

Case Study for Information Management

資訊管理個案

Managing Knowledge: Tata Consulting Services (Chap. 11)

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Min-Yuh Day

戴敏育

Assistant Professor

專任助理教授

Dept. of Information Management, Tamkang University

淡江大學 資訊管理學系

<http://mail.tku.edu.tw/myday/>

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課程大綱 (Syllabus)

週次	日期	內容 (Subject/Topics)
1	102/09/17	Introduction to Case Study for Information Management
2	102/09/24	Information Systems in Global Business: UPS (Chap. 1)
3	102/10/01	Global E-Business and Collaboration: NTUC Income (Chap. 2)
4	102/10/08	Information Systems, Organization, and Strategy: iPad and Apple (Chap. 3)
5	102/10/15	IT Infrastructure and Emerging Technologies: Salesforce.com (Chap. 5)
6	102/10/22	Foundations of Business Intelligence: Lego (Chap. 6)

課程大綱 (Syllabus)

週次	日期	內容 (Subject/Topics)
7	102/10/29	Telecommunications, the Internet, and Wireless Technology: Google, Apple, and Microsoft (Chap. 7)
8	102/11/05	Securing Information System: Facebook (Chap. 8)
9	102/11/12	Midterm Report (期中報告)
10	102/11/19	期中考試週
11	102/11/26	Enterprise Application: Border States Industries Inc. (BSE) (Chap. 9)
12	102/12/03	E-commerce: Amazon vs. Walmart (Chap. 10)

課程大綱 (Syllabus)

週次	日期	內容 (Subject/Topics)
13	102/12/10	Knowledge Management: Tata Consulting Services (Chap. 11) [Invited Talk]
14	102/12/17	Enhancing Decision Making: CompStat (Chap. 12)
15	102/12/24	Building Information Systems: Electronic Medical Records (Chap. 13)
16	102/12/31	Managing Projects: JetBlue and WestJet (Chap. 14)
17	103/01/07	Final Report (期末報告)
18	103/01/14	期末考試週

Chap. 11

Knowledge Management:

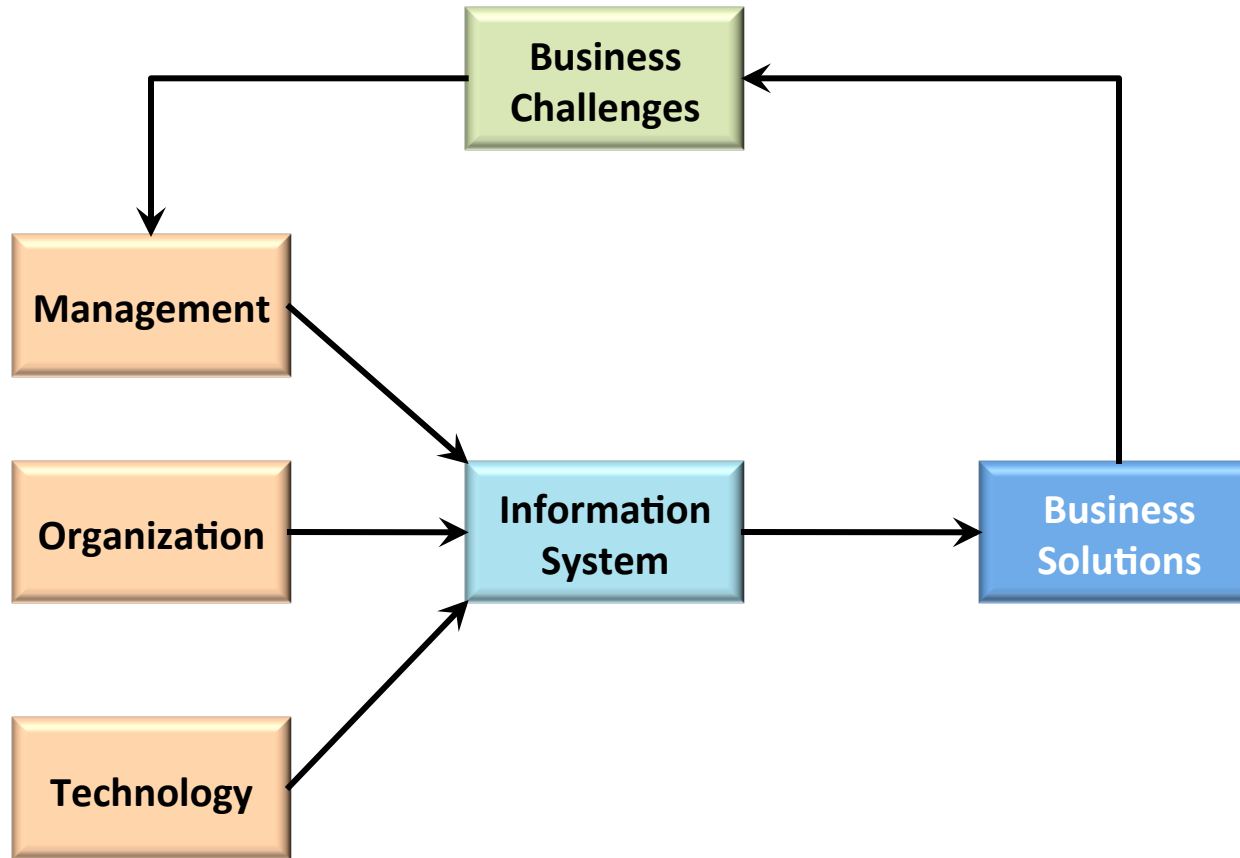
Tata Consulting Services

Case Study: Tata Consulting Services

Knowledge Management and Collaboration at Tata Consulting Services (Chap. 11)

1. Analyze the knowledge management efforts at Tata Consulting Services (TCS) using the knowledge management value chain model. Which tools or activities were used for managing tacit knowledge and which ones are used for explicit knowledge?
2. Describe the growth of knowledge management systems at TCS? How have these systems helped TCS in its business?
3. Describe the collaboration tools used at TCS? What benefits did TCS reap from these tools?
4. How did Web 2.0 tools help TCS manage knowledge and collaboration among its employees?
5. How do you think KM tools have changed some key operational processes at TCS, such as bidding for new projects, project development and implementation, customer service, and so on?

Overview of Fundamental MIS Concepts



Important dimensions of knowledge

- Knowledge is a firm asset
- Knowledge has different forms
- Knowledge has a location
- Knowledge is situational

Knowledge is a firm asset

- Intangible
- Creation of knowledge from data, information, requires organizational resources
- As it is shared, experiences network effects

Knowledge has different forms

- May be explicit (documented) or tacit (residing in minds)
- Know-how, craft, skill
- How to follow procedure
- Knowing why things happen (causality)

Knowledge has a location

- Cognitive event
- Both social and individual
- “Sticky” (hard to move), situated (enmeshed in firm’s culture), contextual (works only in certain situations)

Knowledge is situational

- Conditional:
 - Knowing when to apply procedure
- Contextual:
 - Knowing circumstances to use certain tool

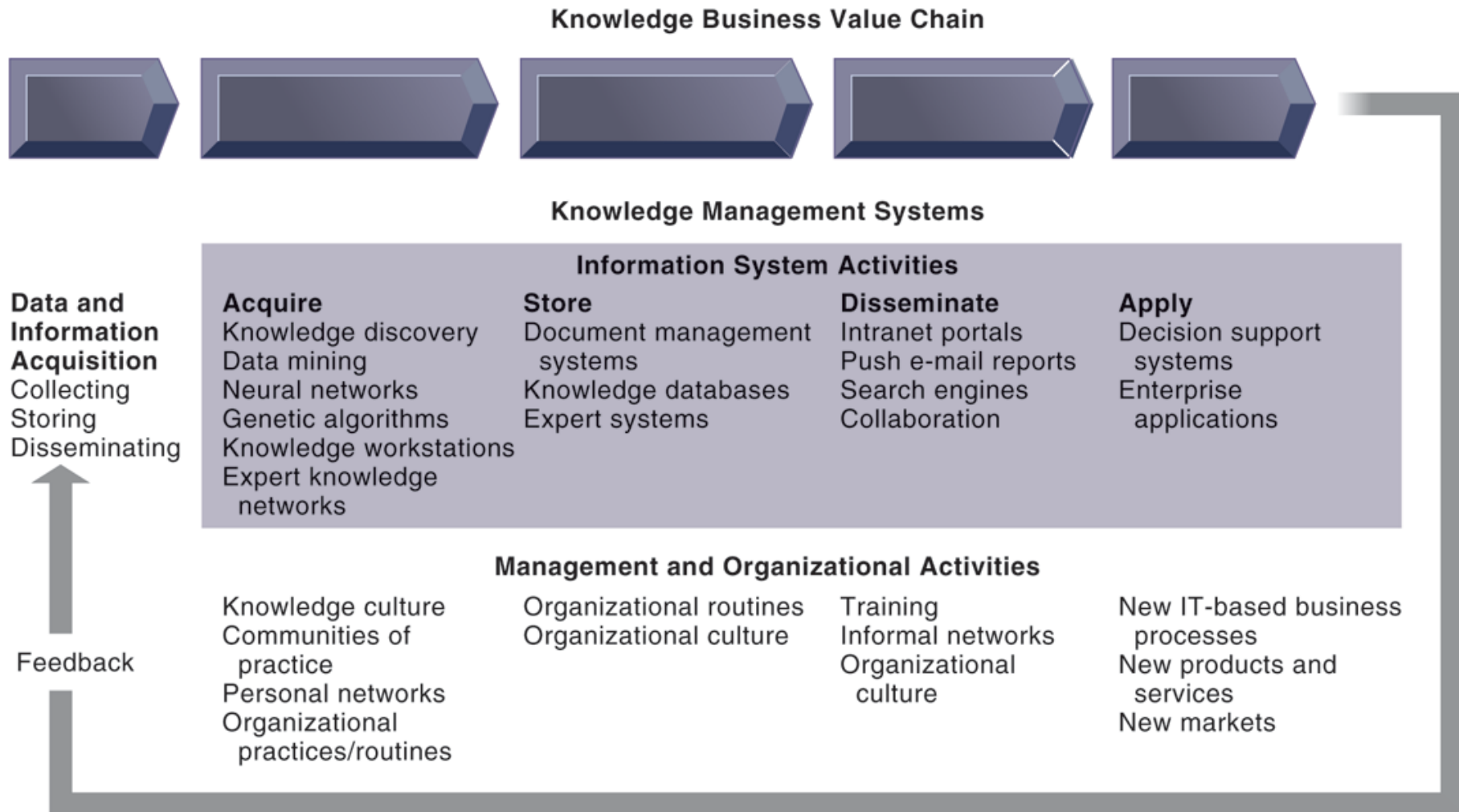
Organizational learning

- Process in which organizations learn
 - Gain experience through collection of data, measurement, trial and error, and feedback
 - Adjust behavior to reflect experience
 - Create new business processes
 - Change patterns of management decision making

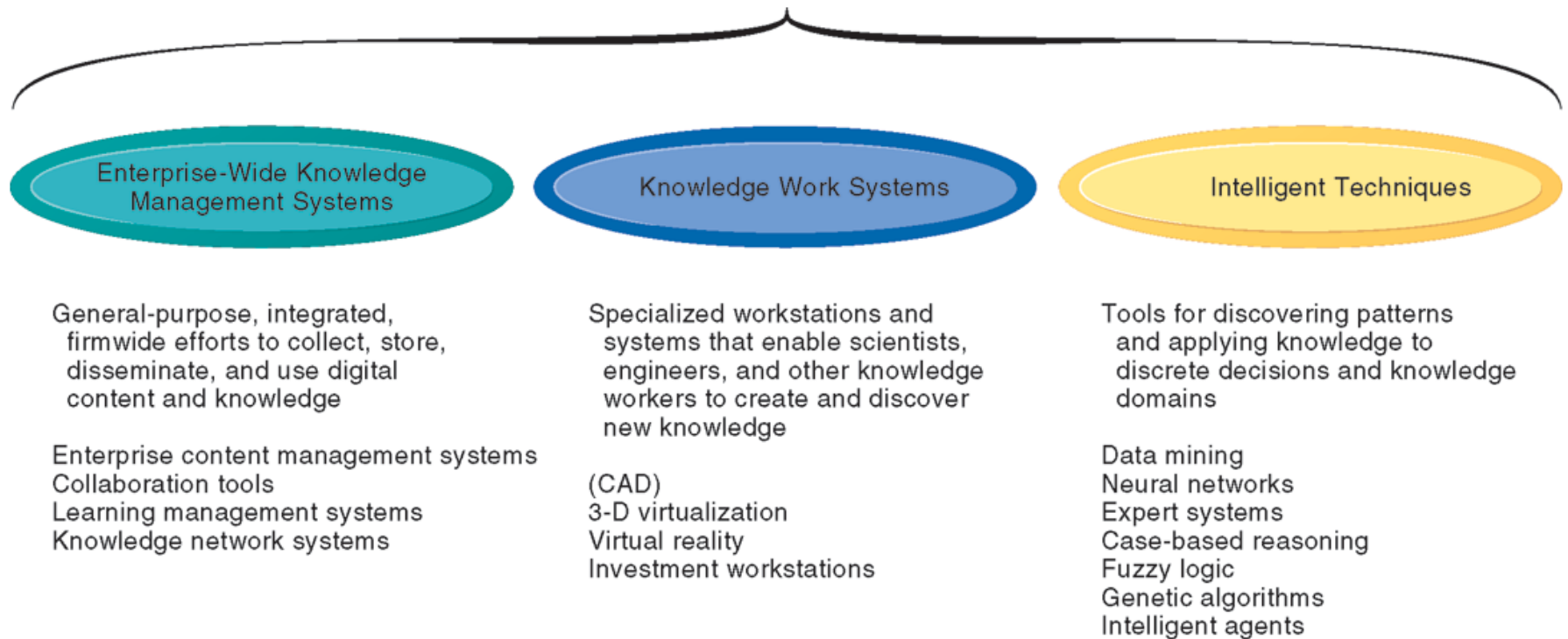
Knowledge management

- Knowledge management
 - Set of business processes developed in an organization to create, store, transfer, and apply knowledge
- Knowledge management value chain:
 - Each stage adds value to raw data and information as they are transformed into usable knowledge
 1. Knowledge acquisition
 2. Knowledge storage
 3. Knowledge dissemination
 4. Knowledge application

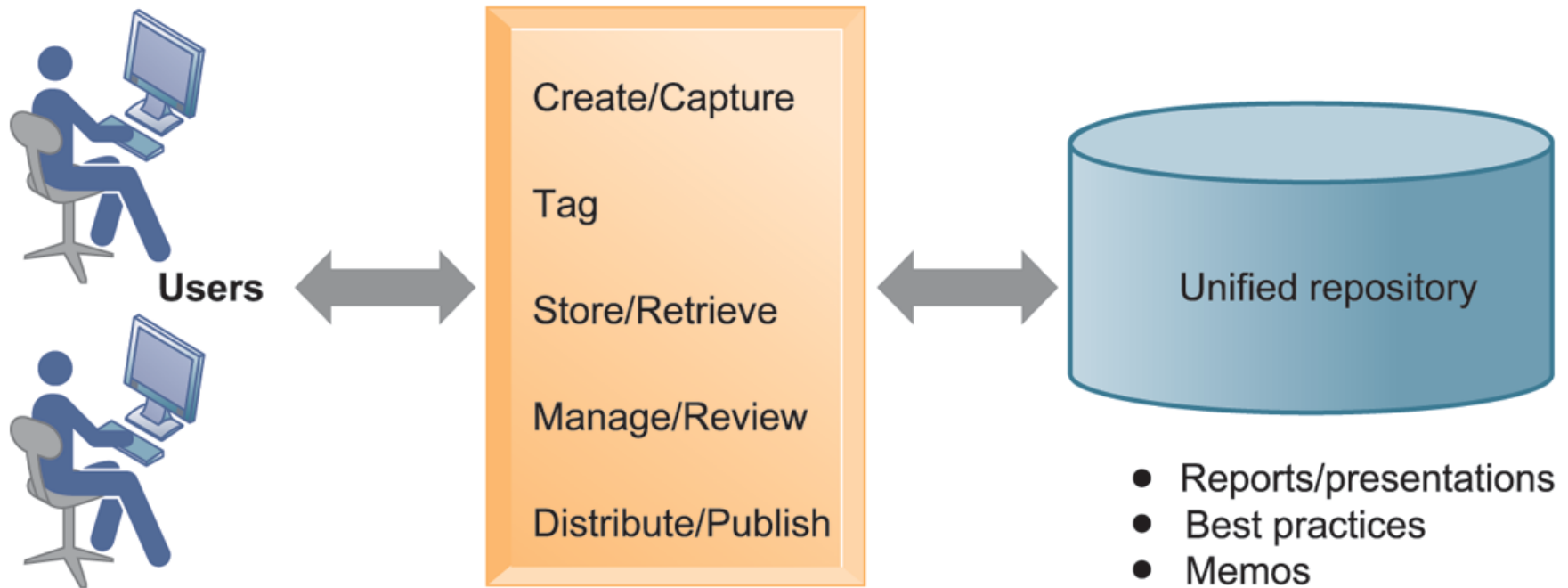
The Knowledge Management Value Chain



Major Types of Knowledge Management Systems

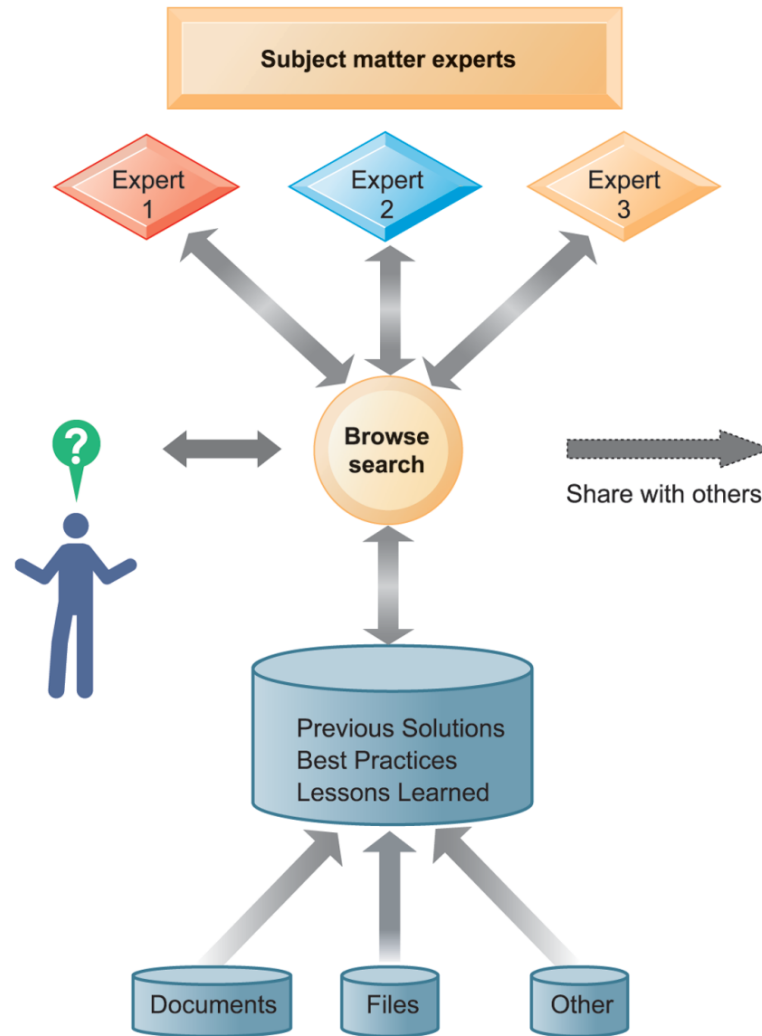


An Enterprise Content Management System

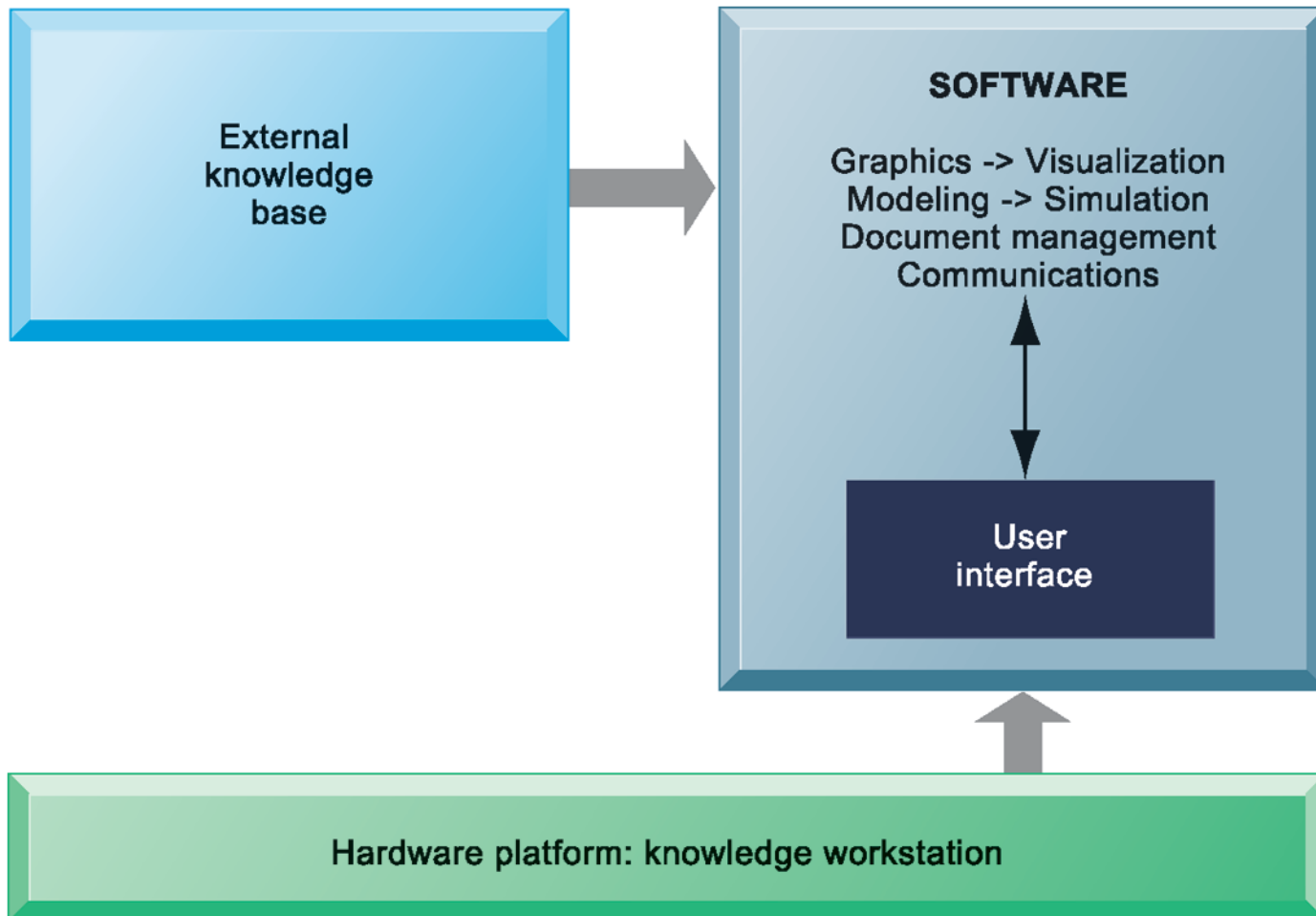


An enterprise content management system has capabilities for classifying, organizing, and managing structured and semistructured knowledge and making it available throughout the enterprise.

An Enterprise Knowledge Network System



Requirements of Knowledge Work Systems



Examples of knowledge work systems

- **CAD (computer-aided design):**
 - Creation of engineering or architectural designs
- **Virtual reality systems:**
 - Simulate real-life environments
 - 3-D medical modeling for surgeons
 - Augmented reality (AR) systems
 - VRML
- **Investment workstations:**
 - Streamline investment process and consolidate internal, external data for brokers, traders, portfolio managers

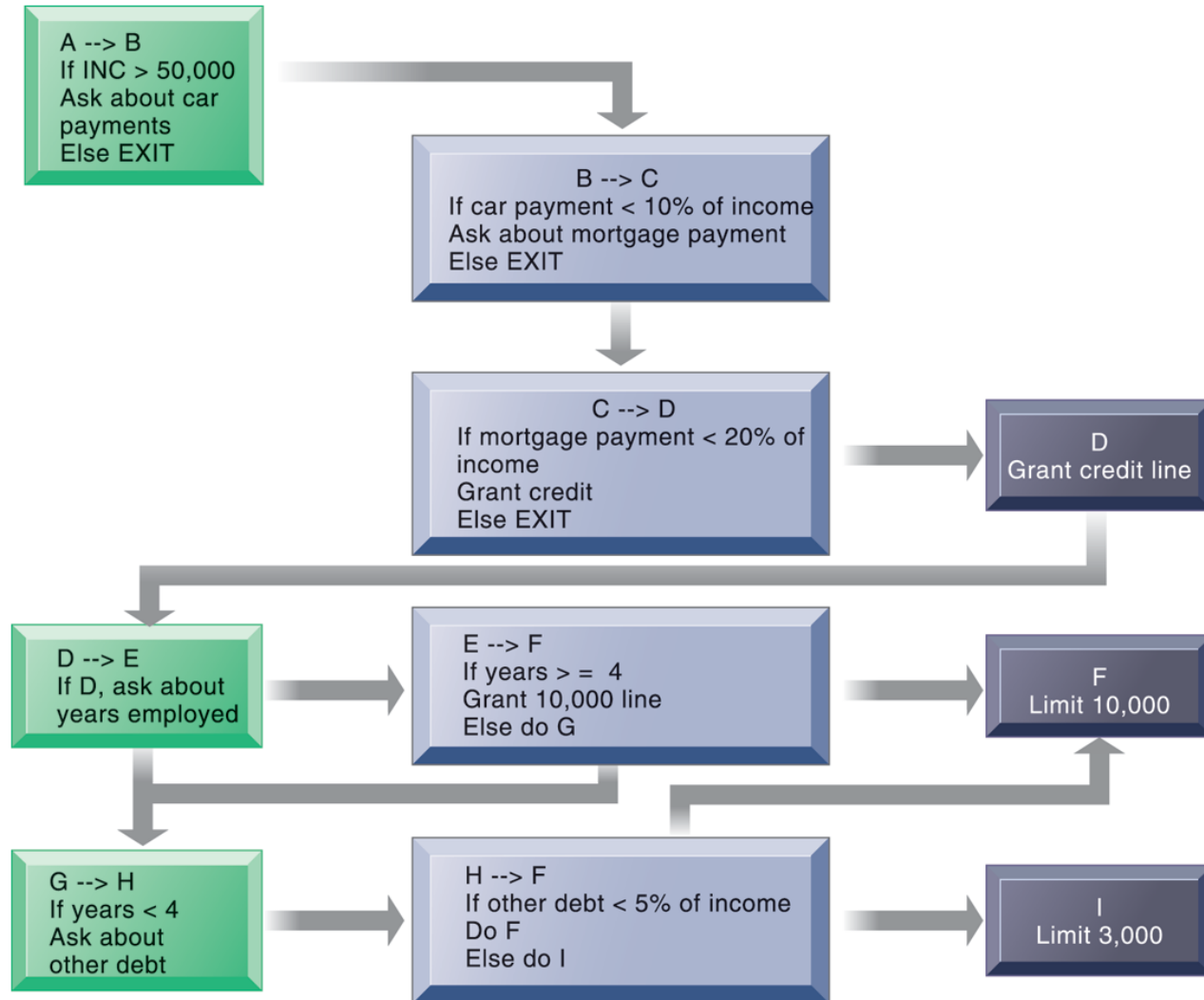
Intelligent Techniques

- Intelligent techniques: Used to capture individual and collective knowledge and to extend knowledge base
 - To capture tacit knowledge: Expert systems, case-based reasoning, fuzzy logic
 - Knowledge discovery: Neural networks and data mining
 - Generating solutions to complex problems: Genetic algorithms
 - Automating tasks: Intelligent agents
- Artificial intelligence (AI) technology:
 - Computer-based systems that emulate human behavior

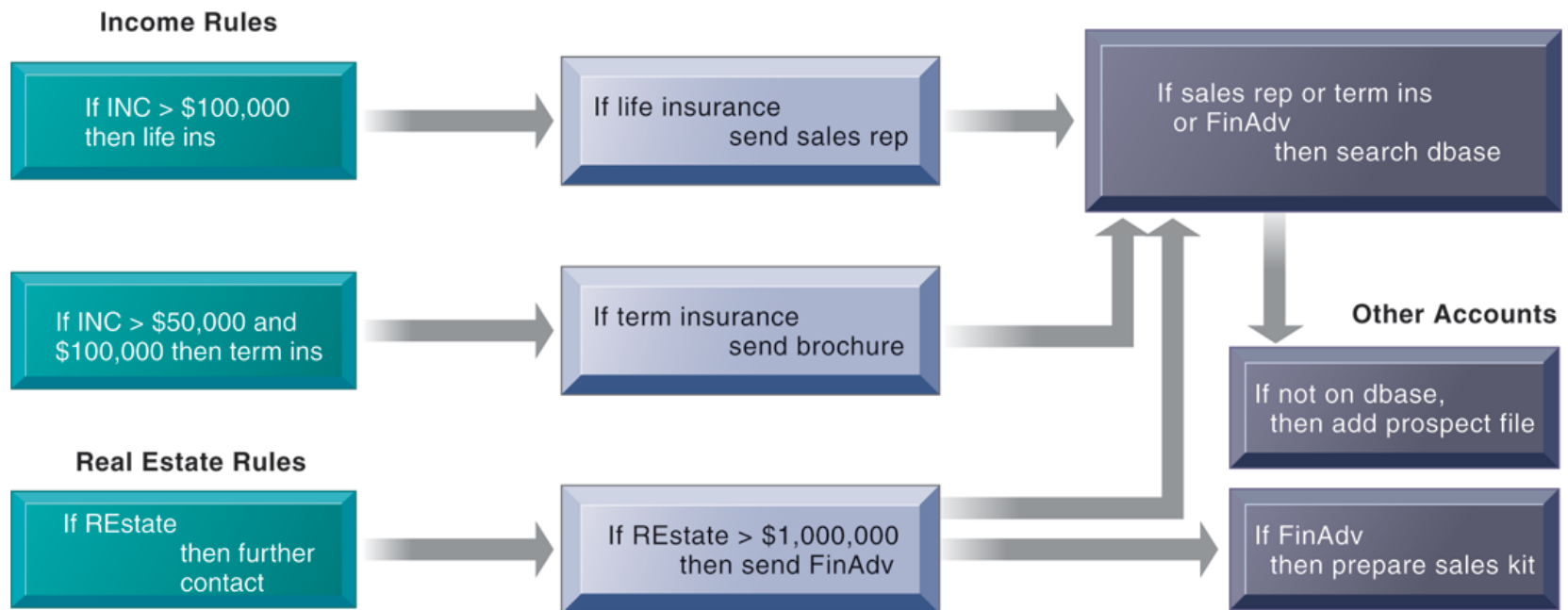
Expert systems

- Capture tacit knowledge in very specific and limited domain of human expertise
- Capture knowledge of skilled employees as set of rules in software system that can be used by others in organization
- Typically perform limited tasks that may take a few minutes or hours, e.g.:
 - Diagnosing malfunctioning machine
 - Determining whether to grant credit for loan
- Used for discrete, highly structured decision-making

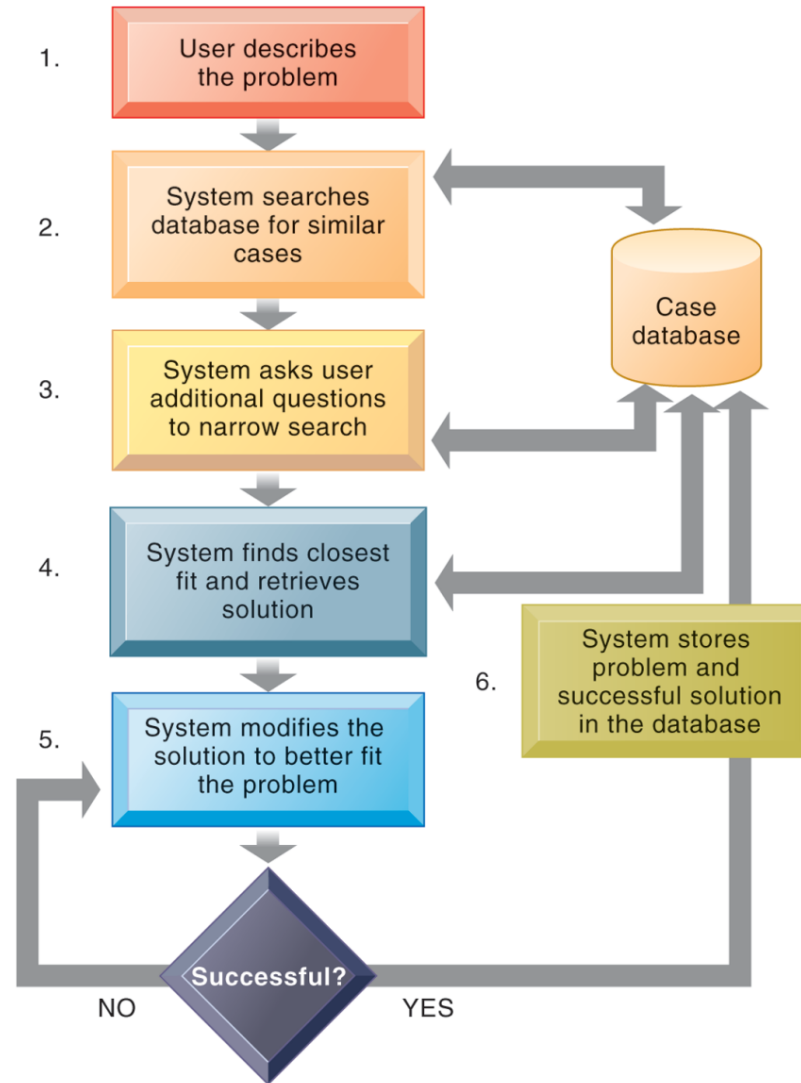
Rules in an Expert System



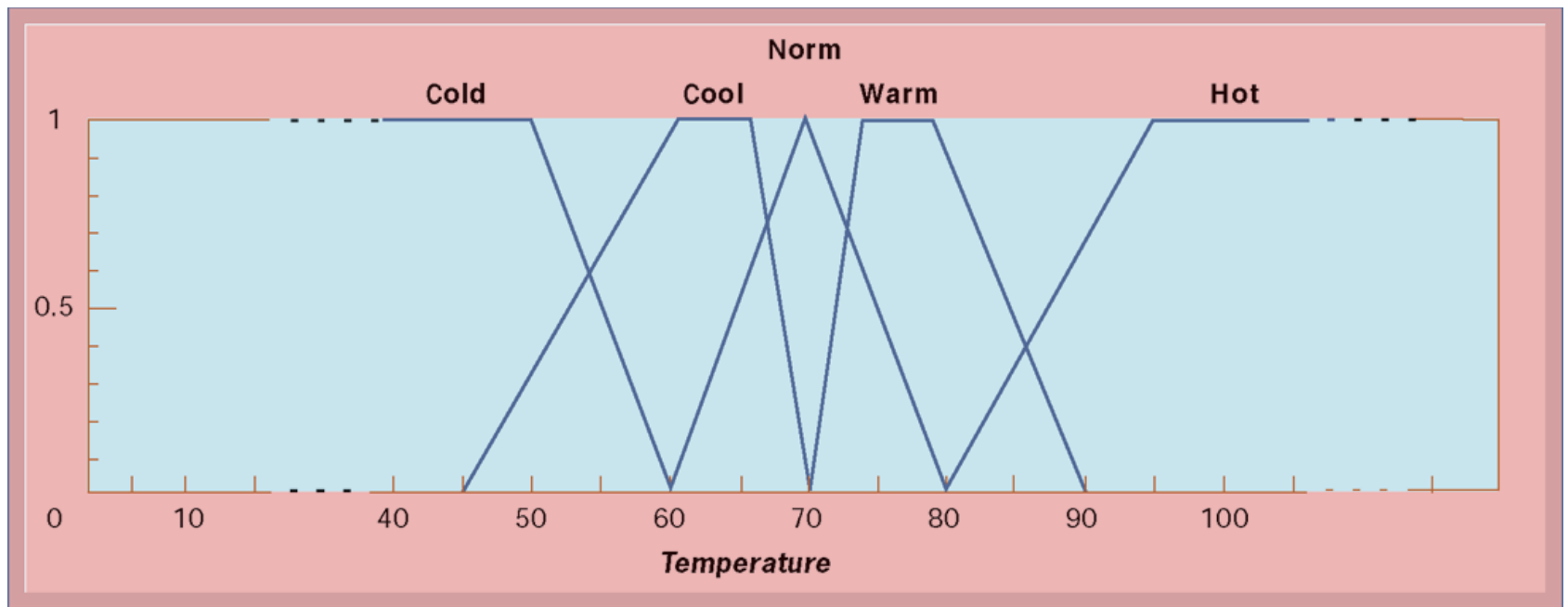
Inference Engines in Expert Systems



How Case-Based Reasoning Works



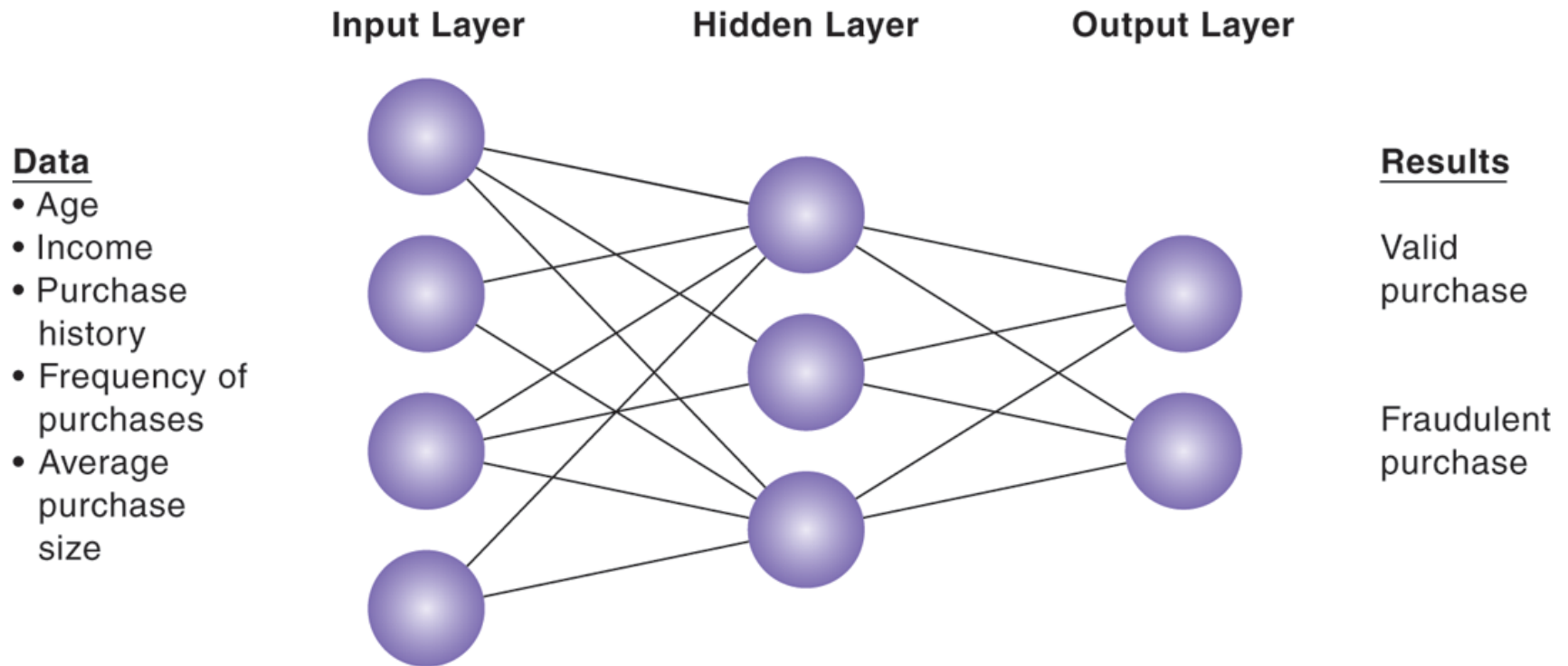
Fuzzy Logic for Temperature Control



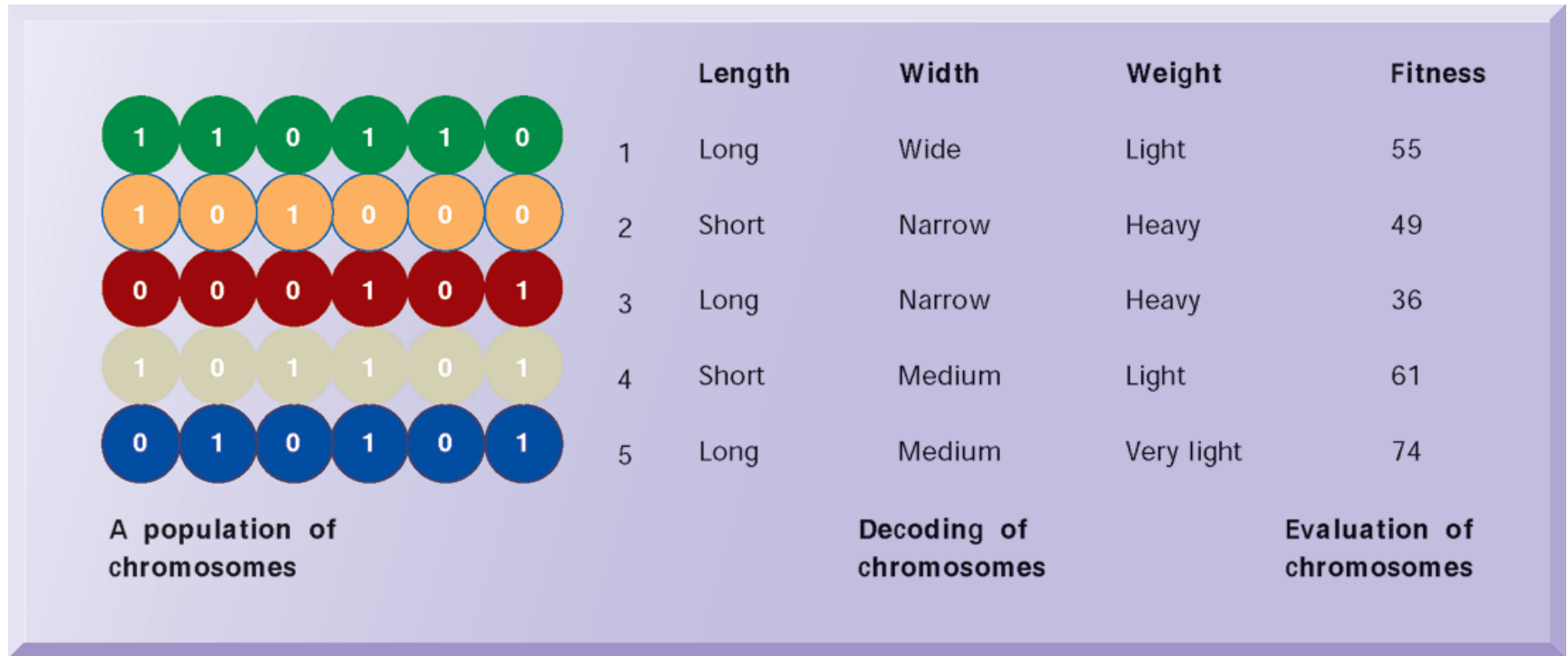
Neural networks

- Find patterns and relationships in massive amounts of data too complicated for humans to analyze
- “Learn” patterns by searching for relationships, building models, and correcting over and over again
- Humans “train” network by feeding it data inputs for which outputs are known, to help neural network learn solution by example
- Used in medicine, science, and business for problems in pattern classification, prediction, financial analysis, and control and optimization
- **Machine learning**
 - Related AI technology allowing computers to learn by extracting information using computation and statistical methods

How a Neural Network Works



The Components of a Genetic Algorithm



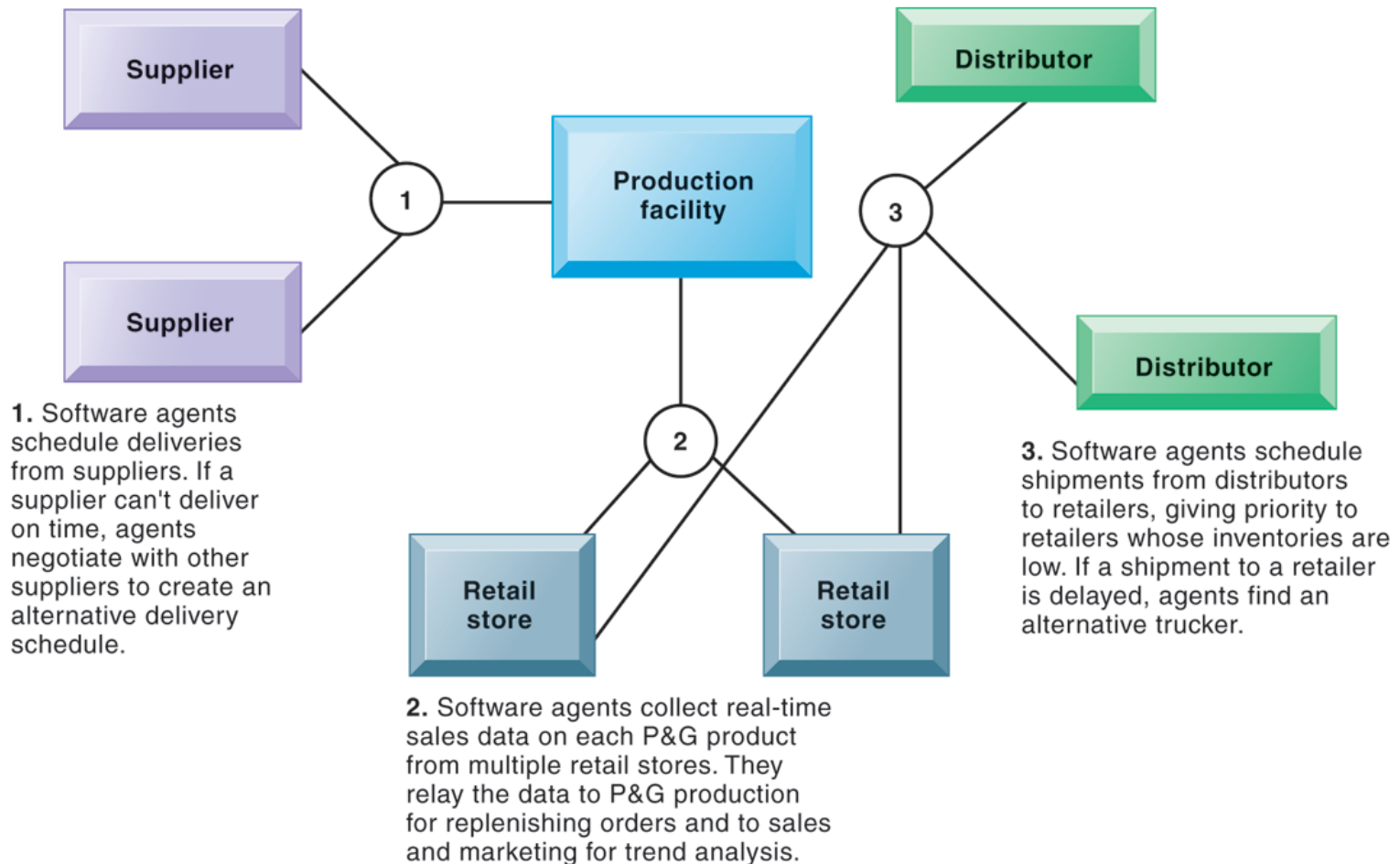
Hybrid AI systems

- Genetic algorithms, fuzzy logic, neural networks, and expert systems integrated into single application to take advantage of best features of each
- E.g., Matsushita “neurofuzzy” washing machine that combines fuzzy logic with neural networks

Intelligent agents

- Work in background to carry out specific, repetitive, and predictable tasks for user, process, or application
- Use limited built-in or learned knowledge base to accomplish tasks or make decisions on user's behalf
 - Deleting junk e-mail
 - Finding cheapest airfare
- Agent-based modeling applications:
 - Systems of autonomous agents
 - Model behavior of consumers, stock markets, and supply chains; used to predict spread of epidemics

INTELLIGENT AGENTS IN P&G'S SUPPLY CHAIN NETWORK



Case Study: CompStat

Does CompStat Reduce Crime? (Chap. 12)

1. What management, organization, and technology factors make CompStat effective?
2. Can police departments effectively combat crime without the CompStat system?
Is community policing incompatible with CompStat?
Explain your answer.
3. Why would officers misreport certain data to CompStat?
What should be done about the misreporting of data?
How can it be detected?

資訊管理個案

(Case Study for Information Management)

1. 請同學於資訊管理個案討論前
應詳細研讀個案，並思考個案研究問題。
2. 請同學於上課前複習相關資訊管理相關
理論，以作為個案分析及擬定管理對策
的依據。
3. 請同學於上課前
先繳交個案研究問題書面報告。

References

- Kenneth C. Laudon & Jane P. Laudon (2012),
Management Information Systems: Managing the
Digital Firm, Twelfth Edition, Pearson.
- 周宣光 譯 (2011) ,
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