Managing Information Technology 6th Edition

CHAPTER 1

MANAGING IT IN AN E-WORLD

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Managing IT in an E-World

Information Technology (IT)

- Computer technology (hardware and software) for processing and storing information, as well as communications technology for transmitting information

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Managing IT in an E-World

- IT has become more pervasive
  - IT does not exist only in the back-office
  - More and more employees are reliant upon IT for their daily work
- Management of IT has changed
  - Business managers and users expect more from IT
  - The management of IT has become more complex

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Managing IT in an E-World

- Hard to predict trends due to rate of change in IT industry
- Consider several mis-predictions …

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Managing IT in an E-World

MISPREDICTIONS BY IT INDUSTRY LEADERS

This "telephone" has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.

-Western Union internal memo, 1876

I think there is a world market for maybe five computers.

-Thomas Watson, chairman of IBM, 1943

But what [is a microchip] good for?

-Engineer at the Advanced Computing Systems Division of IBM, 1968

There is no reason anyone would want a computer in their home.

-Ken Olson, president, chairman, and founder of Digital Equipment Corp., 1977

640K ought to be enough for anybody.

-Attributed to Bill Gates, chairman of Microsoft, 1981

Dell has a great business model, but that dog won't scale.

-John Shoemaker, head of Sun's server division, 2000

What would I do? I'd shut [Apple] down and give the money back to the shareholders.

--Michael Dell, chief executive officer and founder of Dell Computer, 1997

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Managing IT in an E-World

- IT investments are important strategic decisions for many organizations

By the year 2000, more than half of capital expenditures by businesses in developed countries were for IT purchases

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RECENT INFORMATION TECHNOLOGY TRENDS

- Computer Hardware: Faster, Cheaper, Mobile
  - Computers have become smaller and faster
  - Hardware prices have dropped
  - Trend over time is for more mobile computers

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RECENT INFORMATION TECHNOLOGY TRENDS

- Computer Software: Custom and Prewritten, Standardized and Integrated
  - Standardization
    - Has enabled increased collaboration
    - Many "standards" are just *de facto* standards (e.g. Microsoft Windows, Office, and Internet Explorer)

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RECENT INFORMATION TECHNOLOGY TRENDS

- Computer Software: Custom and Prewritten, Standardized and Integrated

Enterprise Systems

- Software packages with integrated modules that pass common business transactions across groups, divisions, and national boundaries in “real time”

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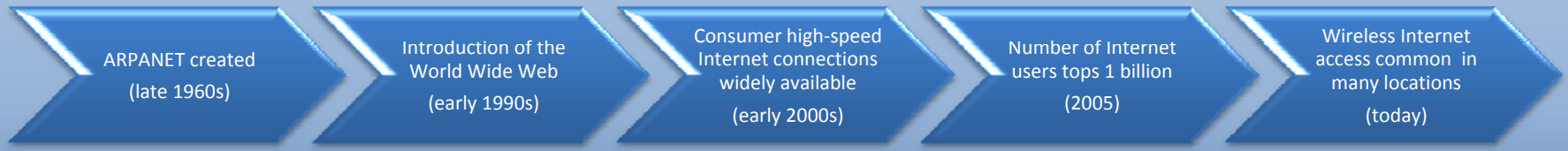
RECENT INFORMATION TECHNOLOGY TRENDS

- Computer Networks: High Bandwidth, Global, and Wireless



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New Ways to Compete

- IT can shape business strategy
- Ways of competing (Porter, 1980)

Cost	• Compete by being a low-cost producer of a good or service
Differentiation	• Compete by offering products or services customers prefer due to superiority with innovativeness, image, quality, or customer service
Both	• Simultaneously focusing on low-cost and differentiation often within a specific market niche

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New Ways to Compete

- IT can decrease organizational costs
  - Examples:
    - Automating transaction time
    - Shortening order cycle time
    - Providing operational information for decision making
- IT can enable differentiation
  - Examples:
    - Giving sales personnel information to better serve customers
    - Providing just-in-time supplies for customers
    - Creating new information-based products
    - Allowing product customization by the consumer

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New Ways to Work

Telecommuters

- Individuals who use mobile technology and/or network connections to work remotely from the office

  - Pros
    - Flexibility
    - Work-life balance
  - Cons
    - Isolation
    - Fewer opportunities

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New Ways to Work

Free Agents

- Individuals who choose to contract out their services and are not tied to an organization

  - Pros
    - Work may change more than when an employee of a single organization
    - Organizations do not need to make long-term commitments to an employee
  - Cons
    - Lack of benefits
    - Unpredictability in scheduling and work

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New Ways to Work

Virtual Teams

- Geographically separated work teams whose members communicate through the use of IT

  - Pros
    - Workers can be located anywhere
    - Teams can be composed of members with specialized skills from different business units or companies
  - Cons
    - Coordination can be more difficult

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Managing IT in Organizations

Information Systems (IS) Department

- The organizational unit or department that has the primary responsibility for managing IT

- Information Technology departments can vary greatly across businesses depending on organizational needs

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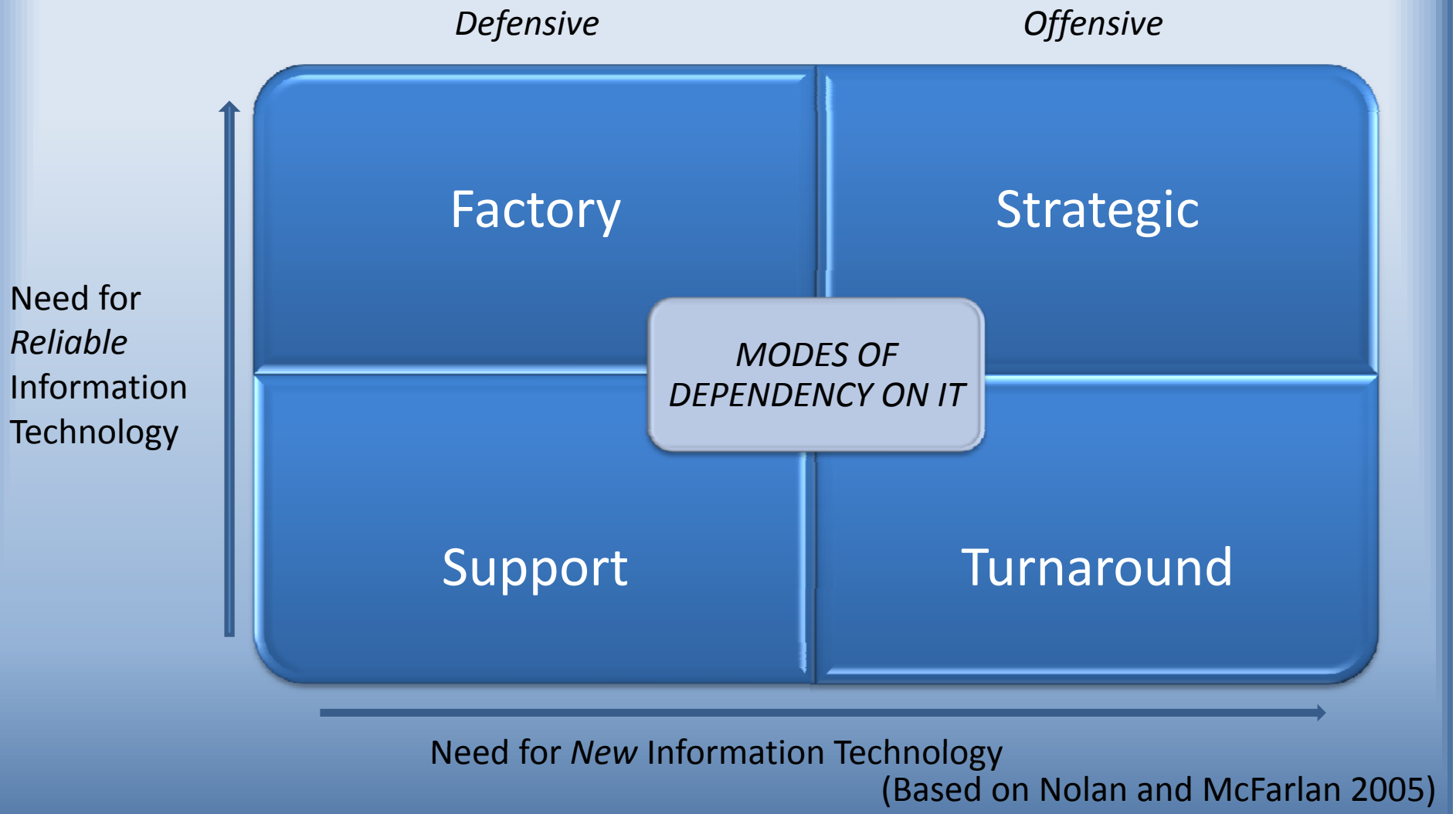
Managing IT in Organizations



(Based on Nolan and McFarlan 2005)

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Managing IT in Organizations

- Support Mode
  - Low Need for *New* Information Technology
  - Low Need for *Reliable* Information Technology
  - IT primarily for back-office functions

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Managing IT in Organizations

- Factory Mode
  - Low Need for *New* Information Technology
  - High Need for *Reliable* Information Technology
  - Dependent on IT for business operations, but do not invest in new IT to compete in new ways

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Managing IT in Organizations

- Strategic Mode
  - High Need for *New* Information Technology
  - High Need for *Reliable* Information Technology
  - Dependent on IT for operations and on new IT investments to implement new business strategies

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Managing IT in Organizations

- Turnaround Mode
  - High Need for *New* Information Technology
  - Low Need for *Reliable* Information Technology
  - Companies in the Support quadrant may enter this mode by taking advantage of a new technology with the goal of entering the Strategic mode

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Managing IT in Organizations

Technology Asset	• Computer and communications infrastructure that enables information sharing over standard IT platforms
Relationship Asset	• Established partnering relationships for joint IT-business decision-making
Human Asset	• Pool of IT people talent for needed mix of technology and business skills

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Managing IT in Organizations

IT Worker Myths	IT Worker Facts
• IT doesn't matter and provides no business benefits • IT work is boring and monotonous • All IT jobs are being outsourced • Globalization will ruin the IT field • U.S. IT worker demand is declining	• IT is vital to business profitability • Fast pace of technological change keeps IT careers interesting • Offshoring threat overstated • Globalization of IT is an opportunity • U.S. IT worker demand will remain strong

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Managing IT in Organizations

- IT Leadership Roles

Chief Information Officer (CIO)

- A firm's high-level general IT manager with both technology and business leadership experience. Together with the organization's executive management team the CIO ensures the alignment of IT resources with business goals and plans for integration of IT for strategic advantage

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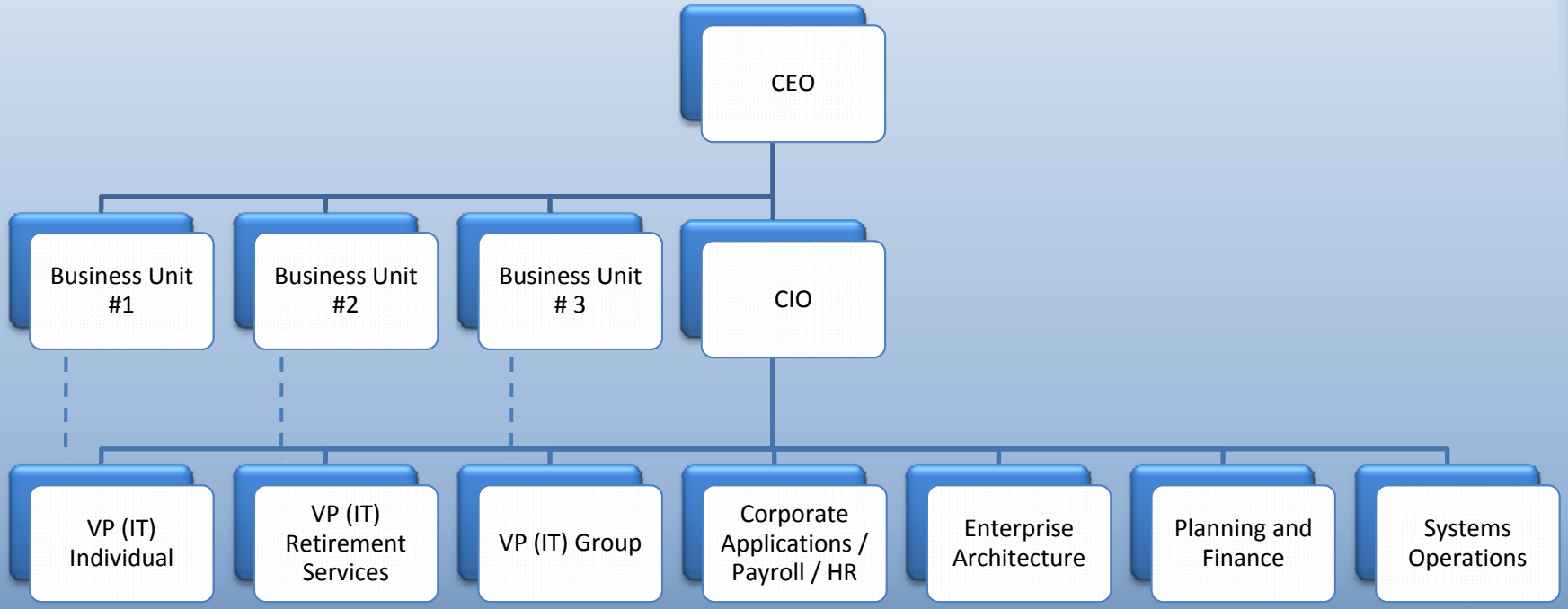
- Typical IS Organization Chart



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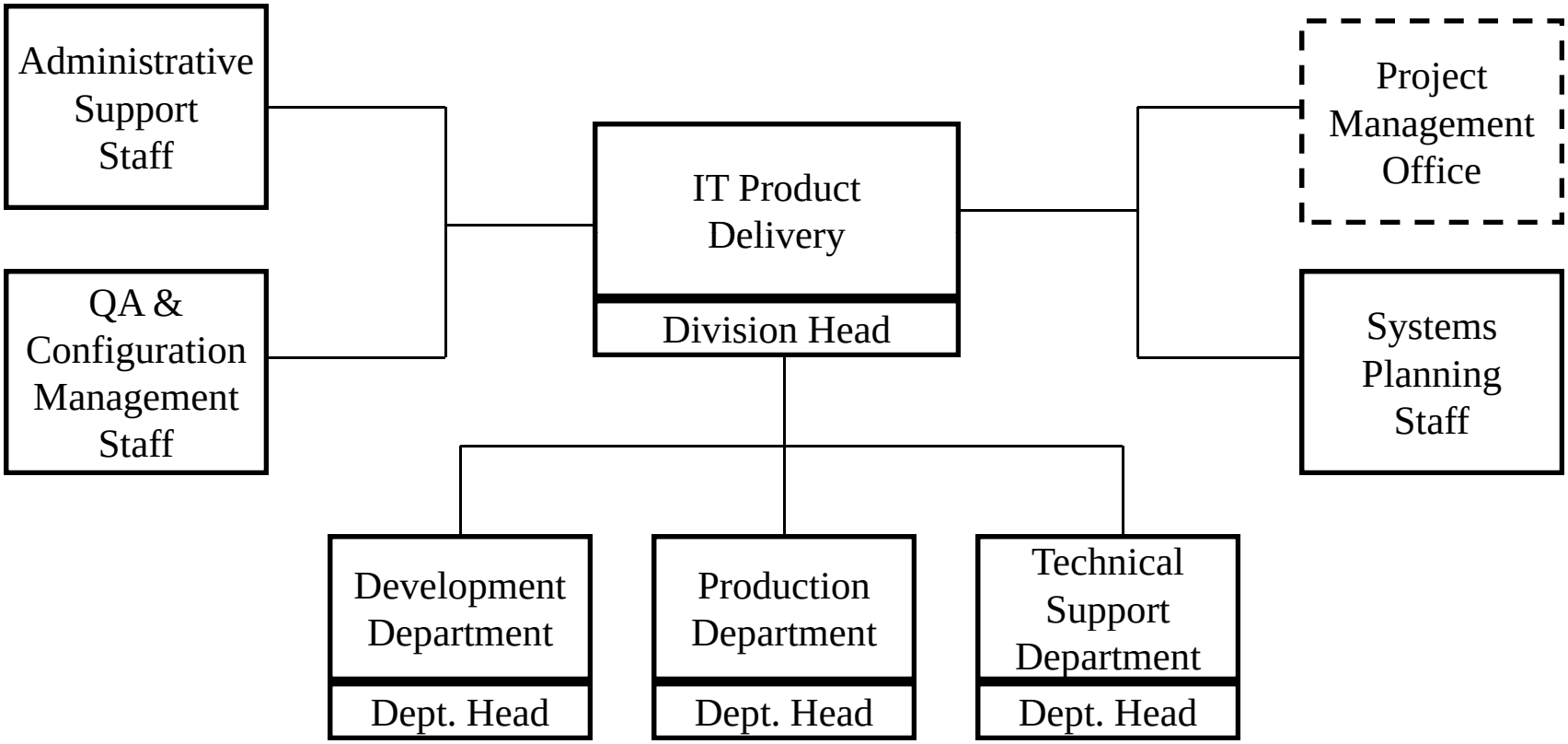
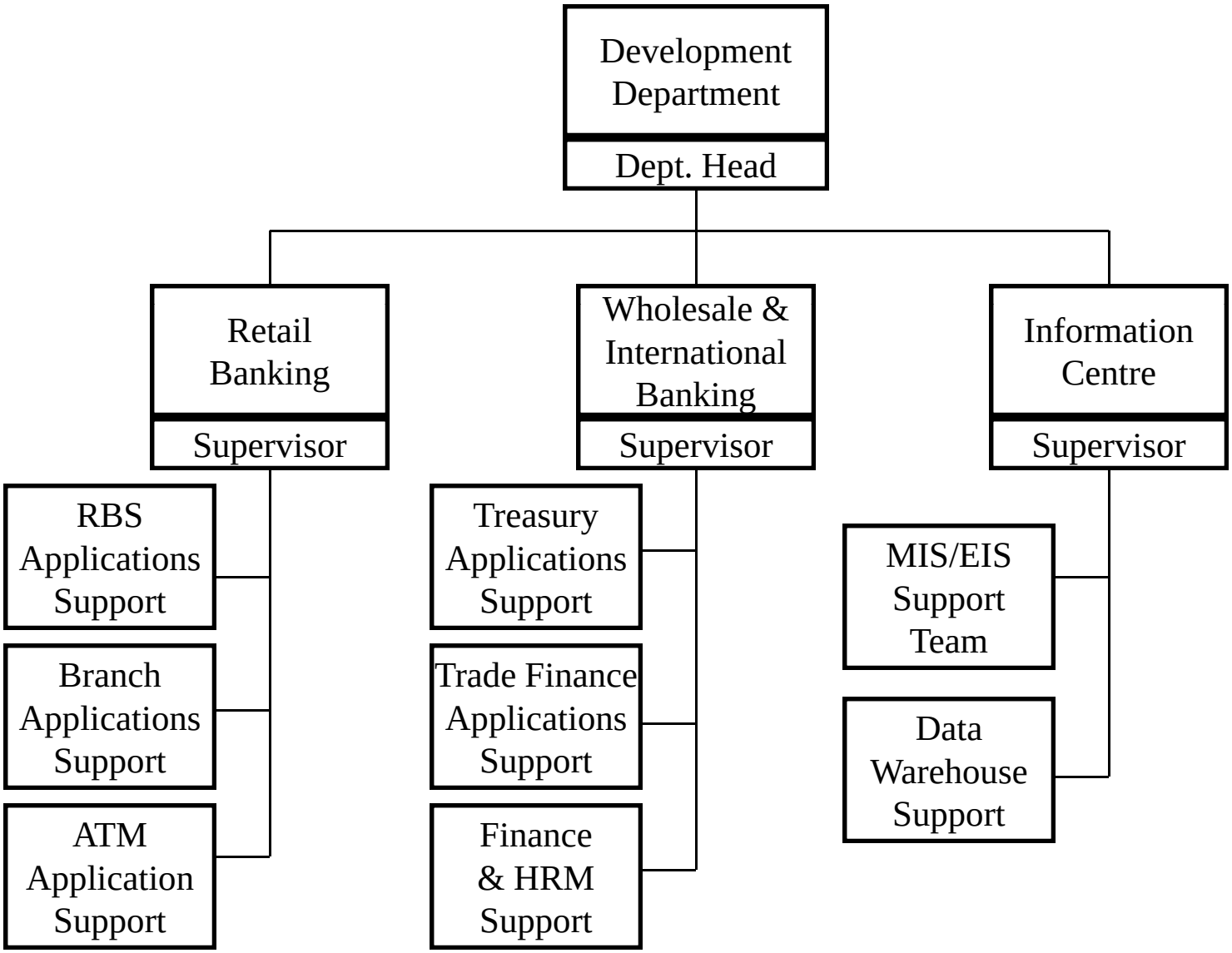
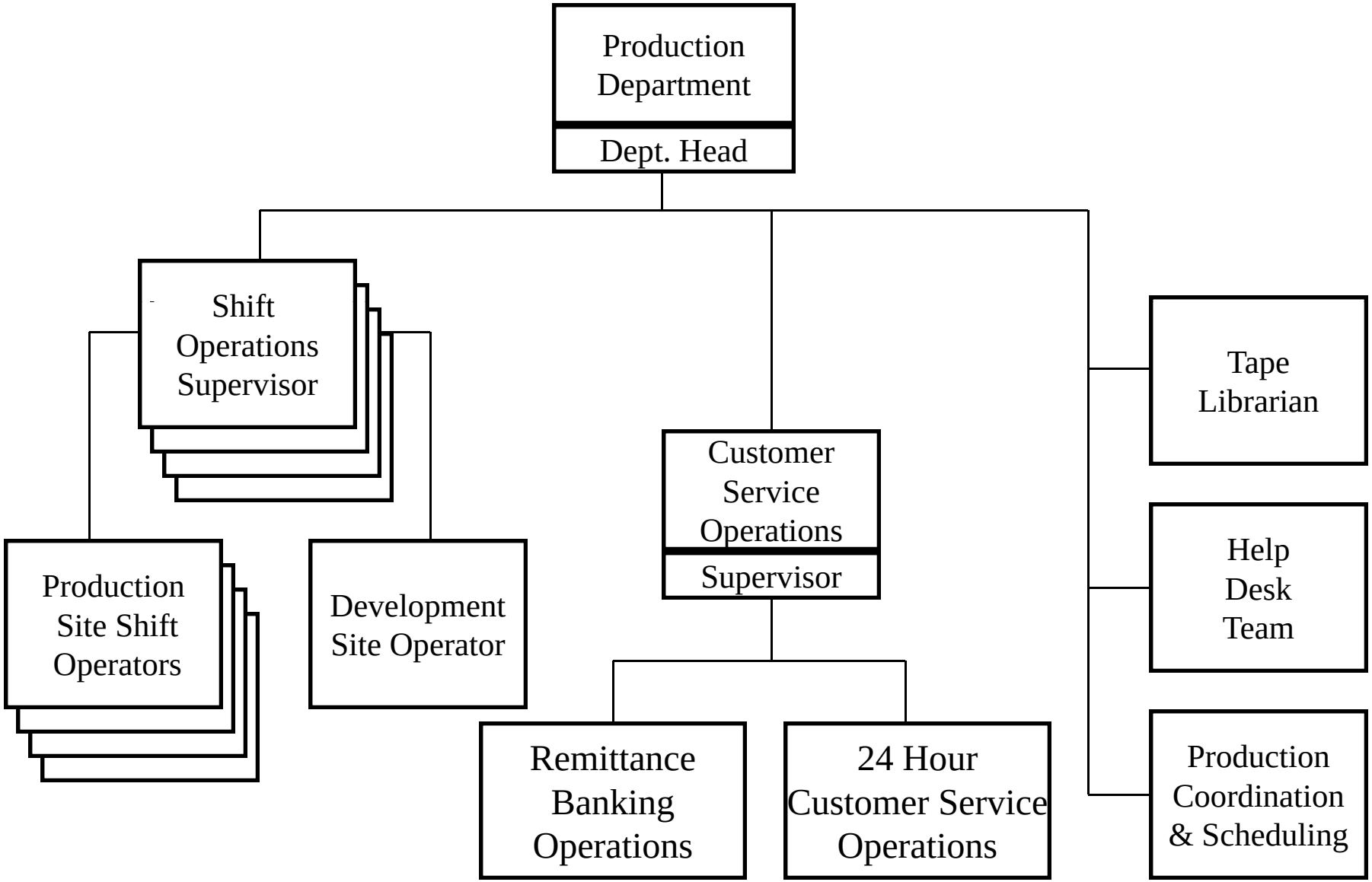
Product Delivery Organization



Development Department



Production Department



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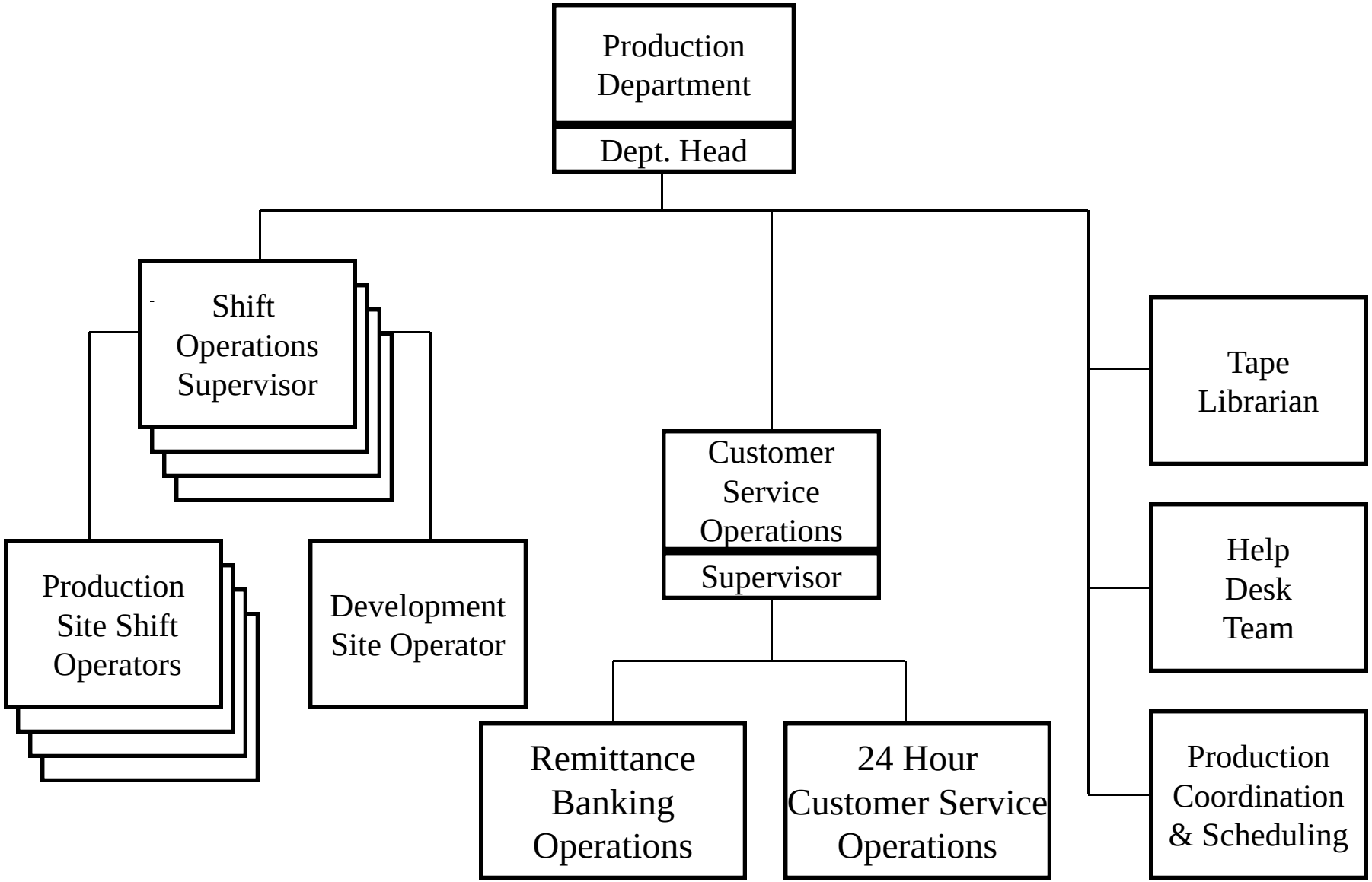
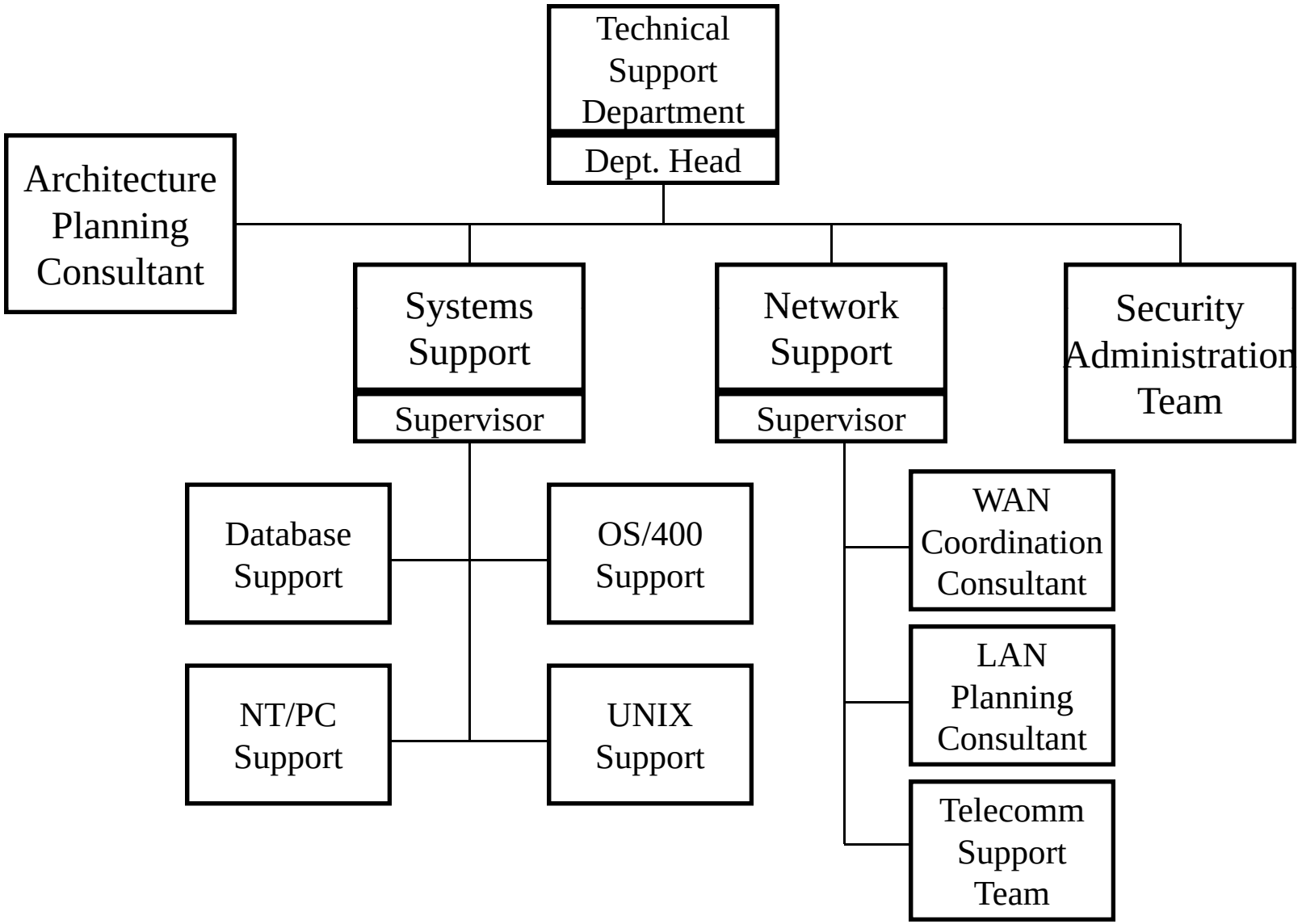
Technical Support Department