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Information Technology for Management

Advancing Sustainable, Profitable Business Growth



Chapter 1

Digital Technology Creates New Levers for Growth and improved Performance

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Chapter Outline

1. Digital Technology Transforming How Business is Done
2. Business Process Management
3. Competitive Advantage and SWOT Analysis
4. Enterprise Technology Trends
5. IT Expertise Adds Value to Your Career

1. Digital Technology Transforming How Business is Done

Every Business Is a Digital Business

- Digital Business
 - A social, mobile, and Web-focused business.
- Business Model
 - How a business makes money.
- Digital Business Model
 - Defined how a business makes money digitally.

Every Business Is a Digital Business

- Customer Experience (CX)
 - About building the digital infrastructure that allows customers to do whatever they want to do, through whatever channel they choose to do it.
- Cloud Computing
 - A style of computing in which IT services are delivered on-demand and accessible via the Internet.

Every Business Is a Digital Business

- Why develop digital business models?
 - Deliver an incredible customer experience.
 - Turn a profit.
 - Increase market share.
 - Engage their employees.
- How does the customer experience (CX) measure up?
 - There is a strong relationship between the quality of a firm's CX and brand loyalty, which in turn increases revenue.

Every Business Is a Digital Business

Twitter dominates the reporting of news and events as they are happening.

Facebook became the most powerful sharing network in the world.

Location-aware technologies track items through production and delivery to reduce wasted time and inefficiency in supply chains and other business-to-business (B2B) transactions.

Smartphones, tablets, other touch devices, and their apps reshaped how organizations interact with customers—and how customers want businesses to interact with them.

Every Business Is a Digital Business

- Cloud Computing
 - Resource acquisition is “as needed” and without upfront investments.
 - Resources no longer dependent on buying that resource.
- Machine-to-Machine (M2M) Technology
 - Objects that connect themselves to the Internet with sensor-embedded devices are commonly referred to as the *Internet of Things* (IoT).

Silk Route to e Route



Every Business Is a Digital Business

- Big Data
 - Commonly defined as high-volume, mostly text data
 - Studied by data scientists in the field of data science.
- Data Science
 - Managing and analyzing massive sets of data for purposes such as target marketing, trend analysis, and the creation of individually tailored products and services.

Every Business Is a Digital Business

- Social-Mobile-Cloud (SoMoClo)
 - Huge data centers accessible via the Internet and forms the core by providing 24/7 access to storage, apps, and services.
 - Handheld and wearable devices and their users form the edge of the cloud.
 - Social channels connect the core and edge, creating integration of technical and services infrastructure needed for digital business.

Every Business Is a Digital Business

- Social-Mobile-Cloud (SoMoClo) cont.
 - Makes it possible to meet the expectations of employees, customers, and business partners.
 - Provides customers' interests and preferences to create new products and services and allows quick response to changes in usage patterns as they occur.
 - Mobiles are now an extension of individuals' body and mind.

Digital Technology Released since 2010



2008

- Google launched Android mobile OS to compete with iPhones
By 2014, became the first billion-user mobile OS

- App Store opened on July 10, 2008 via an update to iTunes
By mid-2011, over 15 billion apps downloaded from App Store

2010

- Apple launched iPad
100 million iPads sold in 2 years

2011–2012

- No tough interfaces to communicate by simply gesturing or talking
Microsoft's Kinect for Windows
Apple's Siri
Google's Glass

2014

- iWatch released integrates with iOS devices

Every Business Is a Digital Business

1. What are the benefits of cloud computing?
2. What is machine-to-machine (M2M) technology? Give an example of a business process that could be automated with M2M.
3. Describe the relationships in the SoMoClo model.
4. Explain the cloud.
5. Why have mobile devices given consumers more power in the marketplace?
6. What is a business model?
7. What is a digital business model?
8. Explain the Internet of Things.

2. Business Process Management

Business Process Management and Improvement

- Business Process
 - Series of steps by which an organization coordinates and organizes tasks to get work done.
- Process
 - Activities that convert inputs into outputs by doing work.
- Deliverables
 - Outputs created through work toward a desired benefit or expected performance improvement.
- Performance
 - A result of processes where maximizing efficiency over one's competitors is a critical success factor.

Business Process Management and Improvement

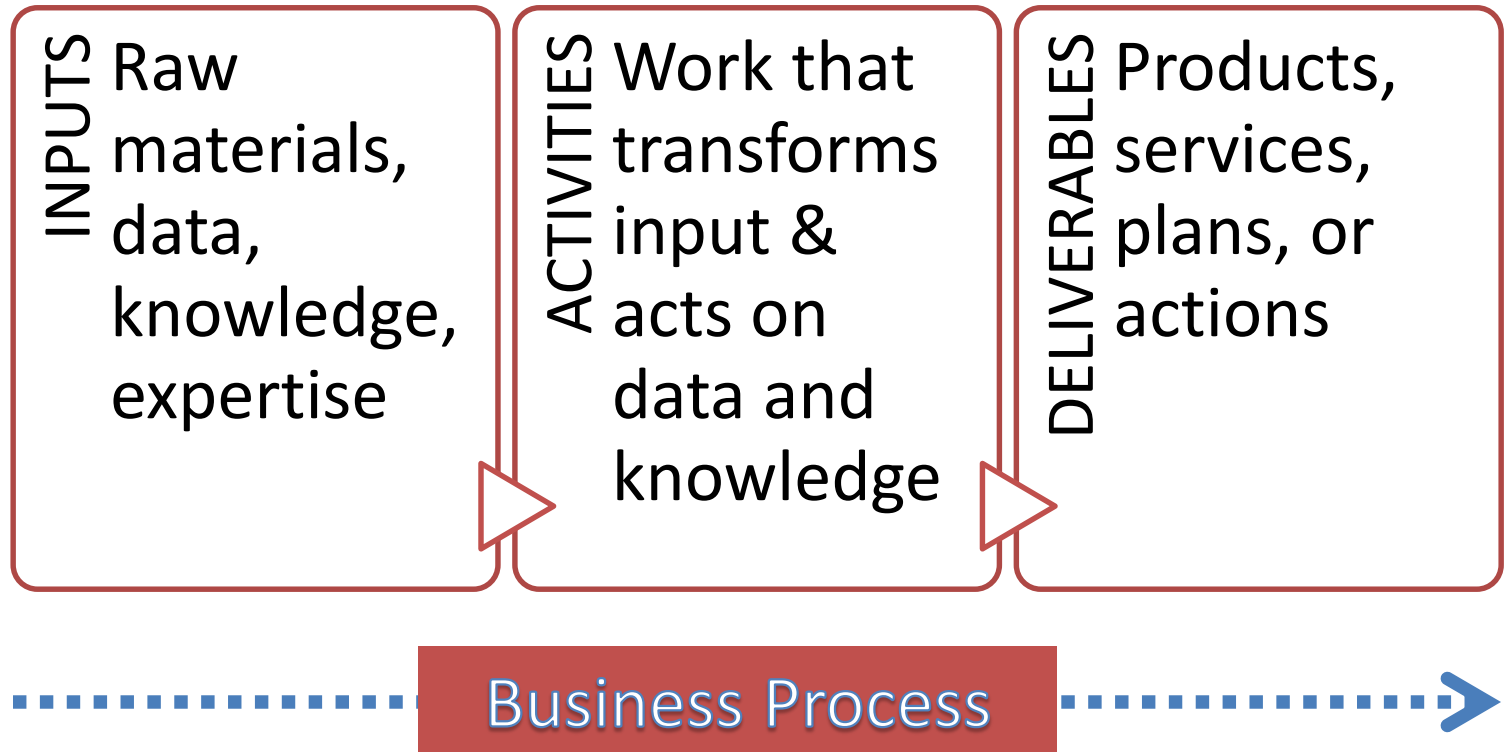
BUSINESS PROCESS COMPONENTS

People

Technology

Information

Business Process Management and Improvement



Business Process Management and Improvement

- Business Process Characteristics
 - Formal Processes or Standard Operating Procedures (SOP): documented and have well-established steps.
 - Informal Processes: typically undocumented, undefined, or are knowledge-intensive.
 - Range from slow, rigid to fast-moving, adaptive.

Business Process Management and Improvement

- Process Improvement
 - Continuous examination to determine whether they are still necessary or operating at peak efficiency by eliminating wasted steps called **Business Process Reengineering** (BPR).
 - Digital technology enhances processes by:
 - Automating manual procedures
 - Expanding data flows to reach more functions and parallel sequential activities
 - Creating innovative business processes to create new models

Business Process Management and Improvement

- Process Management
 - Consists of methods, tools, and technology to support and continuously improve business processes also known as *Business Process Management* (BPM).
 - BPM software is used to map processes performed manually, by computers, or to design new processes.
 - BPM requires buy-in from a broad cross section of the business, the right technology selection, and highly effective change management to be successful.

Business Process Management and Improvement

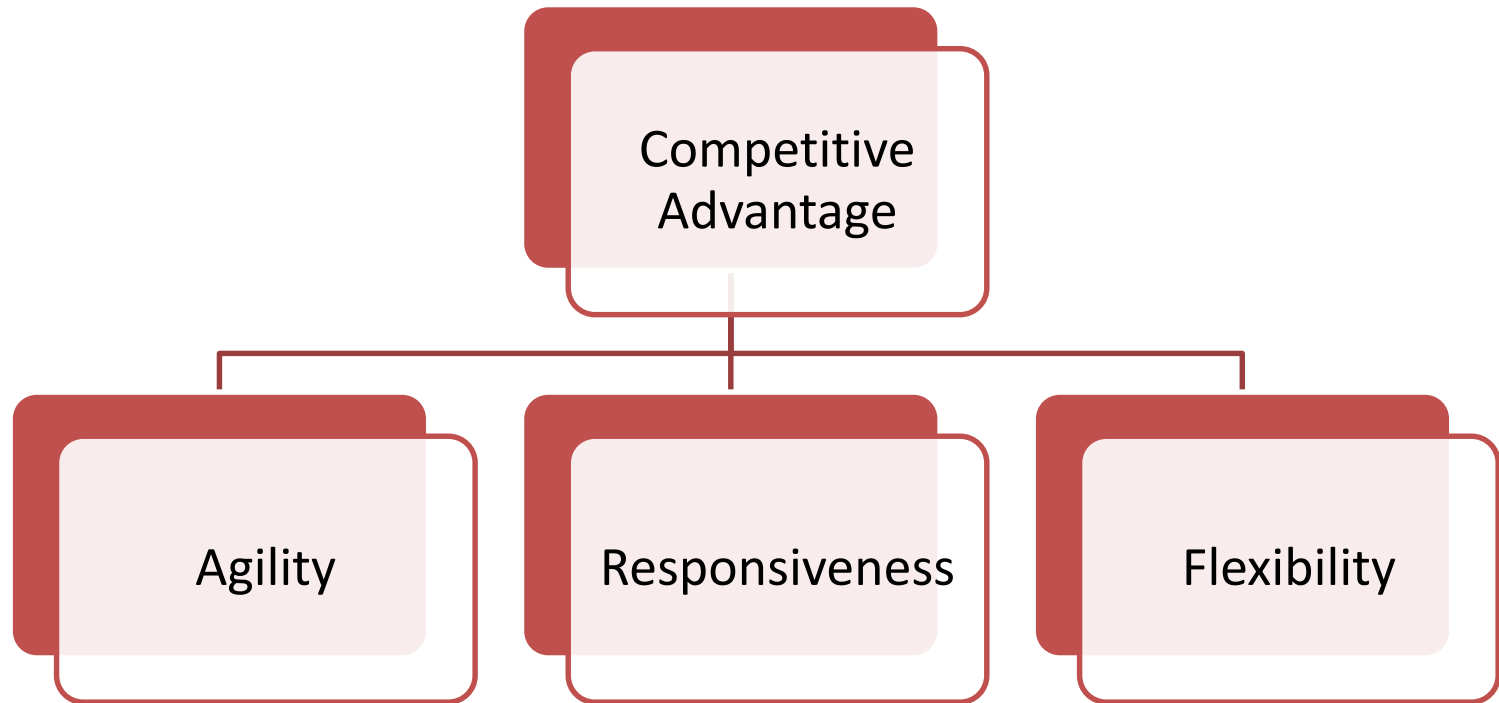
1. What is a business process? Give three examples.
2. What is the difference between business deliverables and objectives?
3. List and give examples of the three components of a business process.
4. Explain the differences between formal and informal processes.
5. What is a standard operating procedure (SOP)?
6. What is the purpose of business process management (BPM)?

3. Competitive Advantage and SWOT Analysis

The Power of Competitive Advantage

- IT Consumerization
 - The migration of consumer technology into enterprise IT environments.
 - Caused by personally owned IT becoming a capable and cost-effective solution for expensive enterprise equivalents.

The Power of Competitive Advantage

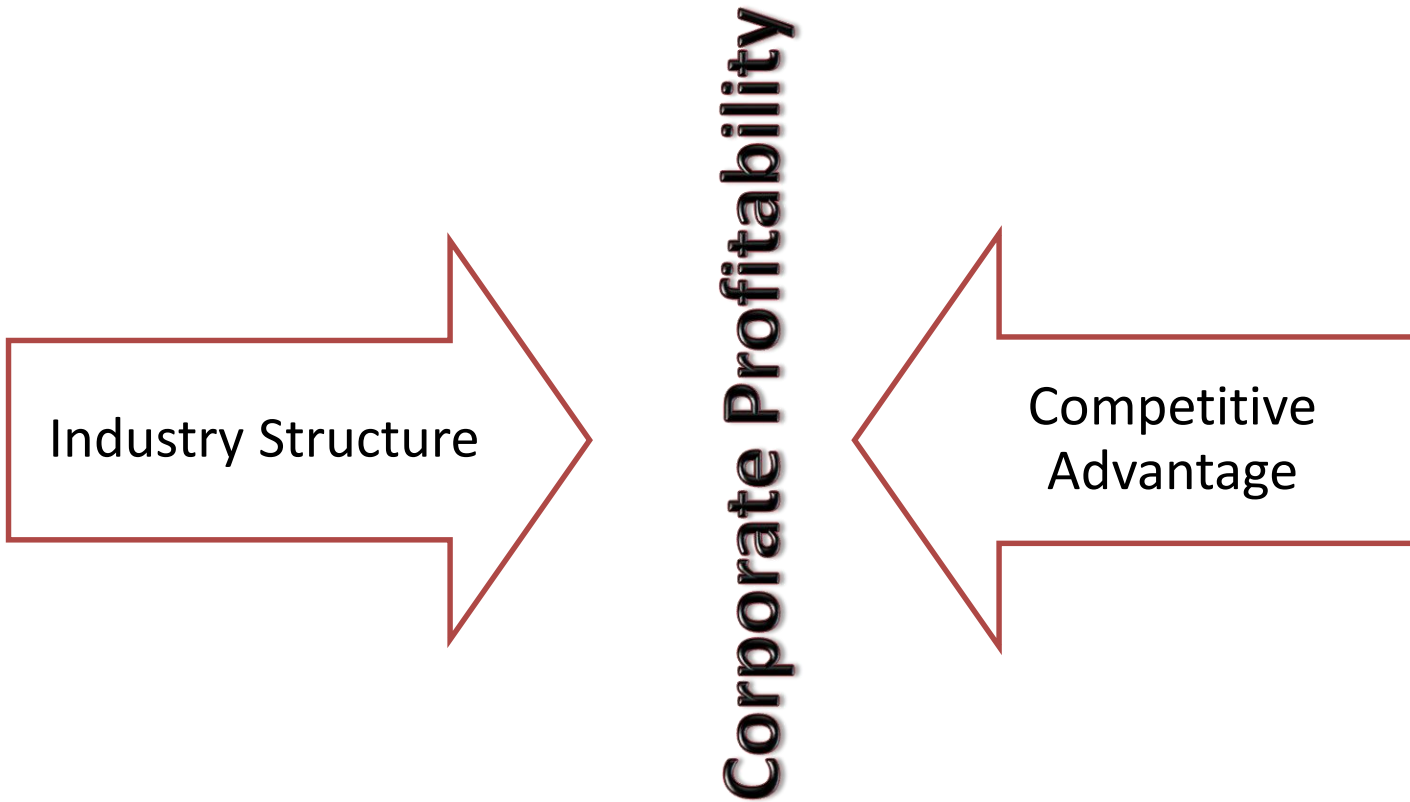


The Power of Competitive Advantage

- Agility
 - The ability to respond quickly.
- Responsiveness
 - IT capacity can be easily scaled up or down as needed.
- Flexibility
 - The ability to quickly integrate new business functions or to easily reconfigure software or applications.

IT agility, flexibility, and mobility are tightly interrelated and fully dependent on a organization's IT infrastructure and architecture.

The Power of Competitive Advantage



The Power of Competitive Advantage

- Industry Structure
 - An industry's structure determines the range of profitability of the average competitor and can be very difficult to change.
- Competitive Advantage
 - An edge that enables a company to outperform its average competitor. Competitive advantage can be sustained only by continuously pursuing new ways to compete.
 - Gartner Group: the difference *that matters to customers*.

IT competitive advantages are generally short-lived.

The Power of Competitive Advantage

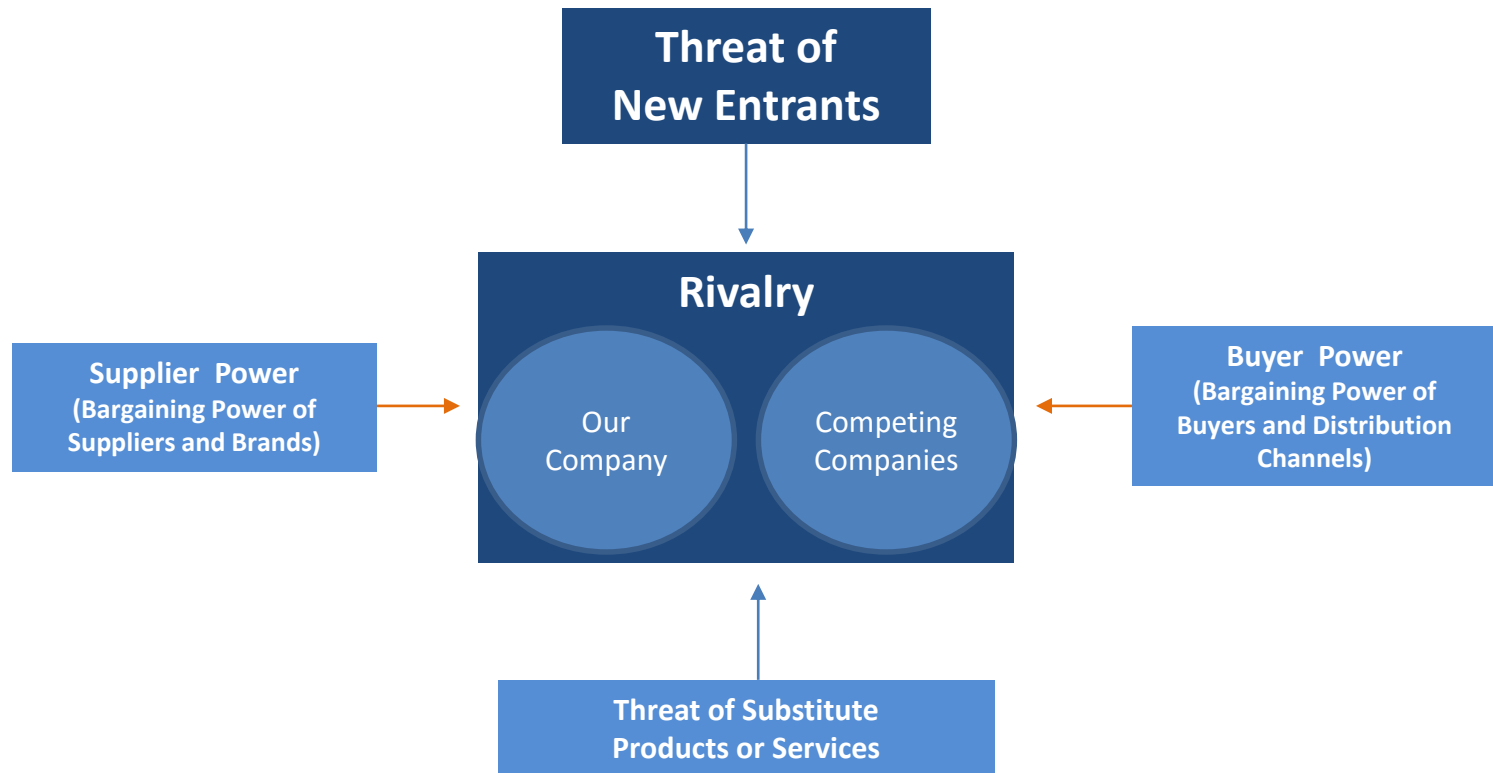
- SWOT
 - **Strengths**: Reliable processes; agility; motivated workforce.
 - **Weaknesses**: Lack of expertise; competitors with better IT infrastructure.
 - **Opportunities**: A developing market; ability to create a new market or product.
 - **Threats**: Price wars or other fierce reaction by competitors; obsolescence.

The Power of Competitive Advantage

- Strategic Planning
 - A series of processes in which an organization selects and arranges its businesses or services to keep the organization healthy or able to function even when unexpected events disrupt one or more of its businesses, markets, products, or services.
- Strategy
 - The plan for how a business will achieve its mission, goals, and objectives including questions such as:
 - What is the long-term business direction?
 - What is the overall plan for deploying resources?
 - What trade-offs are necessary?
 - How do we achieve competitive advantage over rivals in order to achieve or maximize profitability?

The Power of Competitive Advantage

Porter's Competitive Forces Model



The Power of Competitive Advantage

Basis of the Competitive Forces Model

PROFIT = TOTAL REVENUES minus TOTAL COSTS

Profit is increased by increasing total revenue and/or decreasing total costs.

Profit is decreased when total revenues decrease and/or total costs increase.

PROFIT MARGIN = SELLING PRICE minus COST OF THE ITEM

Profit margin measures the amount of profit per unit of sales, and does not take into account all costs of doing business.

The Power of Competitive Advantage

Porter's Competitive Forces Strategies

Strategies for Competitive Advantage			
Cost leadership	Differentiation	Niche	Growth
Alliance	Innovation	Operational effectiveness	Customer orientation
Time	Entry barriers	Customer or supplier lock-in	Increase switching costs

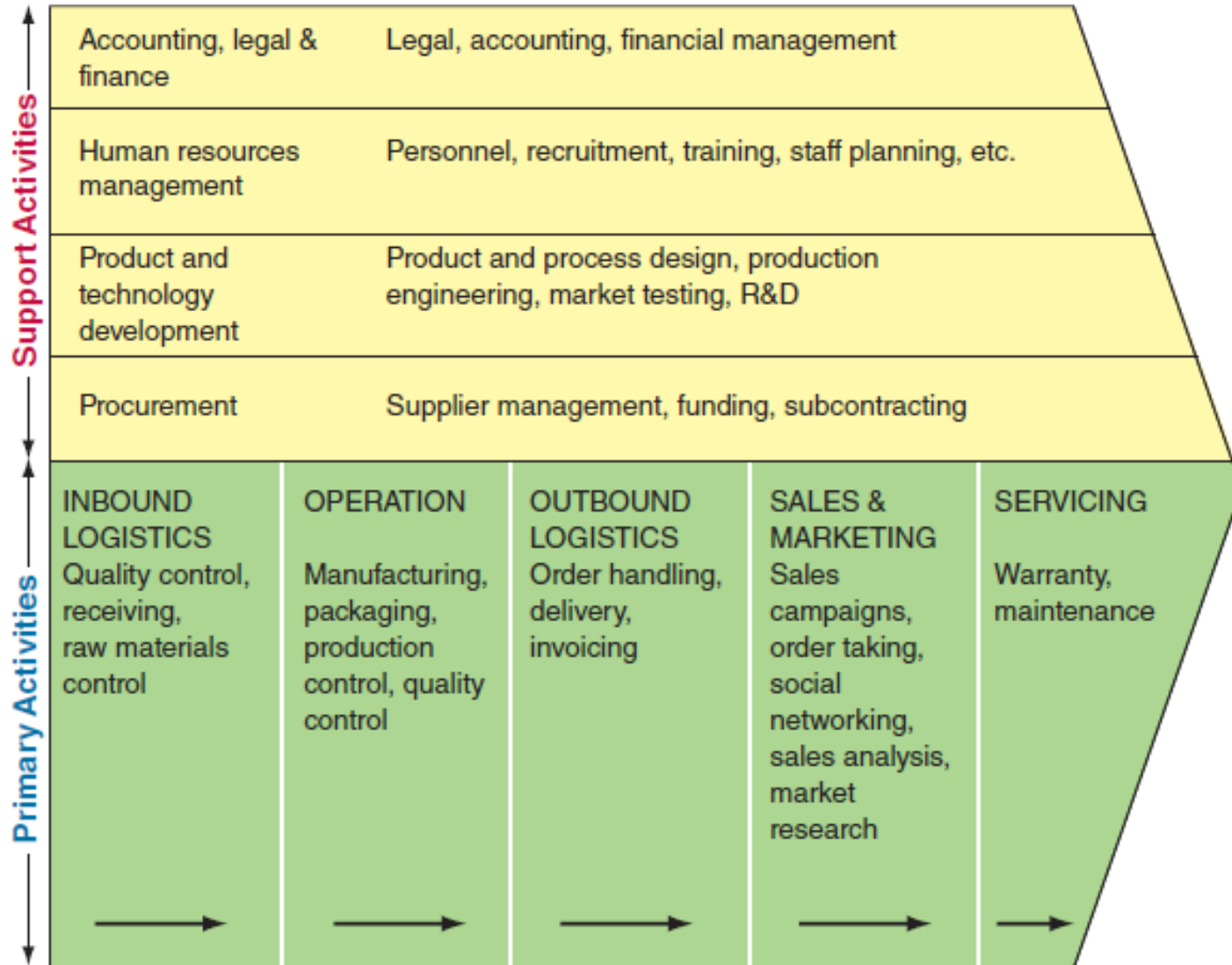
The Power of Competitive Advantage

- Primary Activities
 - Business activities directly involved in the production of goods involving the purchase of materials, the processing of materials into products, and delivery of products to customers.
 1. Inbound logistics
 2. Operations
 3. Outbound logistics
 4. Marketing and sales
 5. Services

The Power of Competitive Advantage

- Support Activities
 - Applied to any or all of the primary activities which may also support each other.
 1. Infrastructure, accounting, finance, and management
 2. Human resource management (HR)
 3. Technology development, and research and development (R&D)
 4. Procurement or purchasing

The Power of Competitive Advantage



Business Process Management and Improvement

1. What are the characteristics of an agile organization?
2. Explain IT consumerization.
3. What are two key components of corporate profitability?
4. Define competitive advantage.
5. Describe strategic planning.
6. Describe SWOT analysis.
7. Explain Porter's five-forces model, and give an example of each force.

4. Enterprise Technology Trends

Enterprise Technology Trends

- Shifting focus
 - More mobile business apps, fewer docs on desktops.
 - More socially engaged – but subject to regulation.
 - More near-field communication (NFC) and radio frequency identification (RFID) technologies.

Enterprise Technology Trends

- Shifting security issues
 - *Move to mobile* raises data security issues.
 - A more transient workforce means higher risk for data (due to loss or theft).
 - Customer ignorance toward restrictions or regulations (particularly finance and healthcare).

Enterprise Technology Trends

1. What was the significance of Apple's introduction of the iPhones music store?
2. What are three IT trends?
3. What are three business applications of NFC?

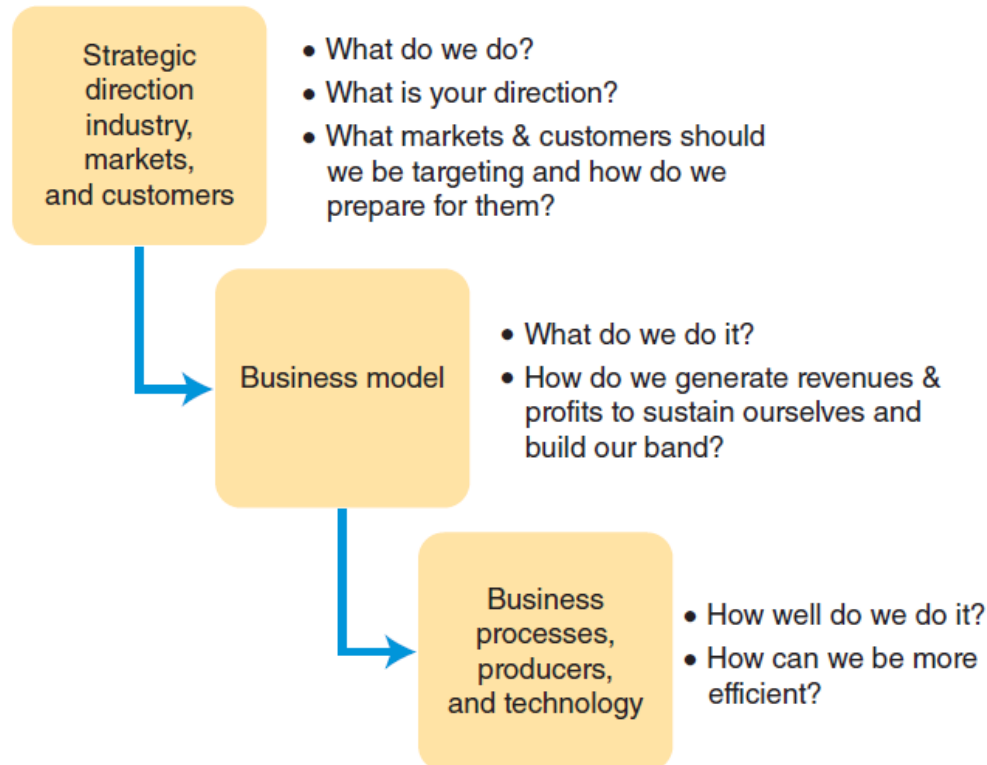
5. IT Expertise Adds Value to Your Career

How Your IT Expertise Adds Value to Your Performance and Career

- Emerging Technology Roles:
 - Chief Technology Officer
 - Chief Information Officer
 - IT Project Management
 - Data-related roles (streaming, management, analytics, development, analysis, and more)
- Expanded Traditional Roles:
 - Knowledge workers
 - Entrepreneurs
 - Managers
 - Business leaders

How Your IT Expertise Adds Value to Your Performance and Career

Key Strategic and Tactical Questions



How Your IT Expertise Adds Value to Your Performance and Career

1. Why is IT a major enabler of business performance and success?
2. Explain why it is beneficial to study IT today.
3. Why are IT job prospects strong?