

Systems Analysis and Design

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APPLICATION DESIGN WORKSHOP

**MARCH 18-22, 2012
DAY 1 – SET 1**



Systems Analysis and Design

Overview

- ◆ **Systems analysis** – process of understanding in detail what a system should accomplish
- ◆ **Systems design** – process of specifying in detail how components of an information system should be physically implemented
- ◆ **Systems analyst** – uses analysis and design techniques to solve business problems using information technology

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The Analyst as a Business Problem Solver

- ◆ Has computer technology knowledge and programming expertise
- ◆ Understands business problems
- ◆ Uses logical methods for solving problems
- ◆ Has fundamental curiosity
- ◆ Wants to make things better
- ◆ Is more of a business problem solver than a technical programmer

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Analyst's Approach to Problem Solving

Research and understand the problem

Verify benefits of solving problem outweigh the costs

Define the requirements for solving the problem

Develop a set of possible solutions (alternatives)

Decide which solution is best and recommend

Define the details of the chosen solution

Implement the solution

Monitor to ensure desired results

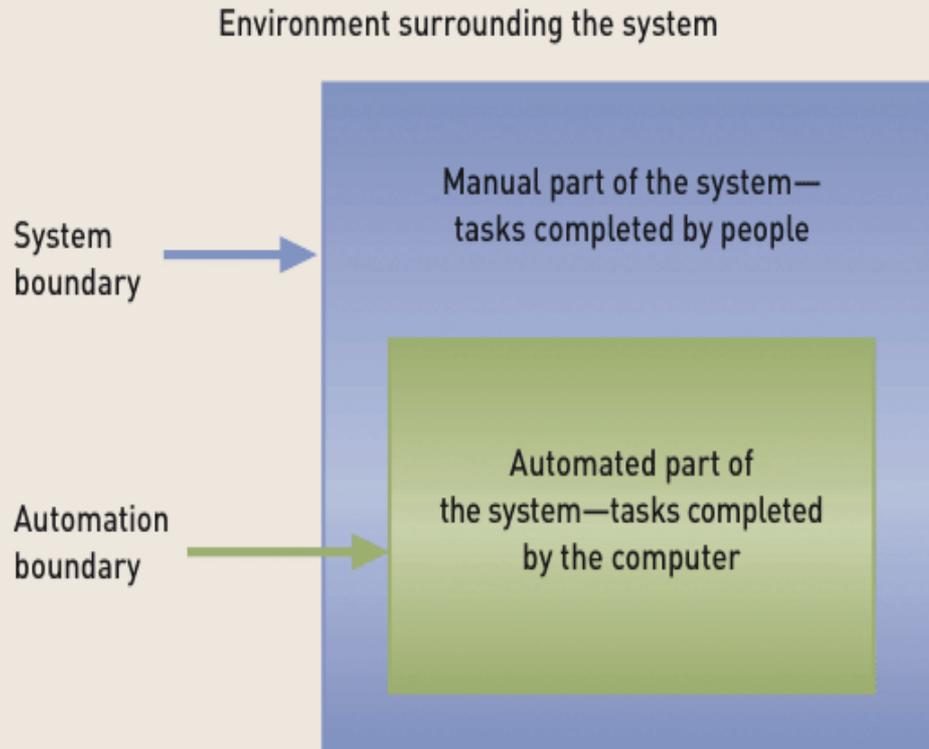
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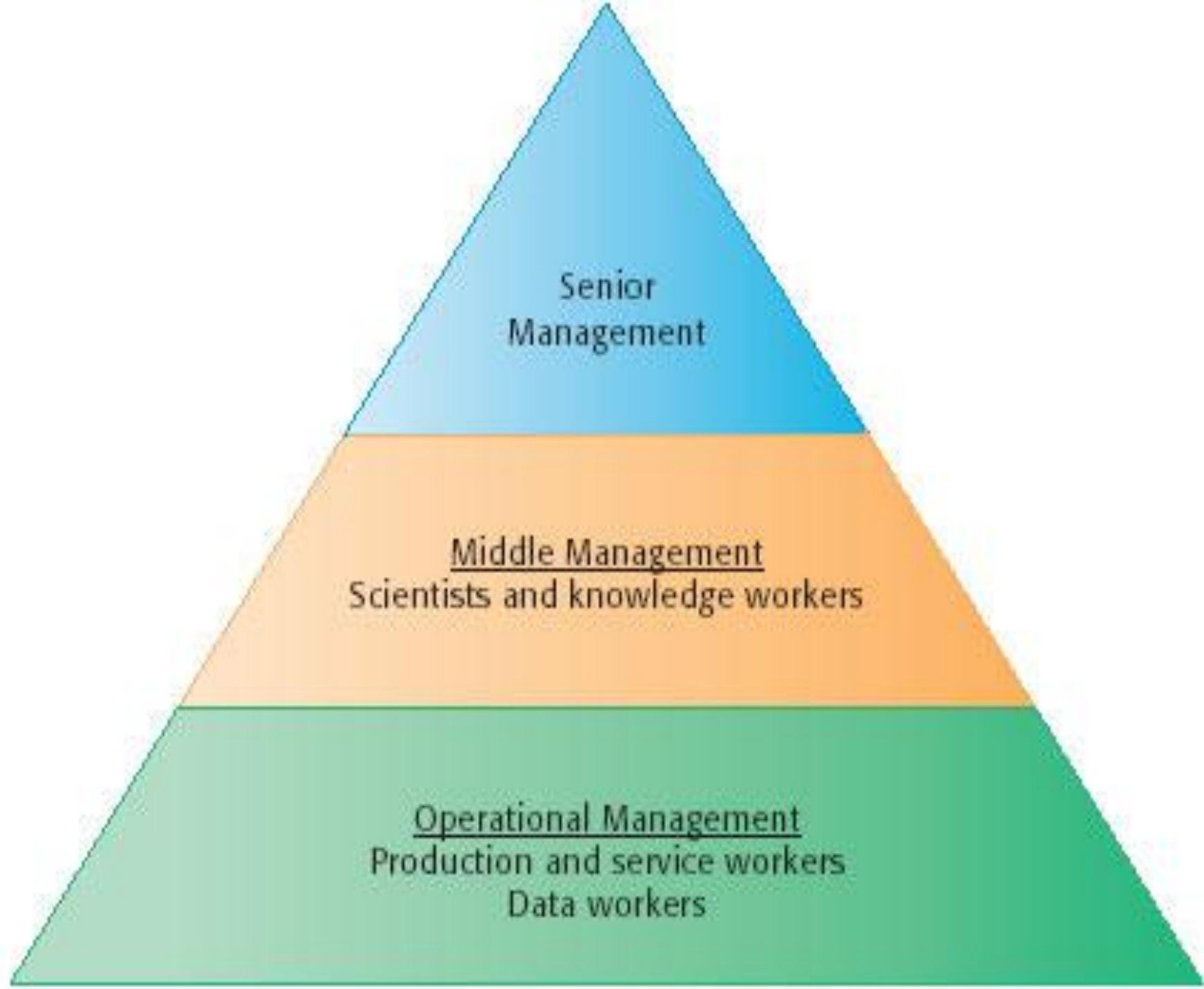
Systems That Solve Business Problems

- ◆ **System** – interrelated components functioning together to achieve an outcome
- ◆ **Information systems** – collection of interrelated components that collect, process, store, and provide as output information needed to complete tasks
- ◆ **Subsystem** – part of a larger system
- ◆ **Supersystem** – larger system that contains subsystems
- ◆ **Functional decomposition** – dividing a system into smaller subsystems and components

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System Boundary vs. Automation Boundary





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Types of Information Systems

- ◆ Transaction processing systems (TPS)
 - Capture and record information about organization's transactions
- ◆ Management information systems (MIS)
 - Take information captured by TPS
 - Produce reports for planning and control
- ◆ Decision support / knowledge-based systems (DSS/KBS)
 - Explore impact of available options or decisions (what-if scenarios)
 - Automate routine decision making

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Types of Information Systems (continued)

- ◆ Enterprise applications
 - Highly integrated systems that support company-wide operations and data
 - Often combine aspects of TPS, MIS, DSS/KBS
 - Today's fashion
 - Links all IS of the enterprise under one umbrella
- ◆ Communication support systems
 - Facilitate communication internally and with customers and suppliers
- ◆ Office support systems
 - Help employees create and share documents

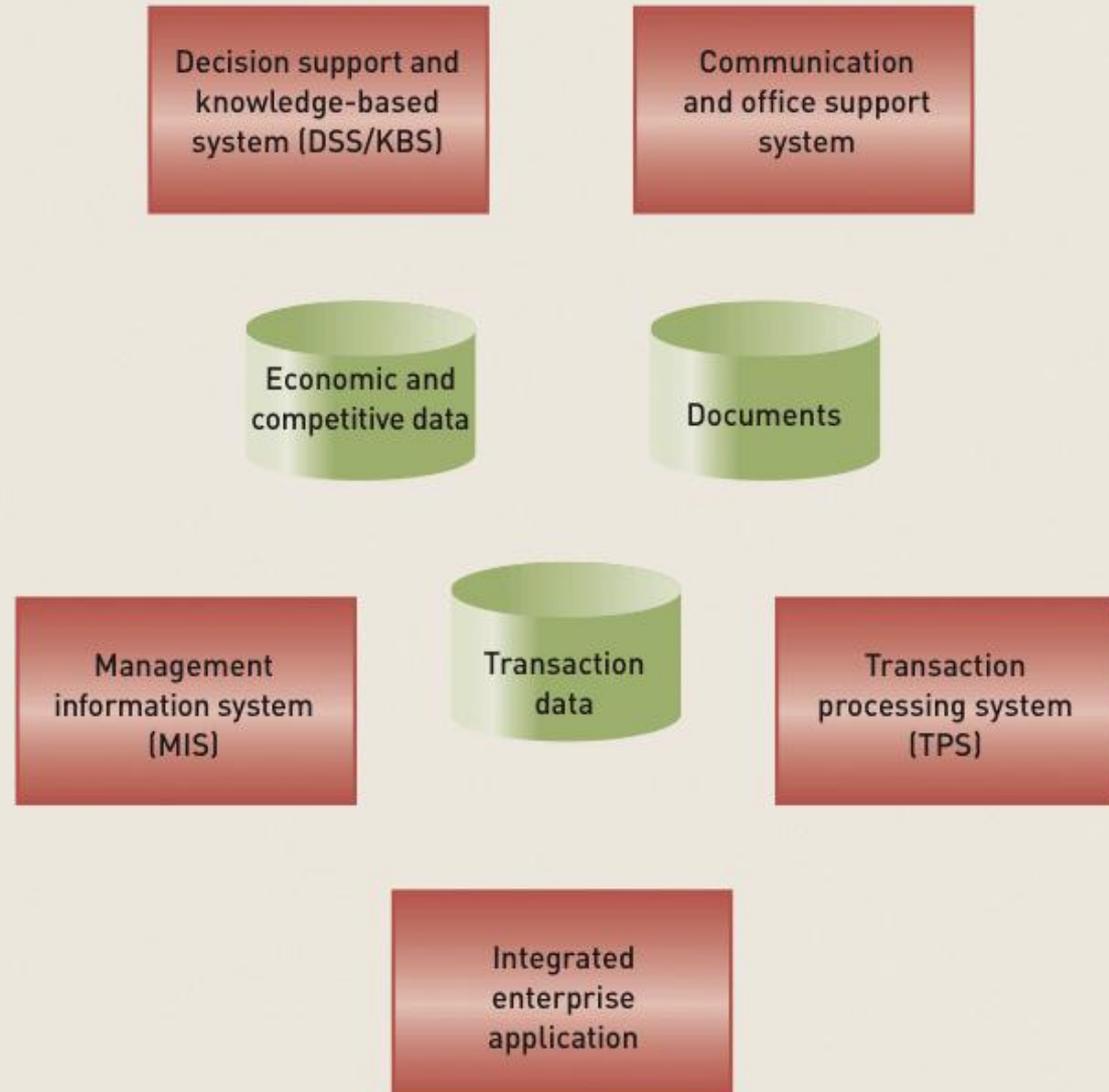
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How about functional classification?

- ◆ Based on the 4 basic business functions

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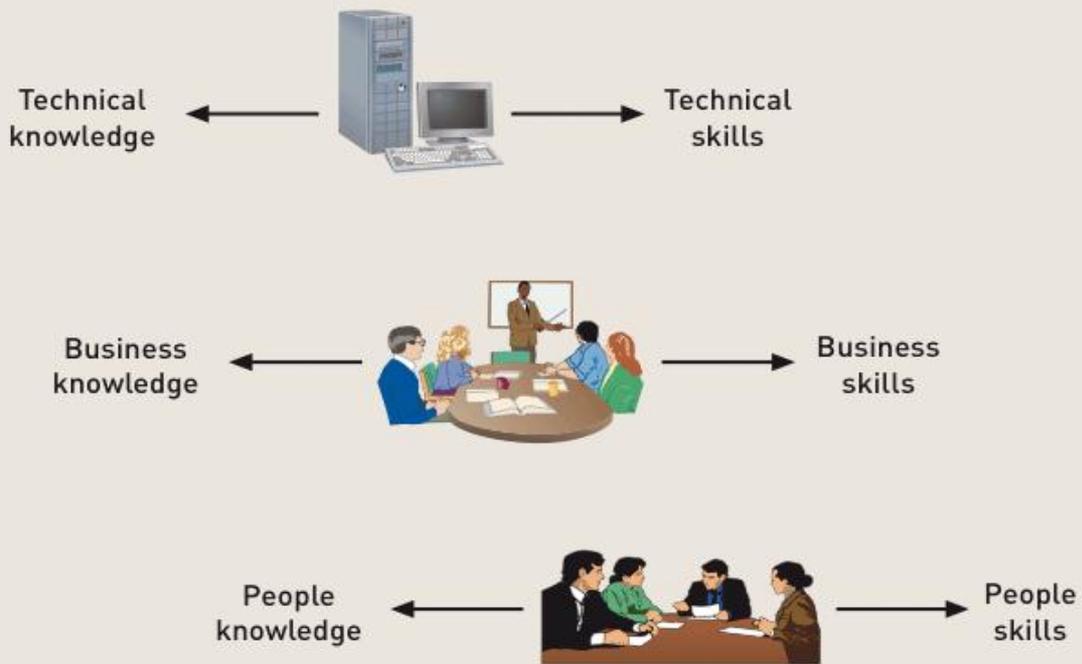
Types of Information Systems (continued)



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Required Skills of the Systems Analyst

Knowledge and skills required of a systems analyst



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SYSTEM ANALYST SHOULD

- ◆ Be communicative
- ◆ Be patient
- ◆ Be presentable
- ◆ Have business knowledge/skills
- ◆ Know system analysis principles
- ◆ Know technology
- ◆ Have ethics and credibility