments
 - ▣ The Three Generic Strategies-Creating A Business Focus
 - ▣ Value Chain Analysis – Targeting Business Processes
 - ▣ Business-Driven Information Systems and Business Strategy

Learning Outcomes

1. Explain the role information systems have in business.
2. Explain information systems basics, and the responsibilities of senior IS personnel.
3. Describe the job market in Canada over the next five years for MIS and ICT professionals and identify the opportunities.
4. Explain the various ways organizations can assess their competitive advantage (e.g. the Five Forces Model, three generic strategies, and value chain analysis).
5. Describe how business-driven information systems can increase a company's competitive business strategy.



SECTION 1.1

INFORMATION SYSTEMS IN BUSINESS

The Role of Information Systems in Business

- Information systems are everywhere in business



Figure 1.1

Opening Case Study

- “Information Technology Helps LCBO Transform itself” (pages 3-4)
 - ▣ Key elements:
 - Warehouse management system
 - Forecast and replenishment system
 - Internal intranet
 - Application integration

Competing in the Information Age

- Examples of the power of business and technology:
 - ▣ **Amazon** – Not a technology company; primary business focus is selling books.
 - ▣ **Netflix** – Not a technology company; primary business focus is renting videos
 - ▣ Any Canadian Bank – Not technology companies; primary business is financial services. When was the last time you actually went to a bank?



Information Systems' Impact on Business Operations

Business Functions Receiving the Greatest Benefits from Information Technology

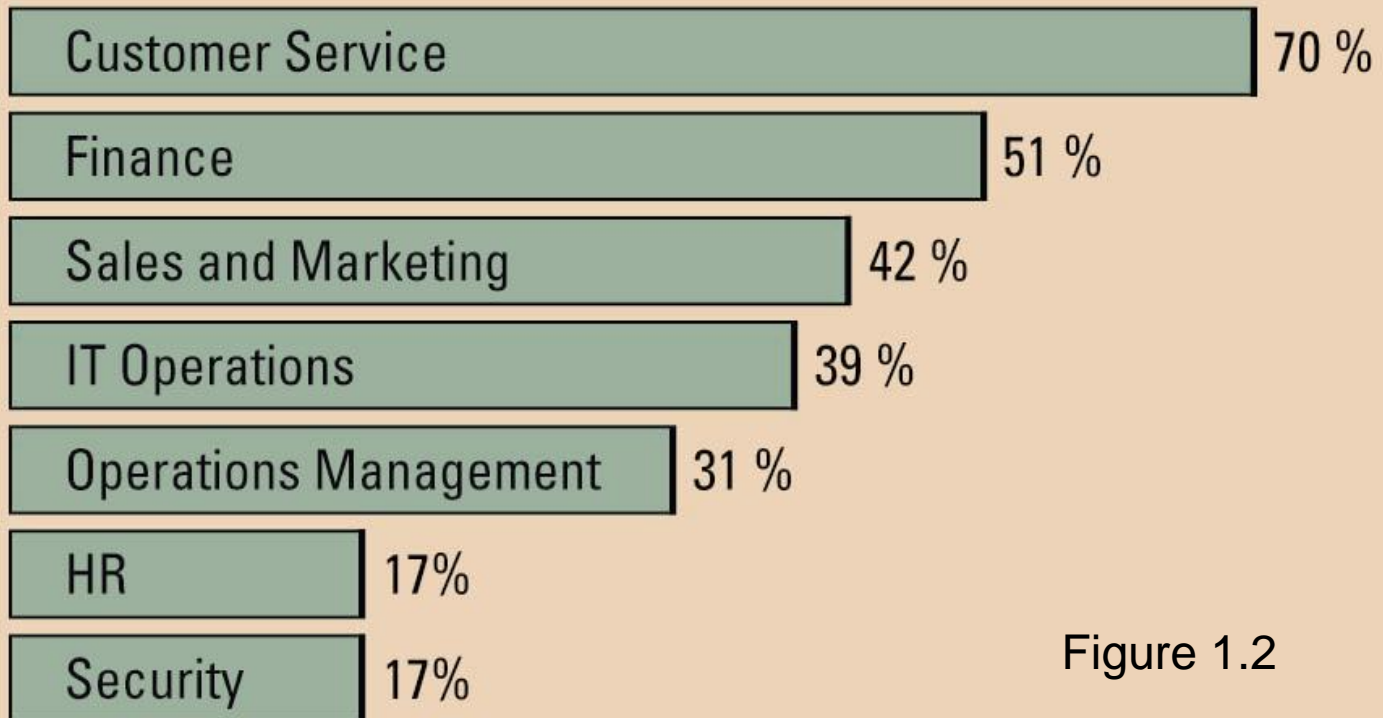
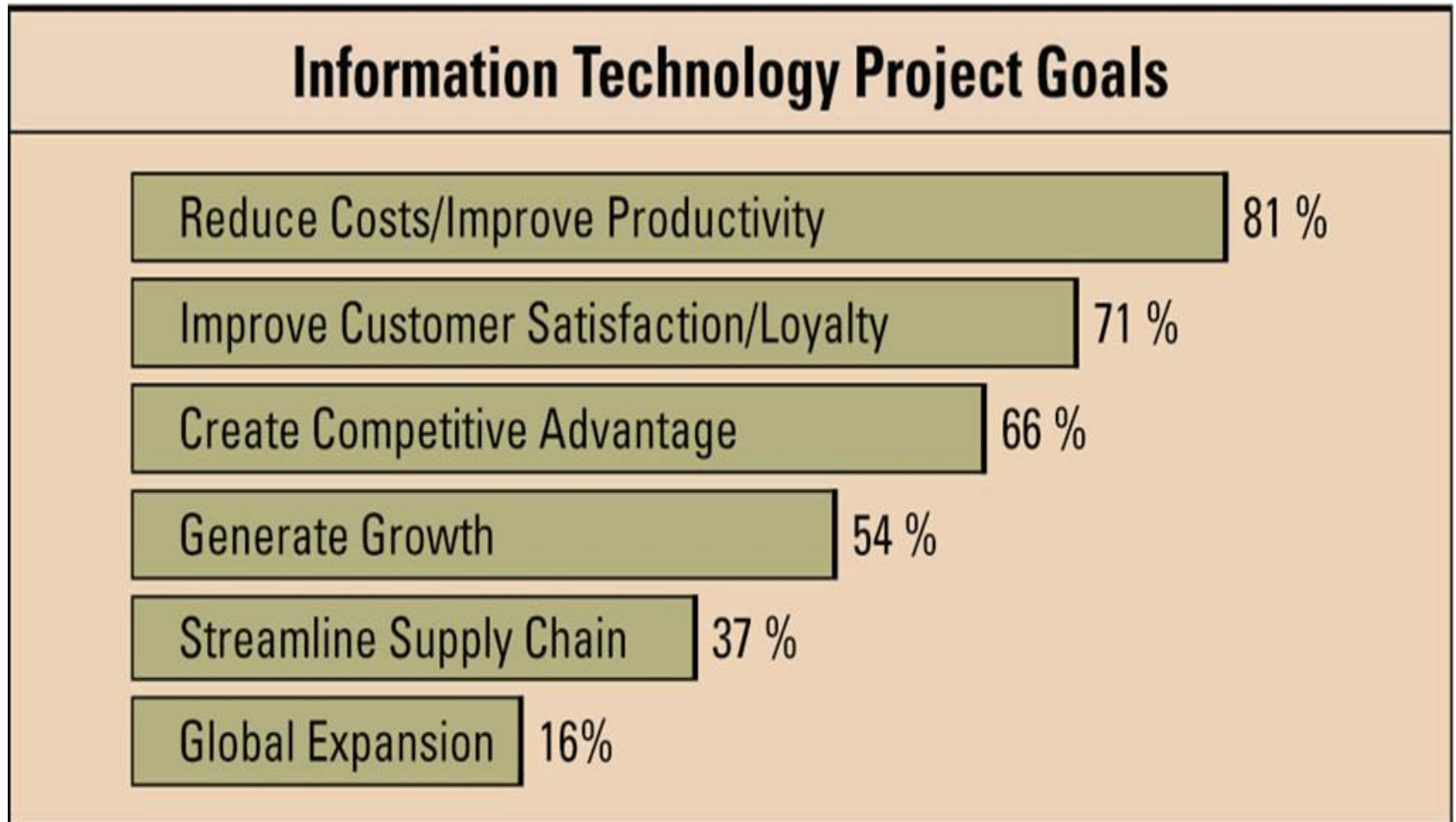


Figure 1.2

Information Systems' Impact on Business Operations

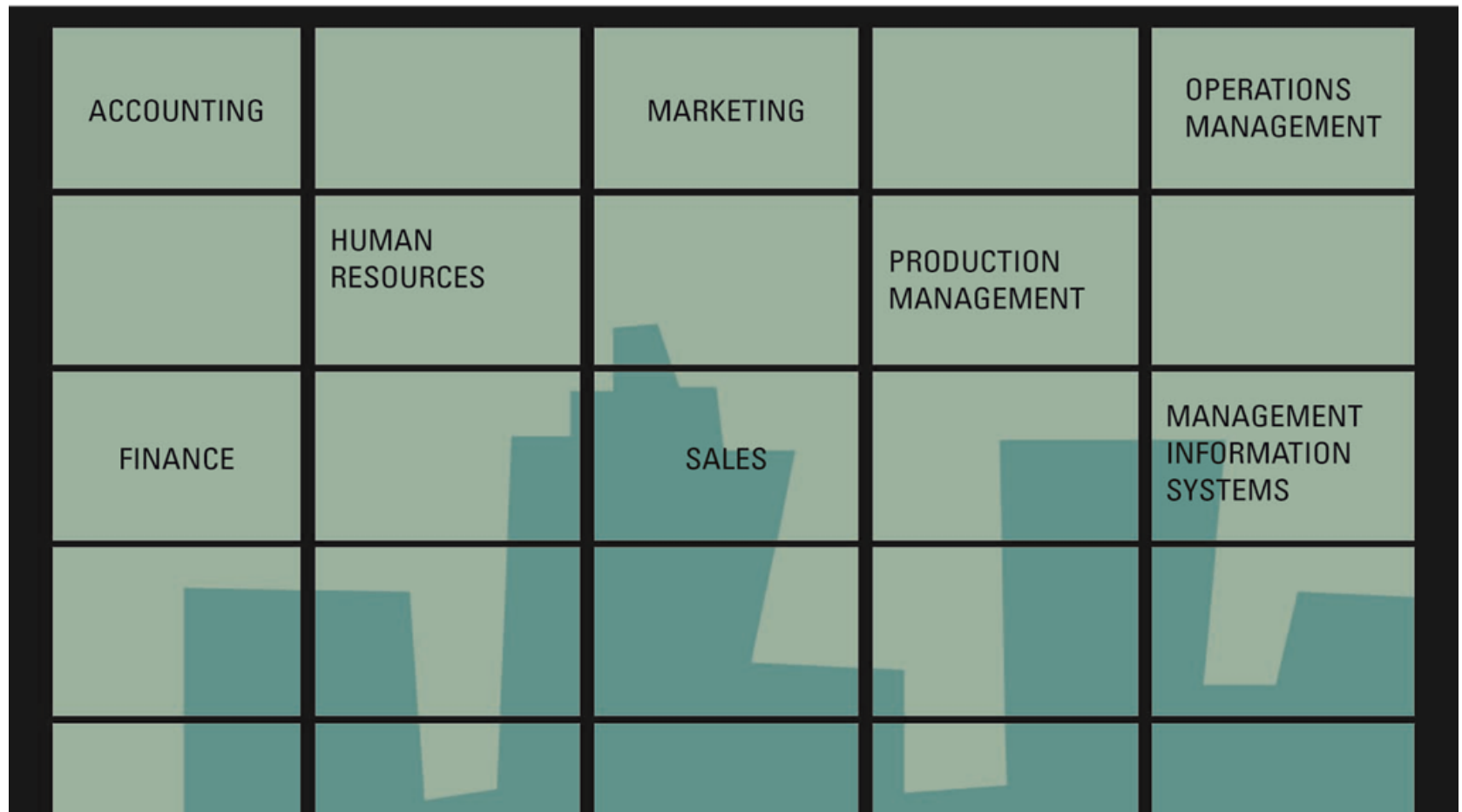
Figure 1.2



Information Systems' Impact on Business Operations

Figure 1.3

COMMON DEPARTMENTS IN AN ORGANIZATION



Information Systems' Impact on Business Operations

- Organizations typically operate by functional areas or functional silos
- Functional areas are interdependent

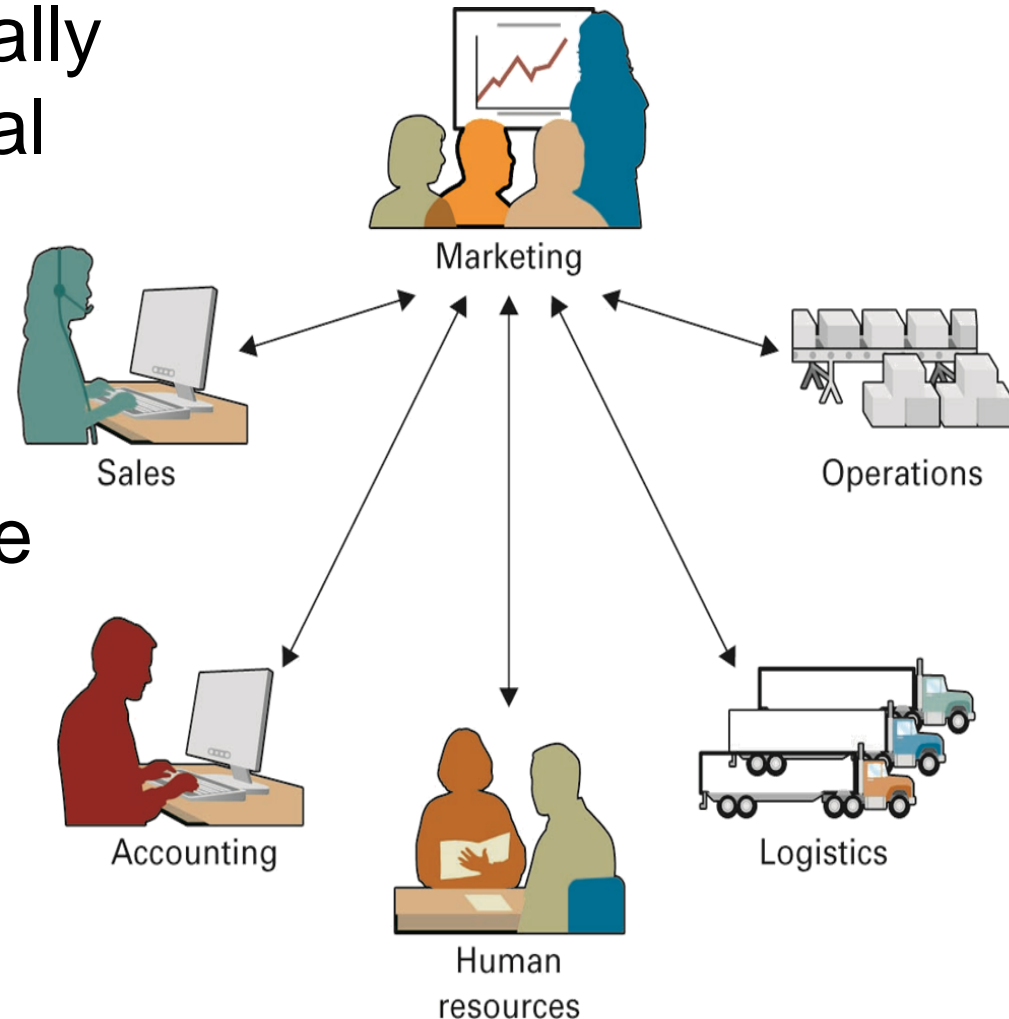


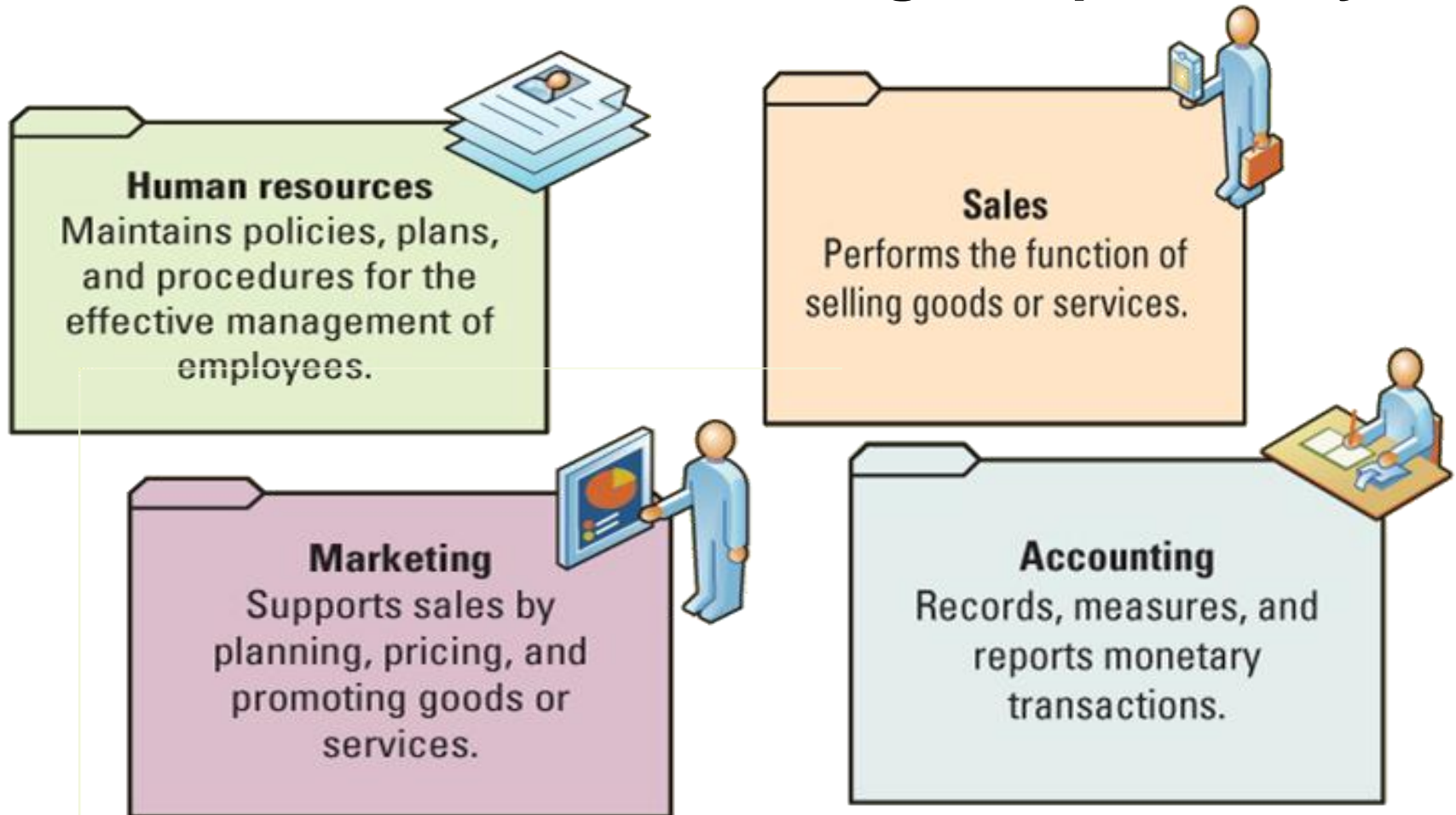
Figure 1.4

The Challenge: Bringing separate functions together

Learning
Outcomes

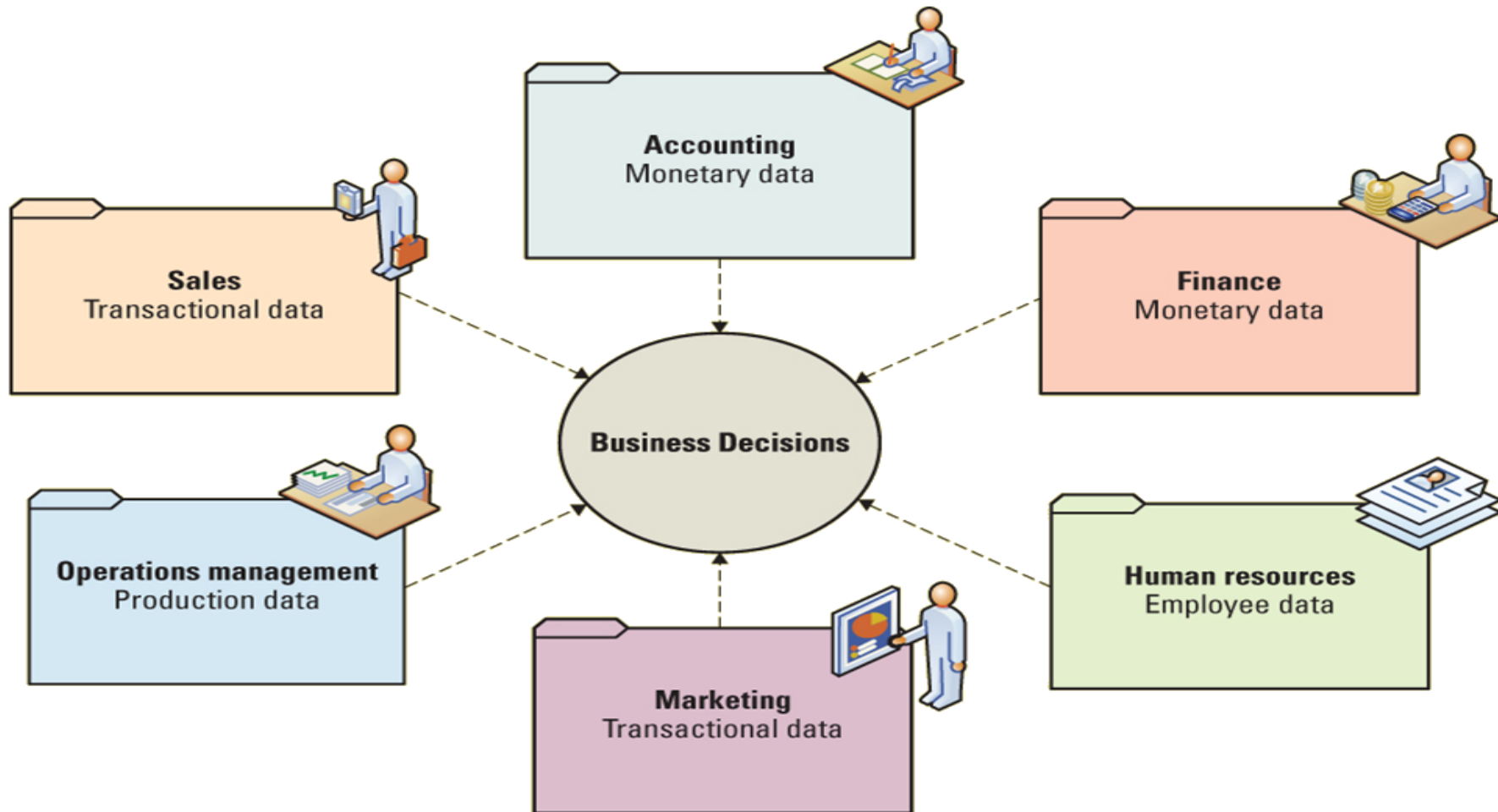
1-1

Common Functions Working Independently



The Solution: Management Information Systems

Common Departments Working Interdependently



Information Systems Basics

- ***Information systems (IS)*** – any computer-based tool that people use to work with information and that supports the information and information-processing needs of an organization
- An information system can be an important *enabler* of business success and innovation

Information Systems Basics

- ***Management information systems (MIS)*** – the function that plans for, develops, implements, and maintains IS hardware, software, and applications that people use to support the goals of an organization
- MIS is a business function, similar to Accounting, Finance, Operations, and Human Resources

Information System Basics

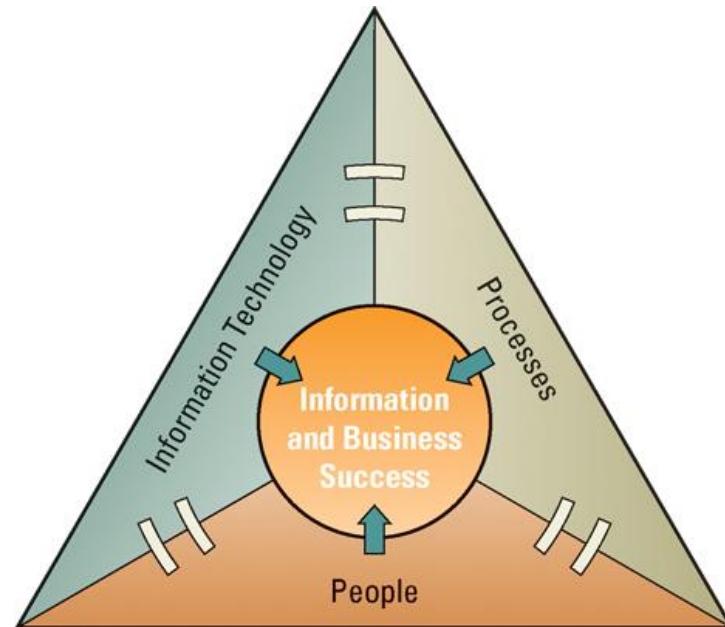
These three terms are NOT the same...

- **Data** - raw facts that describe the characteristic of an event
- **Information** - data converted into a meaningful and useful context
- **Knowledge** - information that can be enacted upon *i.e.* “actionable information”

Information Systems Basics

Figure 1.8

- **People** use **Information systems** to transform **data** into **information** and **information** into **knowledge**.



IS Cultures

- Organizational information cultures include:
 - ▣ Information-functional culture
 - ▣ Information-sharing culture
 - ▣ Information-inquiring culture
 - ▣ Information-discovery culture

Information System Roles and Responsibilities



- **Chief information officer (CIO)** – Oversees all uses of IT and ensures the strategic alignment of IT with business goals and objectives

- **Chief knowledge officer (CKO)** - Responsible for collecting, maintaining, and distributing the organization's knowledge



- **Chief privacy officer (CPO)** – Responsible for ensuring the ethical and legal use of information

Information Systems Roles and Responsibilities

- **Chief security officer (CSO)** – Responsible for ensuring the safety of IT resources including data, hardware, software, and people
- **Chief technology officer (CTO)** – Responsible for ensuring the throughput, speed, accuracy, availability, and reliability of IT



CIO's Top Priorities

Business Priority	Ranking
Increasing enterprise growth	1
Attracting and retaining new customers	2
Reducing enterprise costs	3
Creating new products and services (innovation)	4
Delivering operational results	5
Improving efficiency	6
Improving profitability (margins)	7
Attracting and retaining the workforce	8
Improving marketing and sales effectiveness	9
Expanding into new markets and geographies	10

Figure 1.10

**Results of
Garner's
Annual Survey
of CIO Top
Priorities.**

ICT Job Opportunities

Position	Median Salary	Median Salary with Bonuses	Typical Years of Experience
Business Systems Analyst I	\$53,016	\$55,728	0
Business Systems Analyst II	\$68,506	\$70,731	2–5
Business Systems Analyst III	\$77,744	\$81,881	5
IS Auditor	\$58,211	\$63,148	2–5
IS Trainer	\$60,376	\$61,759	2–4
Web Designer	\$62,686	\$65,037	2
IT Manager	\$92,661	\$101,696	5
Help Desk Manager	\$77,707	\$88,003	7
Information Services Consultant	\$96,142	\$102,570	7
Project Lead	\$80,408	\$87,110	7
IT Director	\$142,233	\$163,955	8
CIO /CTO	\$152,006	\$172,350	10

Figure 1.11

Median Salaries of Selected IT Positions

From “Canada Salary Calculator”,
www.canadavisa.com/canada-salary-wizard.html

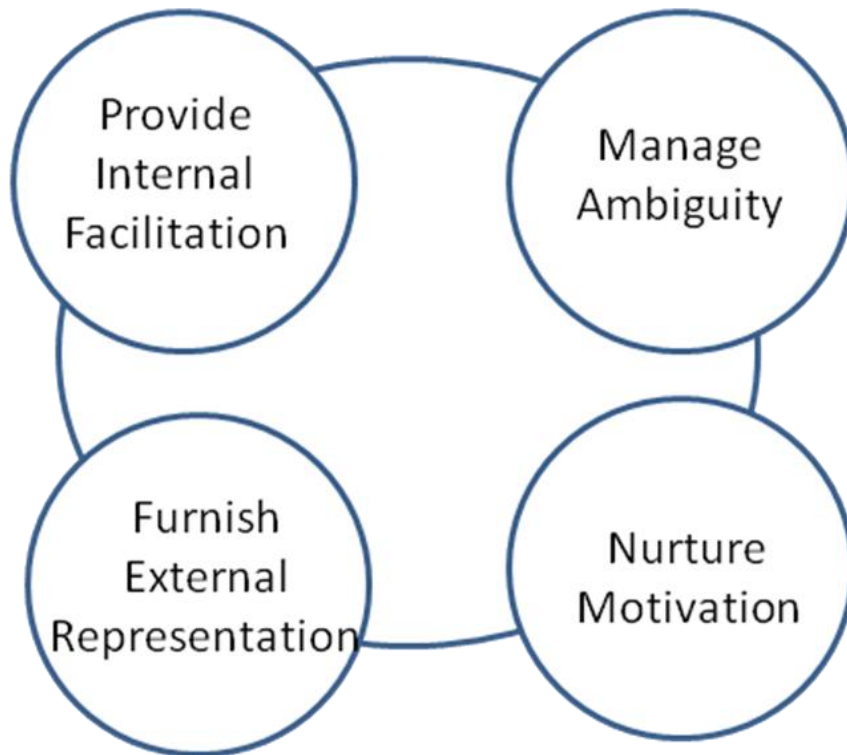
The Gap Between Business Personnel and IS Personnel

- Business personnel possess expertise in functional areas such as marketing, accounting, and sales.
- IS personnel have the technological expertise.
- This typically causes a communications gap between the business personnel and IS personnel.

About geeks

- Clever people, such as IT specialists, are “highly talented individuals with the potential to create disproportionate amounts of value from the resources that an organization makes available to them”
- They are “highly intelligent, usually introverted, extremely valuable, independent-minded, hard-to-find, difficult-to-keep” personnel who are vital to an organization
- Since geeks typically deliver value through thoughts rather than action, the use of power to control behaviour will not achieve the desired result. Motivation is therefore a challenge

Leading geeks



- Geeks
 - ▣ Are motivated by “new toys”
 - ▣ Often prefer to work on their own
 - ▣ Unaffected by power
 - ▣ Need to be buffered from the “politics”

Key Information Systems Skills Beyond Technology

Figure 1.12

Skill	What it Means
Communications	The ability to communicate and influence at all levels
Business Knowledge	A need to understand and focus on how they can help their businesses grow and not just look at cutting costs and being more efficient.
Innovation / Creativity	The vision that differentiates a CIO from a more traditional IT director—innovation, creativity, flair, and an entrepreneurial spirit.
Leadership	Good leaders inspire and motivate their teams and drive them to achieve remarkable things.
Domain Knowledge	A practical understanding of technology fundamentals in order to make the right strategic calls about the deployment and exploitation of IT

Opening Case Questions: Information Technology Helps LCBO Transform

1. What might have happened to the LCBO if its top executives had not supported the investment needed in IT?
2. Evaluate the effects on the LCBO if its inventory control and warehouse management systems fail?

Opening Case Questions: Information Technology Helps LCBO Transform

3. Is it unethical for the LCBO to share its customer information from Vintages.com with other government agencies or departments? Explain your answer.
4. Is Mr. Kelly fulfilling his role as a senior vice president of information (CIO) correctly?



SECTION 1.2

BUSINESS STRATEGY

Identifying Competitive Advantage

- To survive and thrive an organization must create a competitive advantage
 - ▣ **Competitive advantage** – a product or service that an organization's customers place a greater value on than similar offerings from a competitor
 - ▣ **First-mover advantage** – occurs when an organization can significantly impact its market share by being first to market with a competitive advantage

Identifying Competitive Advantage

- Organizations watch their competition through environmental scanning
 - ▣ ***Environmental scanning*** – the acquisition and analysis of events and trends in the environment external to an organization
- Three common tools used in industry to analyze and develop competitive advantages include:
 - ▣ Porter's Five Forces Model
 - ▣ Porter's three generic strategies
 - ▣ Value chains

Michael Porter's Five Forces Model

- The ***Five Forces Model*** determines the relative attractiveness of an industry

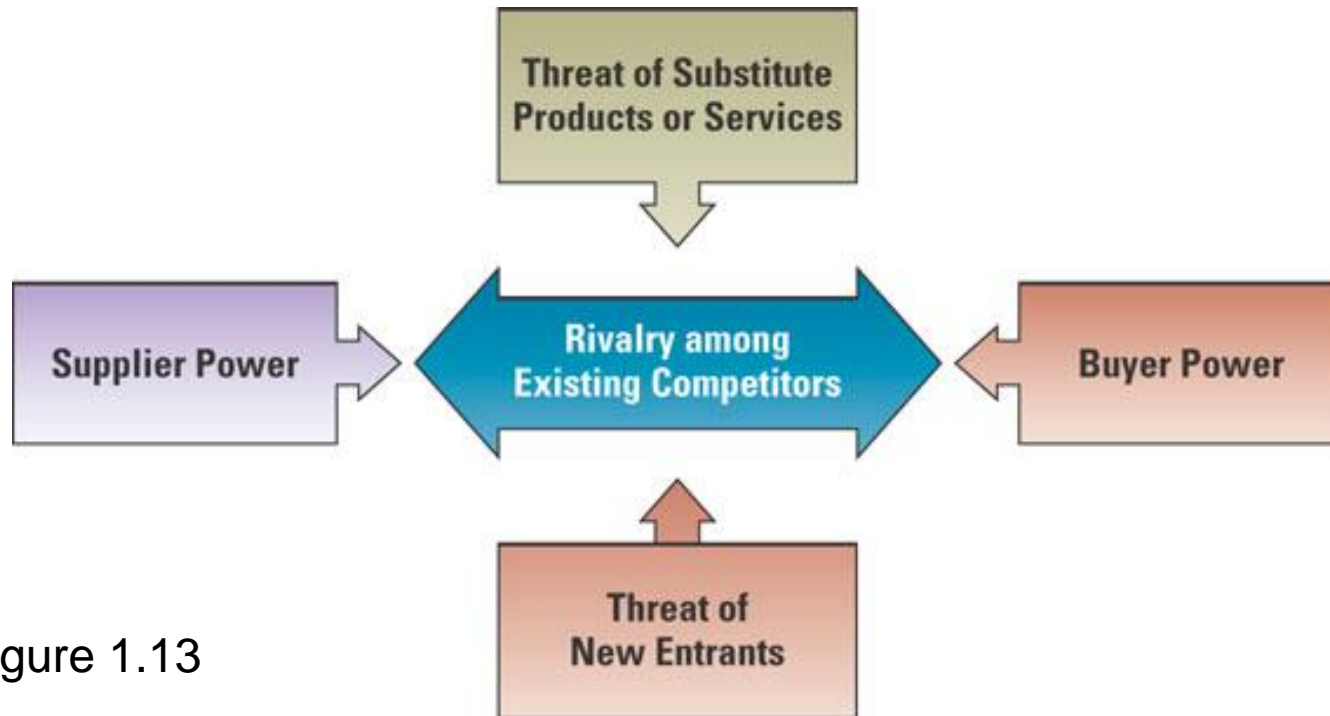


Figure 1.13

Buyer Power

- **Buyer power** – The ability of buyers to affect the price of an item
 - **Switching cost** – Manipulating costs that make customers reluctant to switch to another product
 - **Loyalty program** – Rewards customers based on the amount of business they do with a particular organization



Supplier Power

- **Supplier power** – high when buyers have few choices of whom to buy from and low when their choices are many
 - ▣ **Supply chain** – consists of all parties involved in the procurement of a product or raw material

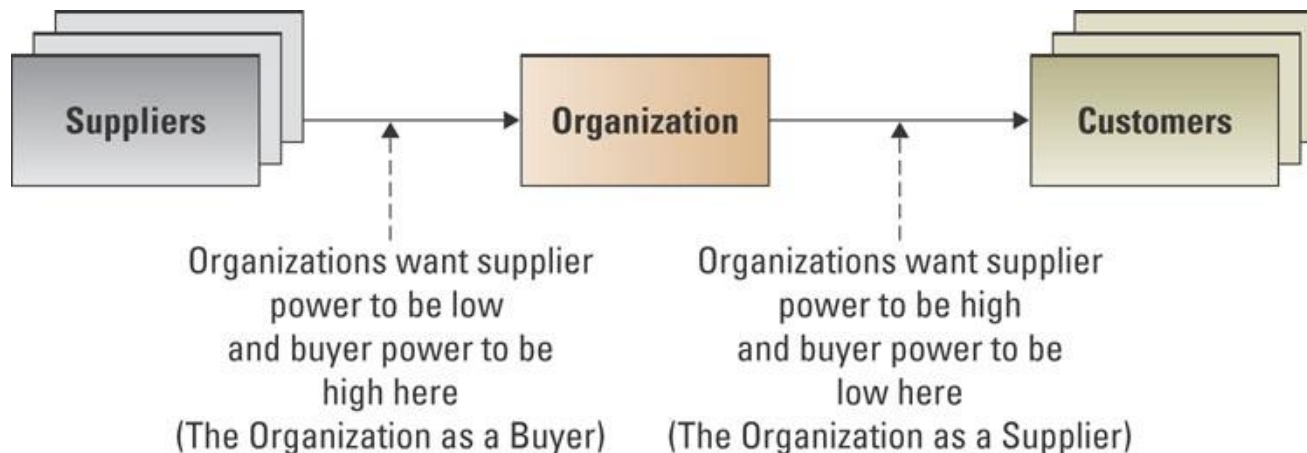


Figure 1.14

Supplier Power

- Organizations can create a competitive advantage by locating alternative supply sources (decreasing supplier power) through B2B marketplaces
 - ▣ ***Business-to-Business (B2B) marketplace*** – an Internet-based service that brings together many buyers and sellers

Supplier Power

- Two types of business-to-business (B2B) marketplaces
 - ▣ **Private exchange** – a single buyer posts its needs and then opens the bidding to any supplier who would care to bid
 - ▣ **Reverse auction** – an auction format in which increasingly lower bids are solicited from organizations willing to supply the desired product or service at an increasingly lower price

Threat of Substitute Product or Service

- **Threat of substitute products or services** – High when there are many alternatives to a product or service and low when there are few alternatives
- Threat is reduced when **Switching Costs** are high.



Threat of New Entrants

- **Threat of new entrants** – High when it is easy for new competitors to enter a market and low when there are significant entry barriers
- **Entry barrier** – A feature of a product or service that customers have come to expect and entering competitors must offer the same for survival



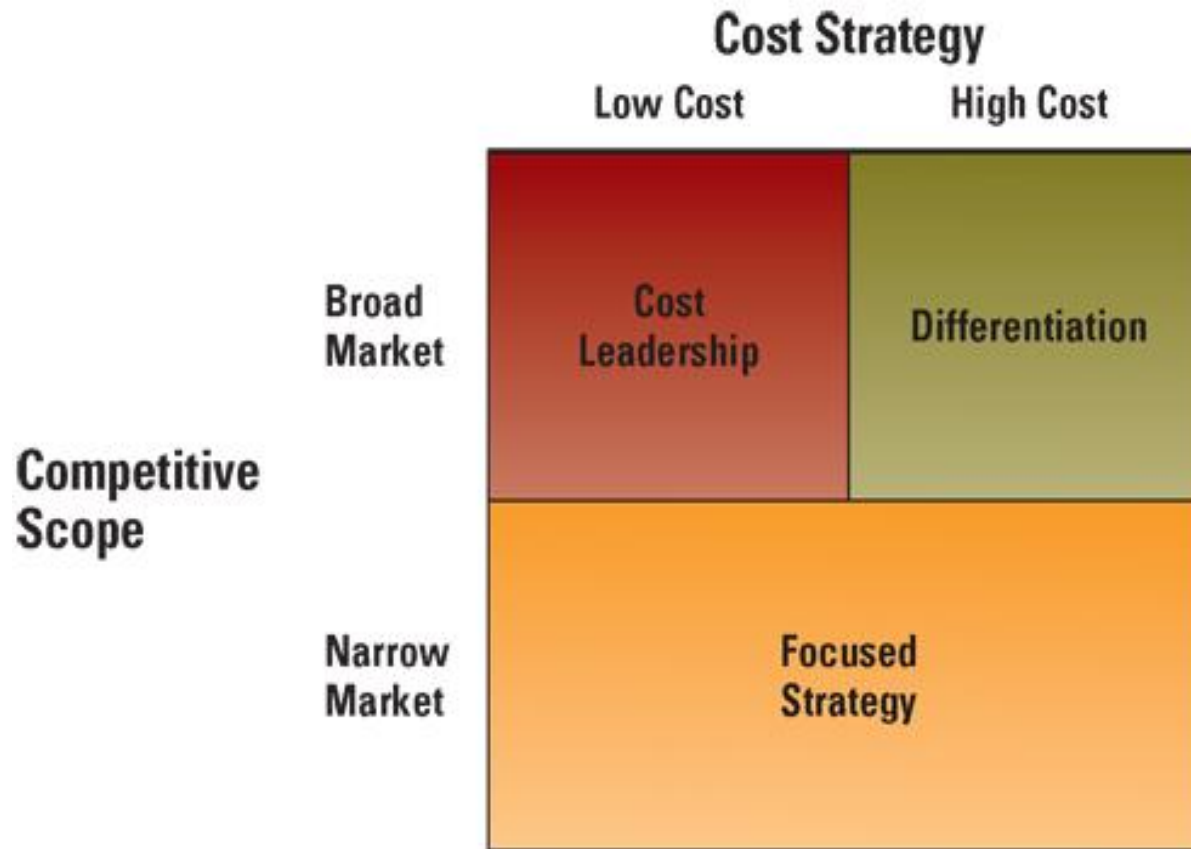
Rivalry Among Competitors

- **Rivalry among existing competitors** – High when competition is fierce in a market and low when competitors are more complacent
- **Product differentiation** – Occurs when a company develops unique differences in its products or services with the intent to influence demand



Three Generic Strategies for Creating a Business Focus

Figure 1.15 Porter's Three Generic Strategies



Porter's Three Strategies in the Car Market

Figure 1.16



Value Chain Analysis—Executing Business Strategies

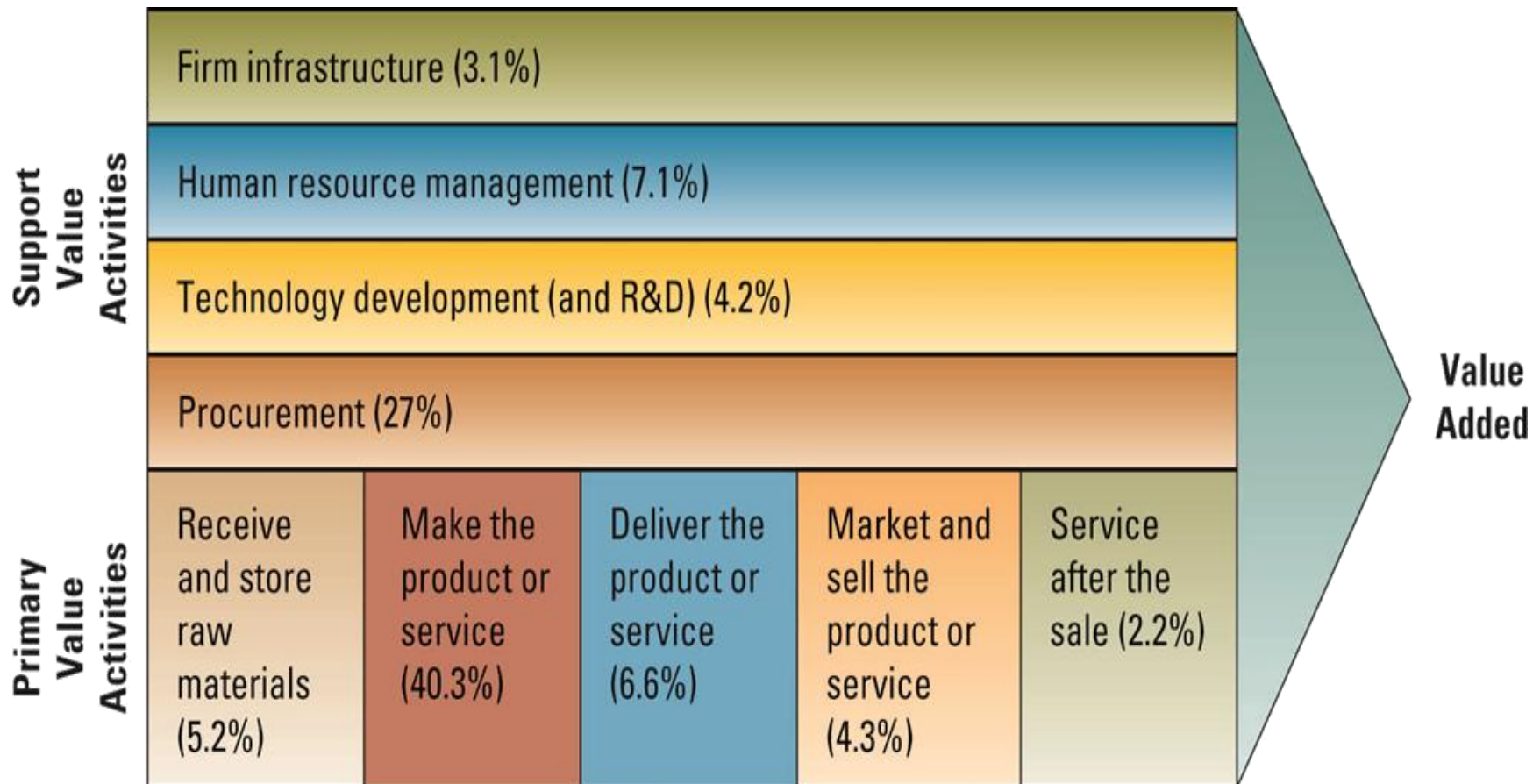
- **Business process** – A standardized set of activities that accomplish a specific task, such as a specific process
- **Value chain analysis** – Views a firm as a series of business processes that each add value to the product or service



Value Creation

Figure 1.18

Value Chain



Value Creation

Value chains with Porter's Five Forces

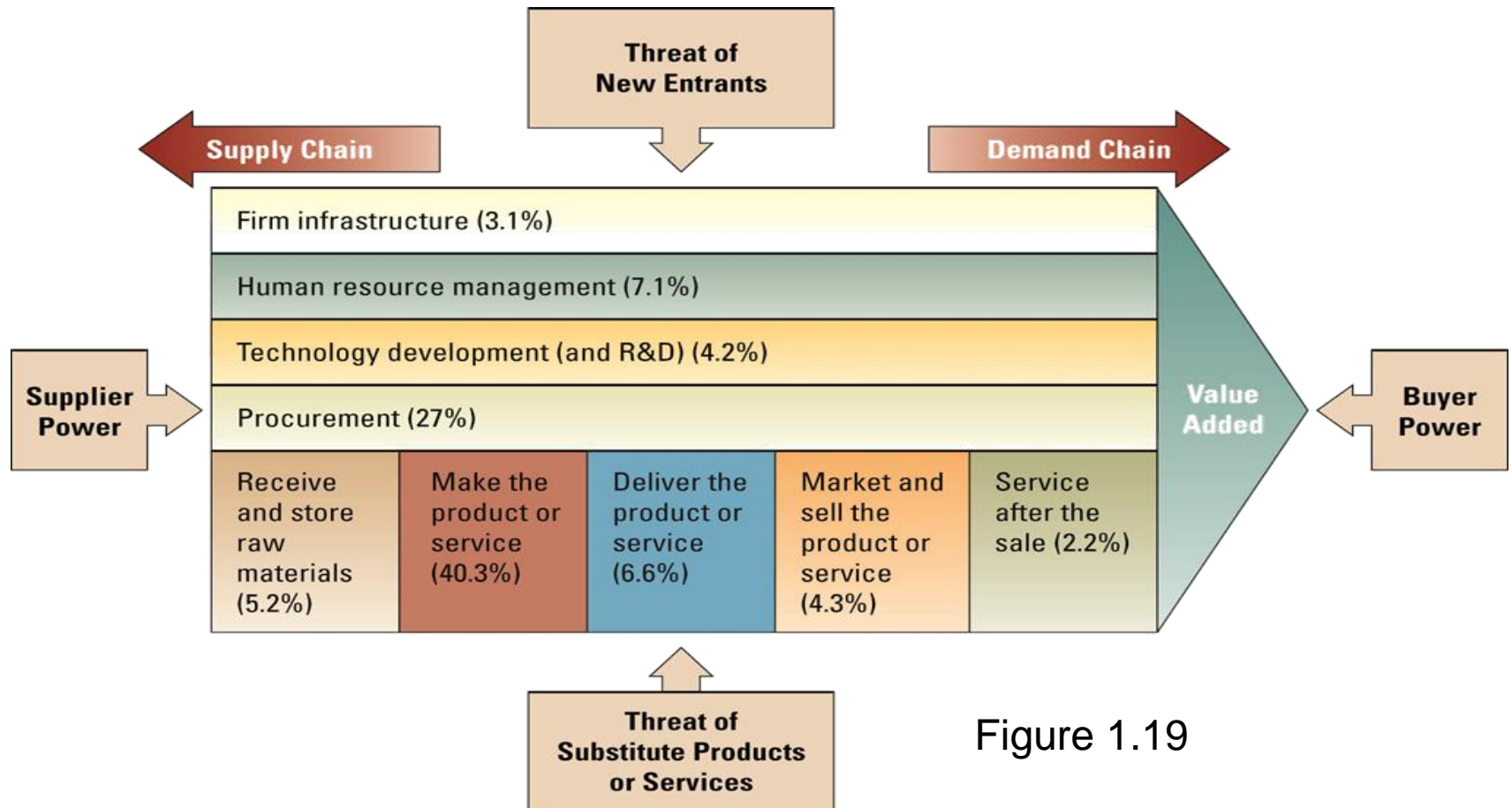


Figure 1.19

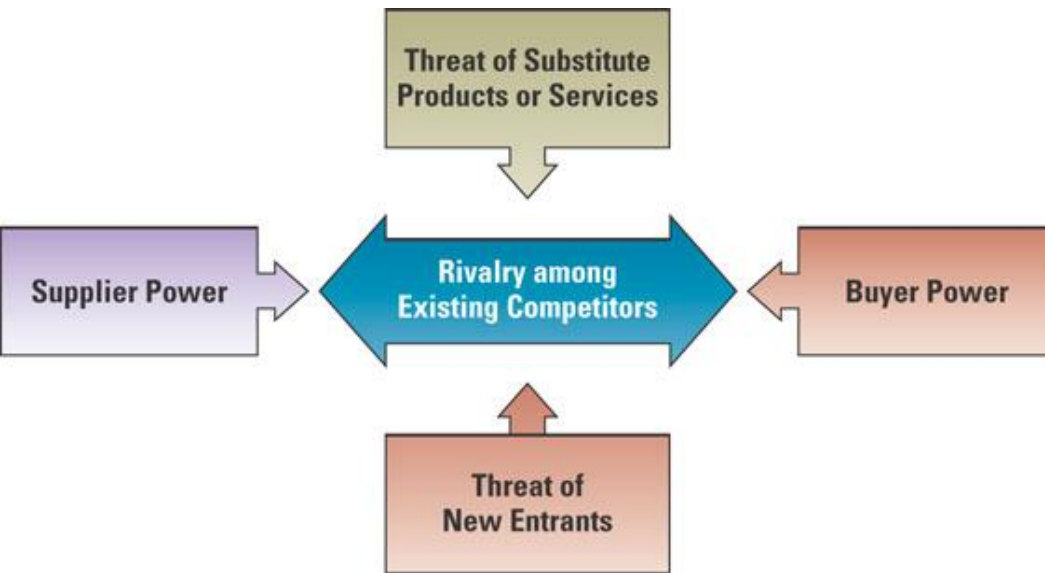
Business-Driven Information Systems and Business Strategy

- The Five Forces Model, Three Generic Strategies and Value Chain allow business to assess competitive advantage.
- Information Systems collect the data from the business process activities and provide analysis to give organizations insight into ways to behave more competitively.
- Information Systems are not used on their own. They are driven by the need of business for fast, accurate and insightful information.

Opening Case Questions: Information Technology Helps LCBO Transform (p20)

5. Which of Porter's Five Forces is the LCBO trying to use to establish and maintain its competitive advantage?
6. What does the LCBO's primary value chain look like, using specific examples of its value chain to describe it?
7. Which of the three generic strategies is the LCBO using?
8. How does the fact that the LCBO is a monopoly affect its use of Porter's Five Forces? Its use of the Three Generic Strategies?

Five Forces Analysis



1. Laptop vs Desktop
2. Cell phone vs SmartPhone
3. Coke: Plastic bottle vs Glass bottle
4. GPS vs Road Atlas

- Perform a Five Forces analysis

Closing Case One

Say “Charge It” with Your Mobile Device

1. Using Porter’s Five Forces describe the barriers to entry for this new technology.
2. Which of Porter’s three generic strategies is this new technology following?
3. Describe the value chain of using cell phones as a payment method.
4. What types of regulatory issues might occur due to this type of technology?

CLOSING CASE TWO

Innovative Business Managers

1. Choose one of the companies listed above and explain how it could use a CIO, CTO, and CPO to improve business.
2. Why is it important for all of G Adventures' functional business areas to work together? Provide an example of what might happen if the G Adventures' marketing department failed to work with its sales department.
3. Why are information systems important to an organization like G Adventures?

Closing Case Two

Innovative Business Managers

4. Which of Porter's Five Forces is most important to Nike's business?
5. Which of the three generic strategies is PepsiCo following? Which strategy is TransForce following?
6. Explain the value chain and how a company like GE can use it to improve operations.

Closing Case Three

The World is Flat – Thomas Friedman

1. Do you agree or disagree with Friedman's assessment that the world is flat? Be sure to justify your answer.
2. What are the potential impacts of a flat world for a student performing a job search?
3. What can students do to prepare themselves for competing in a flat world?
4. Identify a current flattener not mentioned on Friedman's list.

Required for next class

- Finish building your “team”
- Read Chapter 2

Questions, concerns, comments

