

CHAPTER 1

BUSINESS DRIVEN INFORMATION SYSTEMS

THIRD CANADIAN EDITION



BALTZAN | DETLOR | WELSH

Information Systems & Business Strategy

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Chapter One 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

The Role of Information Systems in Business

- Information systems are everywhere in business



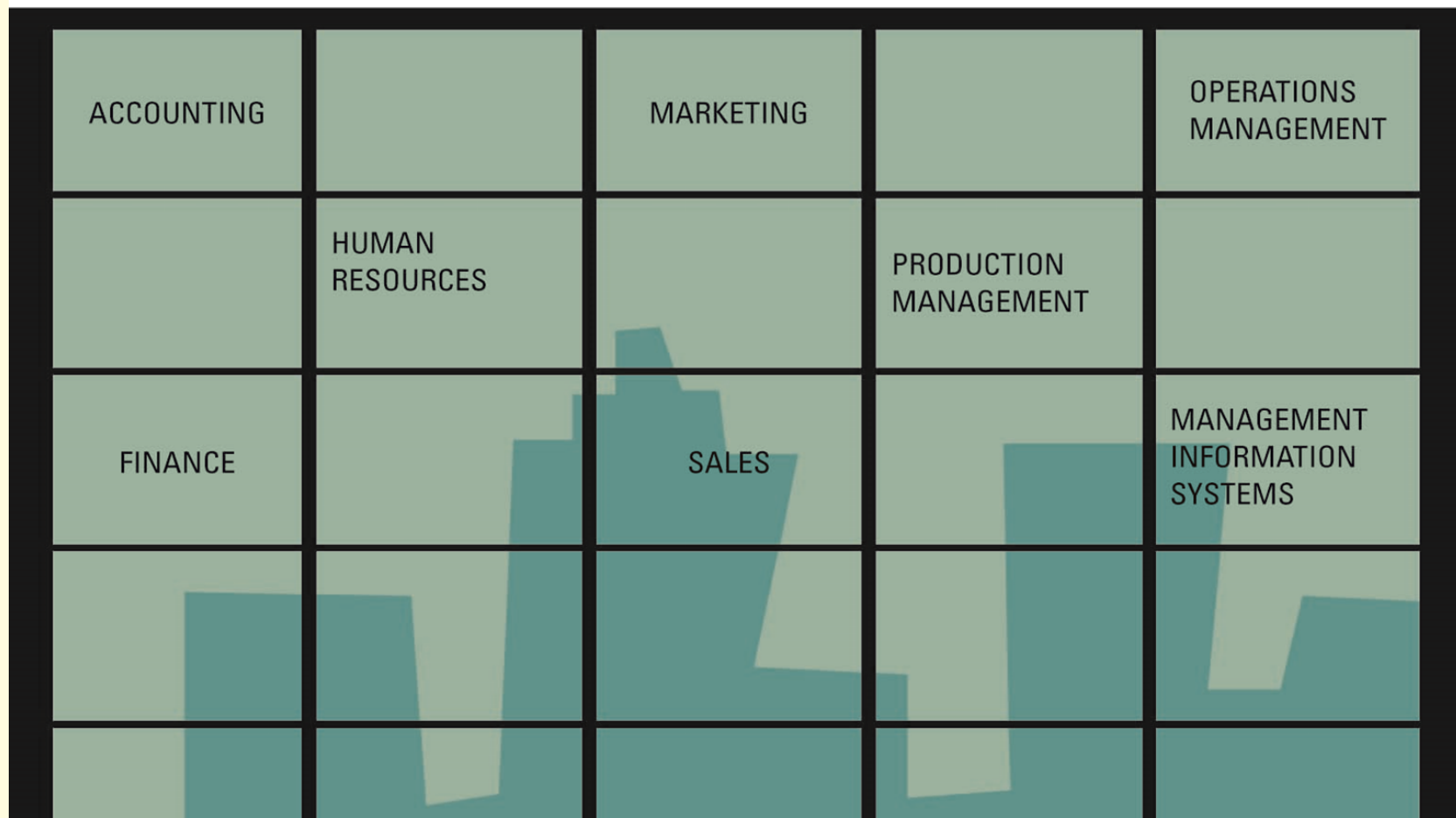
Competing in the Information Age

- 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.



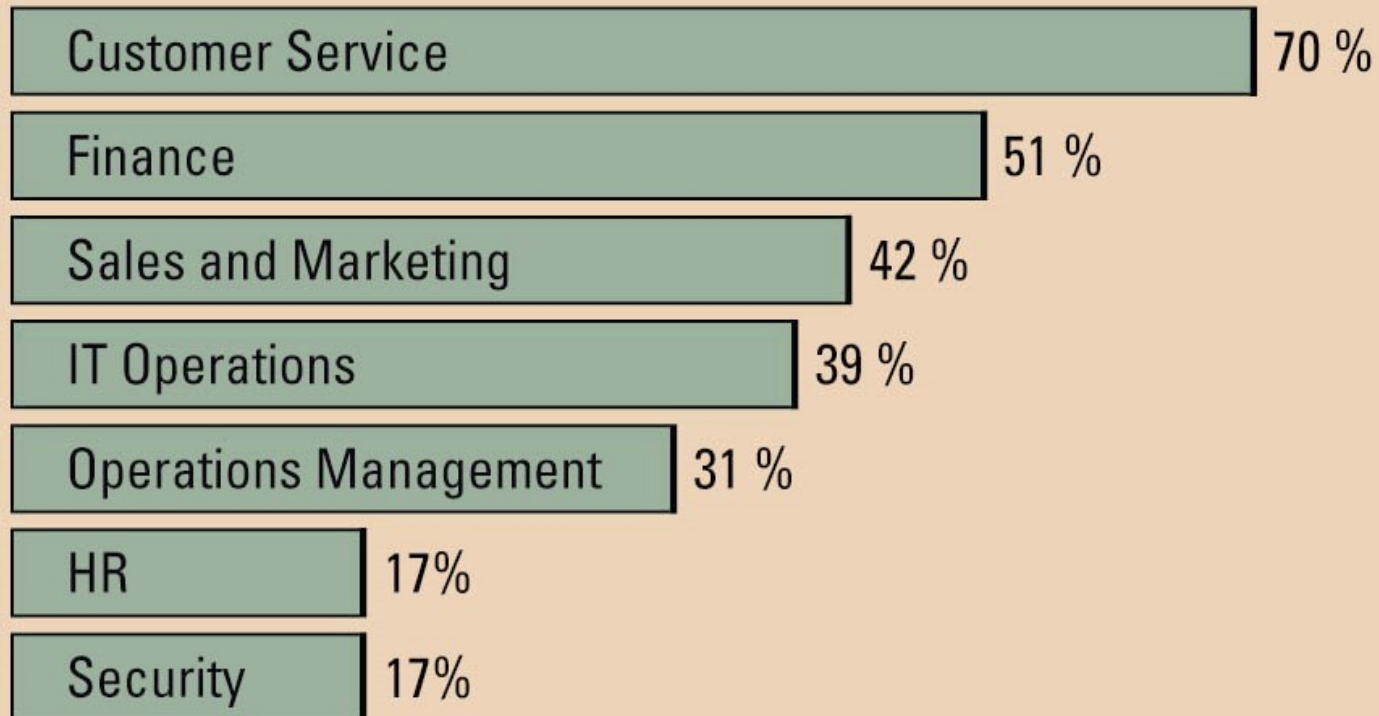
Information Systems' Impact on Business Operations

COMMON DEPARTMENTS IN AN ORGANIZATION



Information Systems' Impact on Business Operations

Business Functions Receiving the Greatest Benefits from Information Technology



Information Systems' Impact on Business Operations

Learning Outcomes

1-1

Information Technology Project Goals

Reduce Costs/Improve Productivity 81 %

Improve Customer Satisfaction/Loyalty 71 %

Create Competitive Advantage 66 %

Generate Growth 54 %

Streamline Supply Chain 37 %

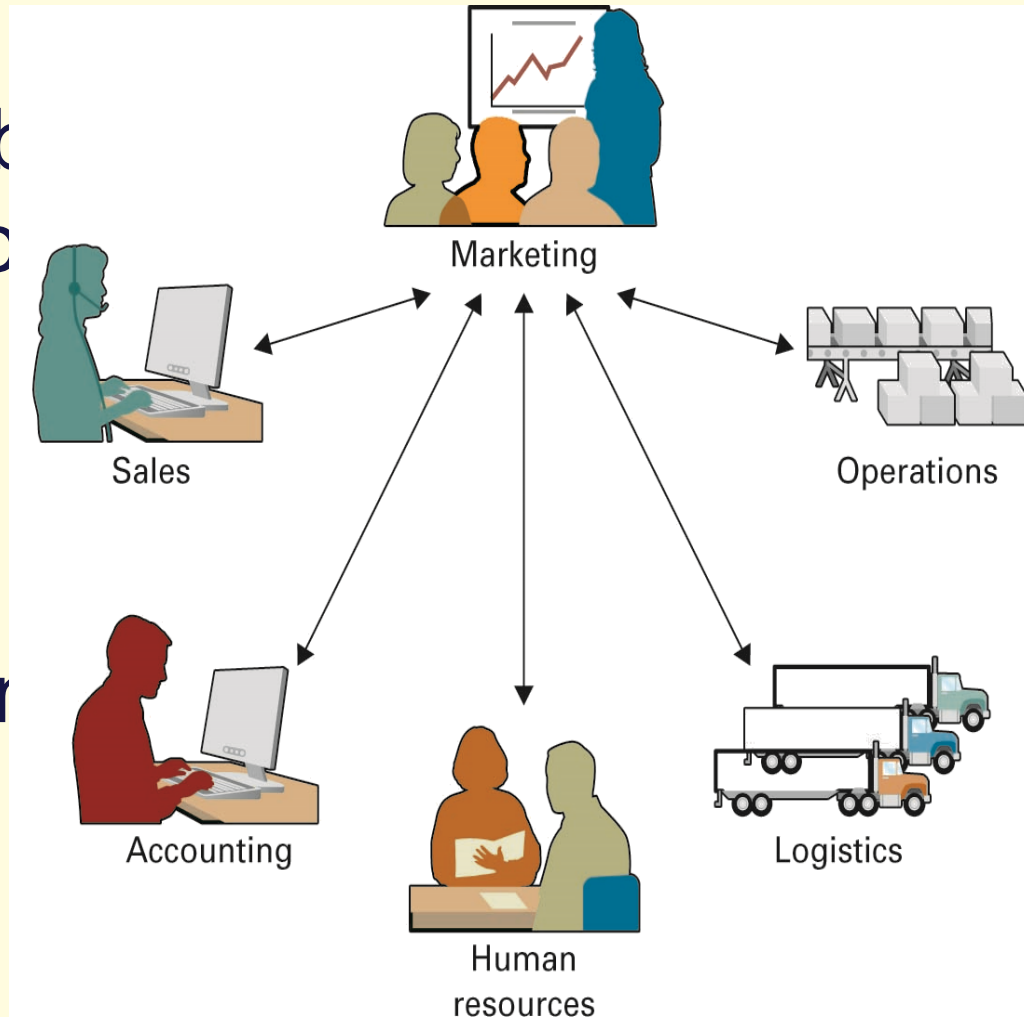
Global Expansion 16%

Information Systems' Impact on Business Operations

Learning Outcomes

1-1

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



The Challenge: Bringing separate functions together

Common Functions Working Independently

Human Resources

Sales

Marketing

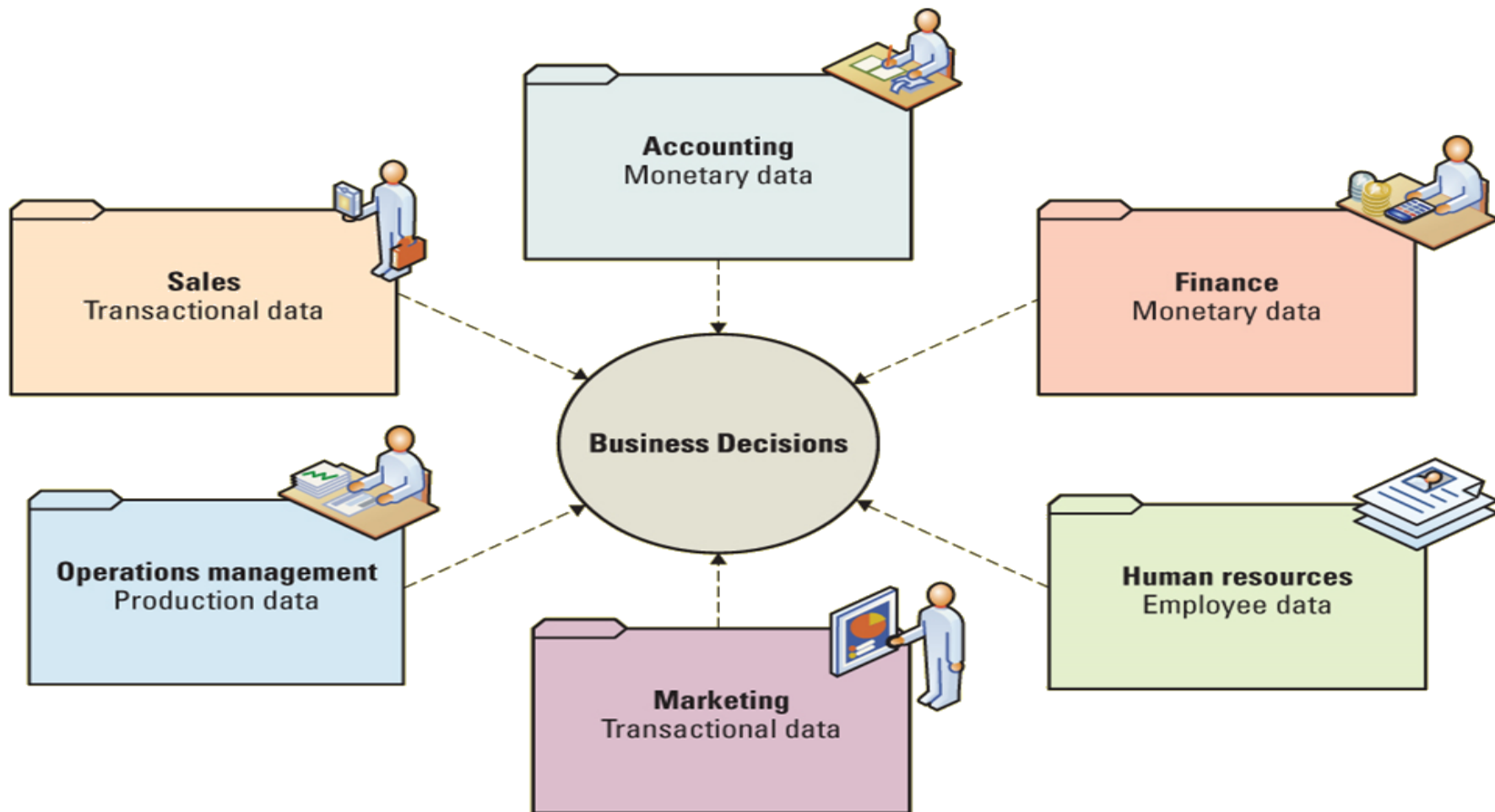
Accounting

The Solution : Management Information Systems

Learning Outcomes

1-1

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

Learning
Outcomes

1-2

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 SYSTEMS BASICS

- When beginning to learn about information systems it is important to understand the following:
 - The difference between data, information and knowledge
 - IS resources
 - IS cultures

Data, Information, Knowledge

○ **Data**

- Raw facts that describe the characteristics of an event

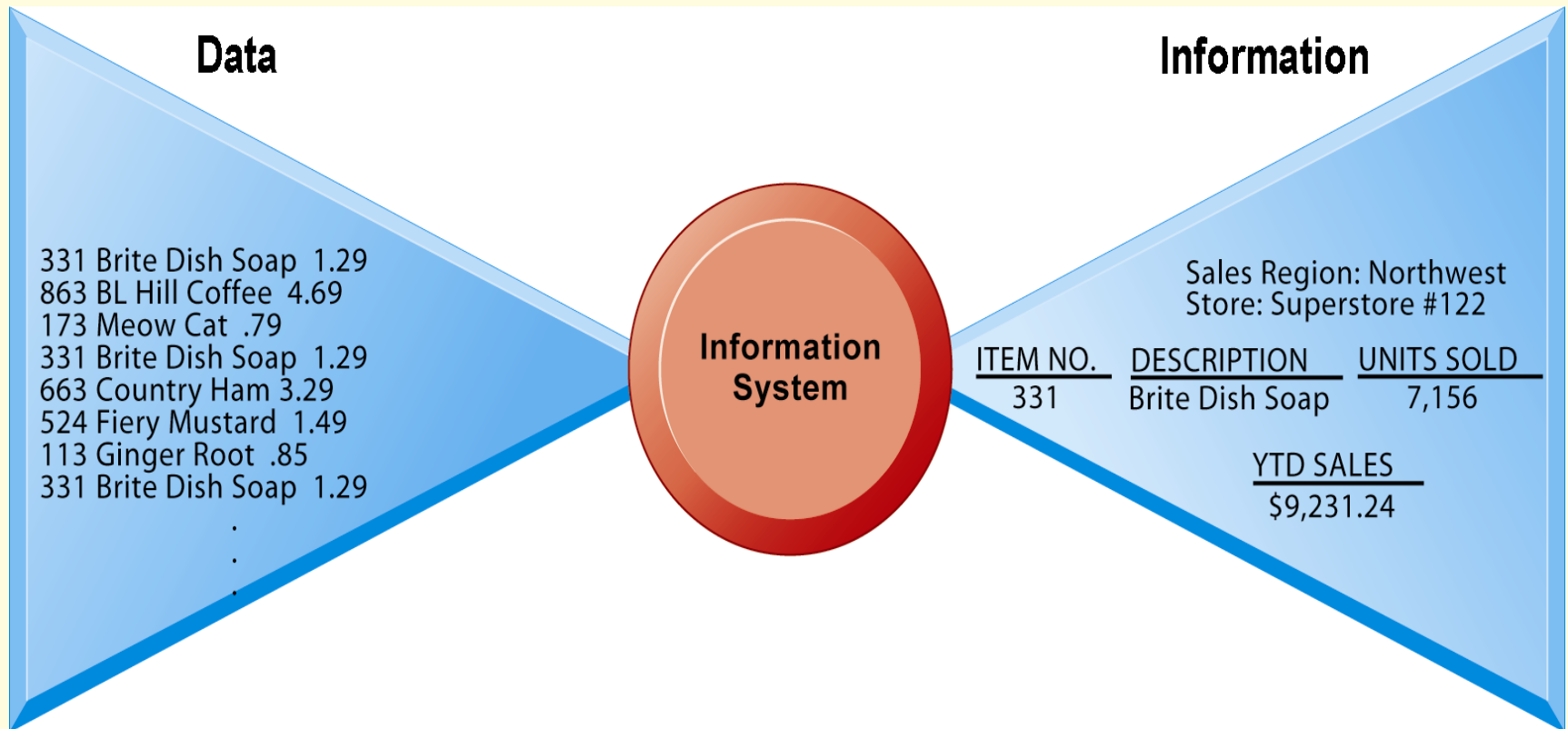
○ **Information**

- Data converted into a meaningful and useful context

○ **Knowledge**

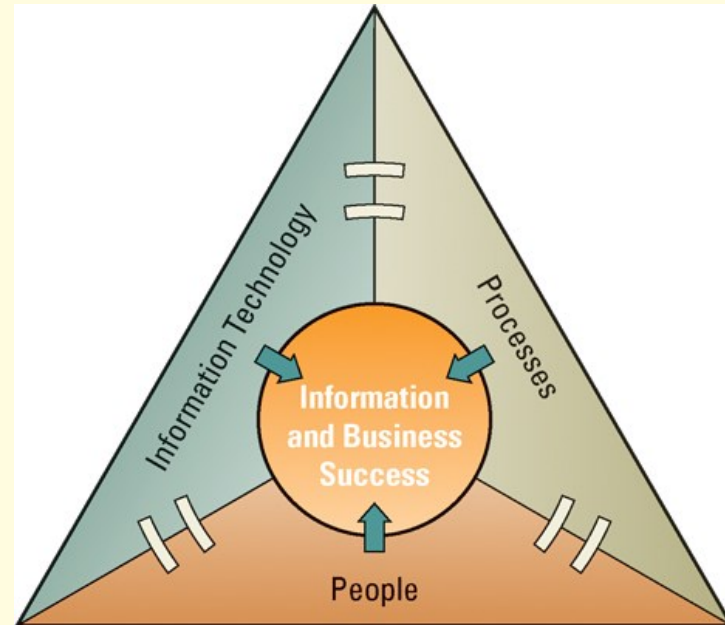
- Information that can be enacted upon *i.e.* “*actionable information*”

Data vs. Information



IS Resources

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

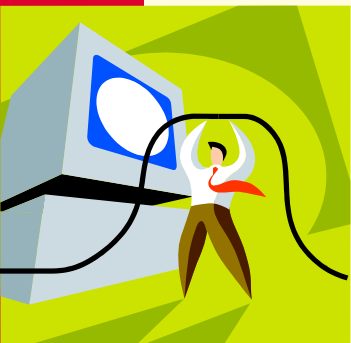


IS Cultures

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

Information System Roles and Responsibilities

- Information systems is a relatively new functional area (about 40 years). Recent IS strategic positions include:
 - **Chief information officer (CIO)** – Oversees all uses of IT and ensures the strategic alignment of IT with business goals and objectives. Broad CIO roles include:
 - **Manager** – ensuring the delivery of all IS projects, on time and within budget
 - **Leader** – ensuring the strategic vision of IS is in line with the strategic vision of the organization
 - **Communicator** – building strong executive relationships



Information System Roles and Responsibilities

- **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
- **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.

1-2

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.

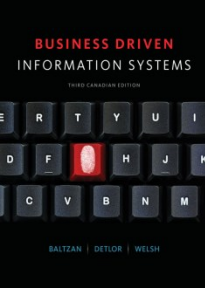
Learning
Outcomes

1-2

1-3

Key Information Systems Skills Beyond Technology

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



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BUSINESS STRATEGY

Identifying Competitive Advantage

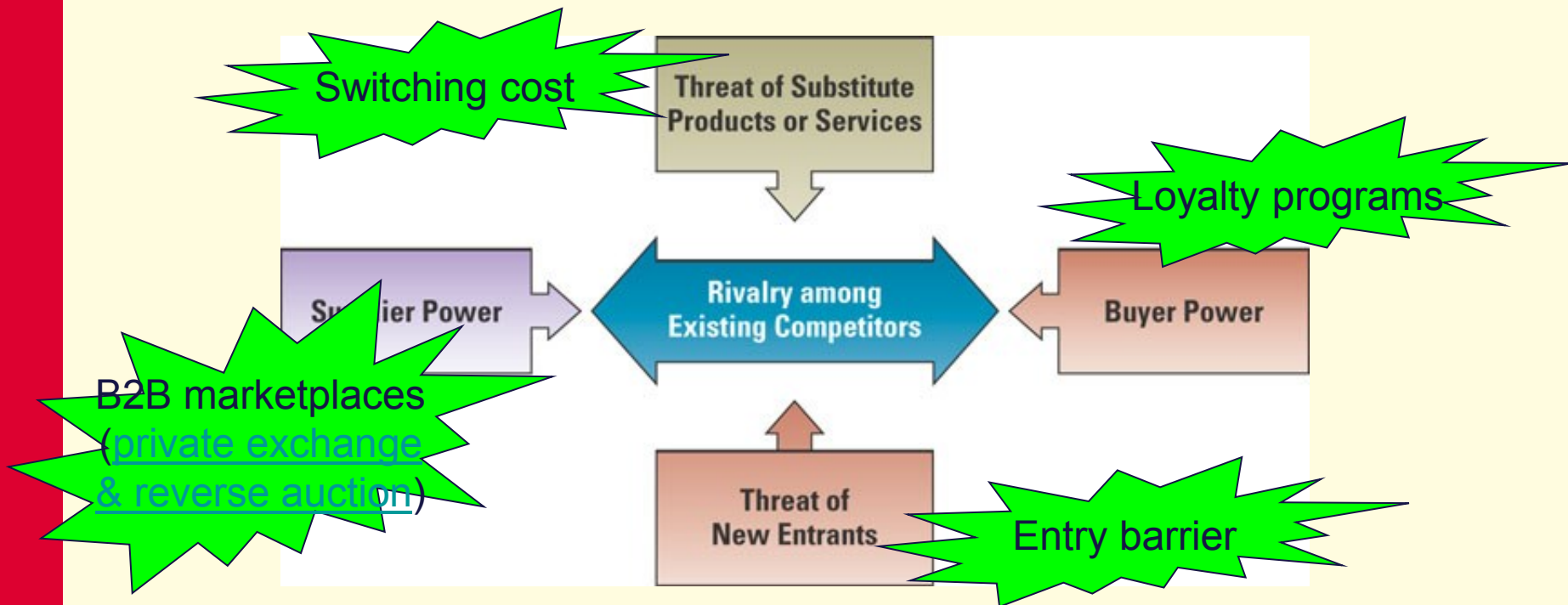
- To survive and thrive an organization must create a competitive advantage
 - **Competitive advantage** – a product or service that an organization's customers place a greater value on than similar offerings from a competitor
 - **First-mover advantage** – occurs when an organization can significantly 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

- Porter's *Five Forces Model* determines the relative attractiveness of an industry



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Three Generic Strategies for Creating a Business Focus

Learning Outcomes

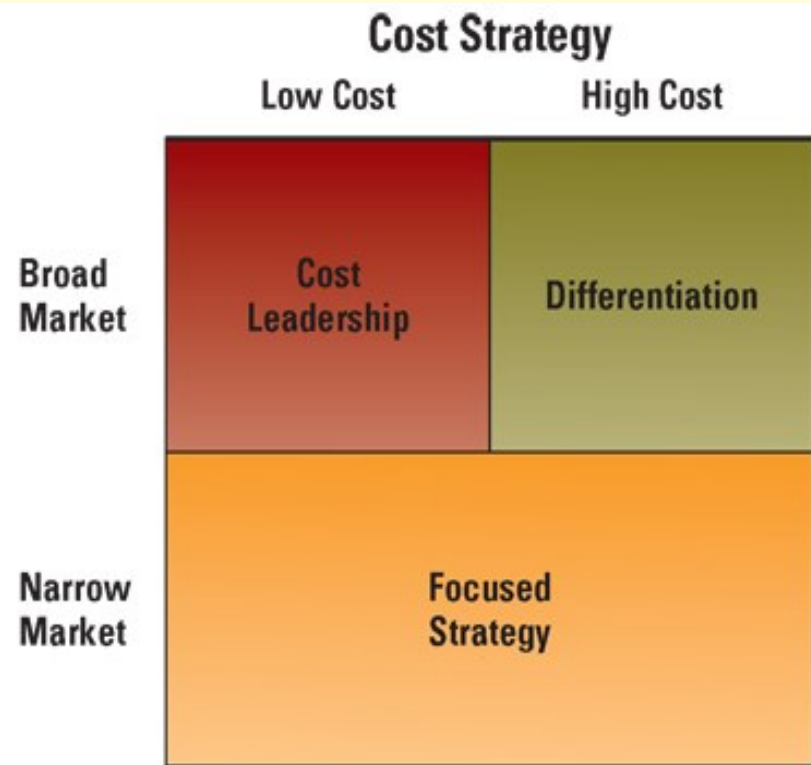
1-4

○ Organizations typically follow one of Porter's three generic strategies when *entering a new market*

- Broad cost leadership
- Broad differentiation
- Focused strategy

Competitive Scope

Porter's Three Generic Strategies



Porter's Three Strategies in the Car Market

Learning Outcomes

1-4



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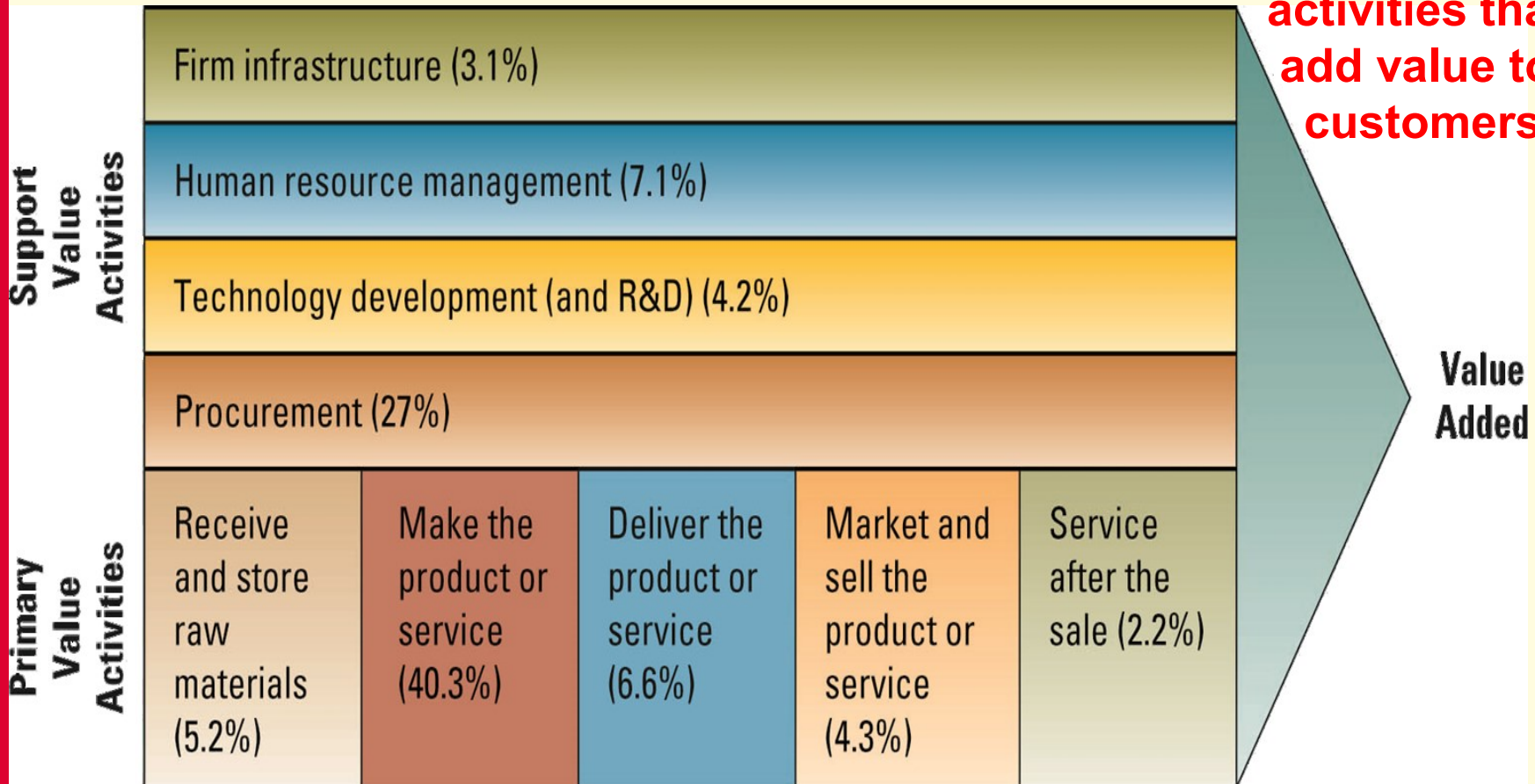
Value Creation

- Once an organization chooses its strategy, it can use tools such as the value chain to determine the success or failure of its chosen strategy
 - ***Value chain analysis*** – views an organization as a series of processes, each of which adds value to the product or service for each customer
 - **Business process** – a standardized set of activities that accomplish a specific task, such as processing a customer's order

Value Creation

Value Chain

Focus on activities that add value to customers



Learning Outcomes

1-4

1-5

Value Creation

Value chains with Porter's Five Forces

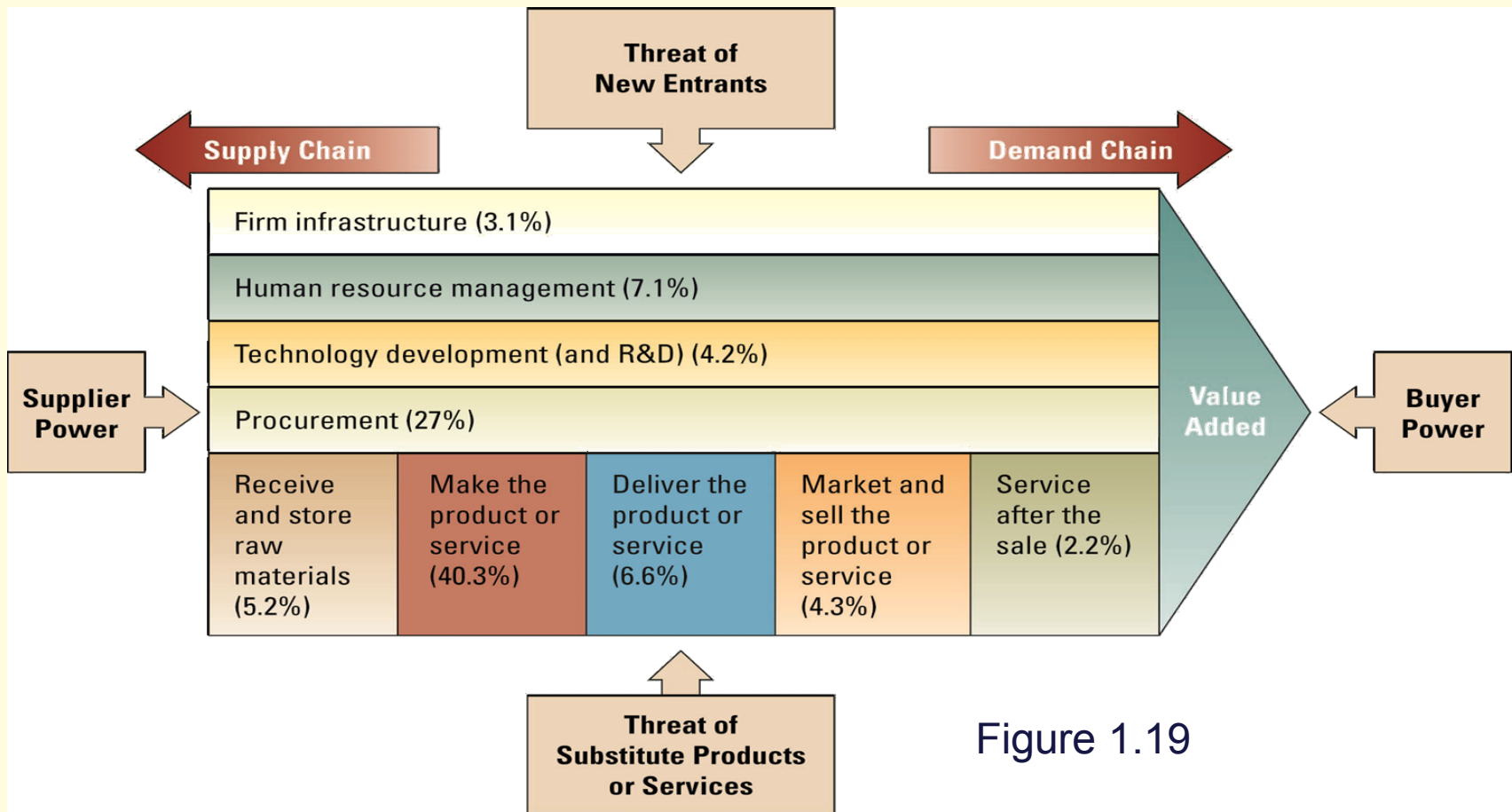


Figure 1.19

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.

1-5