

Chapter 5

**Innovative EC Systems:
From E-Government to E-Learning,
Knowledge Management, E-Health,
and C2C Commerce**

Learning Objectives

1. Describe various e-government initiatives.
2. Describe e-government activities and implementation issues including government 2.0 and m-government.
3. Describe e-learning, virtual universities, and e-training.
4. Describe e-books and their readers.
5. Describe knowledge management and dissemination as e-commerce.
6. Describe and discuss online advisory systems.
7. Describe e-health.
8. Describe C2C activities in e-commerce.

COMPASS GROUP TURNS MANAGERS INTO DETECTIVES TO ENHANCE E-TRAINING

- Compass Group (compass-group.com) is a UK-based major provider of food and support services worldwide with 470,000 employees in 52 countries
- **The Problem**
 - Compass Group decided to partner with City & Guilds Kineo to train the managers using the financial software from Kineo Learning Solutions
 - However, some managers were skeptical about e-training (an application of e-learning), so in order to alleviate concerns and secure collaboration and use, it was necessary to convince them of the program's usefulness

COMPASS GROUP TURNS MANAGERS INTO DETECTIVES TO ENHANCE E-TRAINING

- **The Solution**
 - The implementation team created the “Compass Detective Board Game”
 - The participating managers played the role of “detectives” in the game
 - Each detective needed to analyze performance and find solutions to problems (“crimes”)
 - Each player had an adaptation to her/his functional area, based on real-life situations
 - The players were able to come up with answers to questions such as how to react to a price cut by a competitor or how to determine when a budget deviation is significant

COMPASS GROUP TURNS MANAGERS INTO DETECTIVES TO ENHANCE E-TRAINING

- **The Results**
 - In the first six months of its existence, the project had some outstanding successes:
 - *Improved perceived performance*
 - *Train large numbers of people, quickly*
 - *Cost reduction*

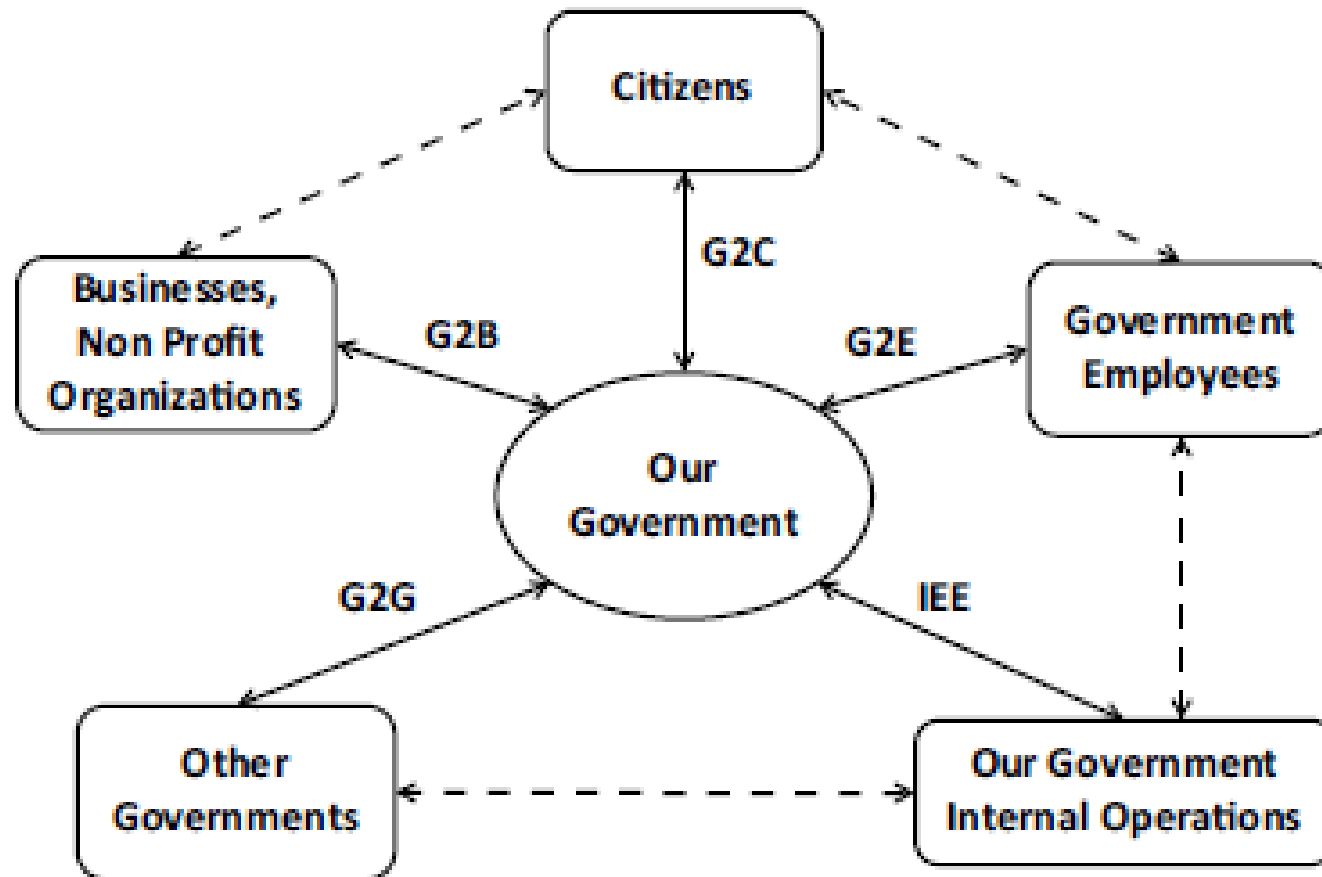
LESSONS LEARNED FROM THE CASE

- E-learning (and e-training) is an EC application that helps organizations electronically teach a large number of students or employees, who are frequently in different locations, to ensure that they can grow and handle their jobs effectively
- By creating an e-training program that engaged the trainees, the company not only reduced training costs and successfully trained the employees, it also motivated many employees to embrace e-training

DIGITAL GOVERNMENT: AN OVERVIEW

- **Definition and Scope**
 - **E-government***
 - Government-to-citizens (G2C)
 - Government-to-business (G2B)
 - Government-to-government (G2G)
 - Internal efficiency and effectiveness (IEE)
 - Government-to-employees (G2E)

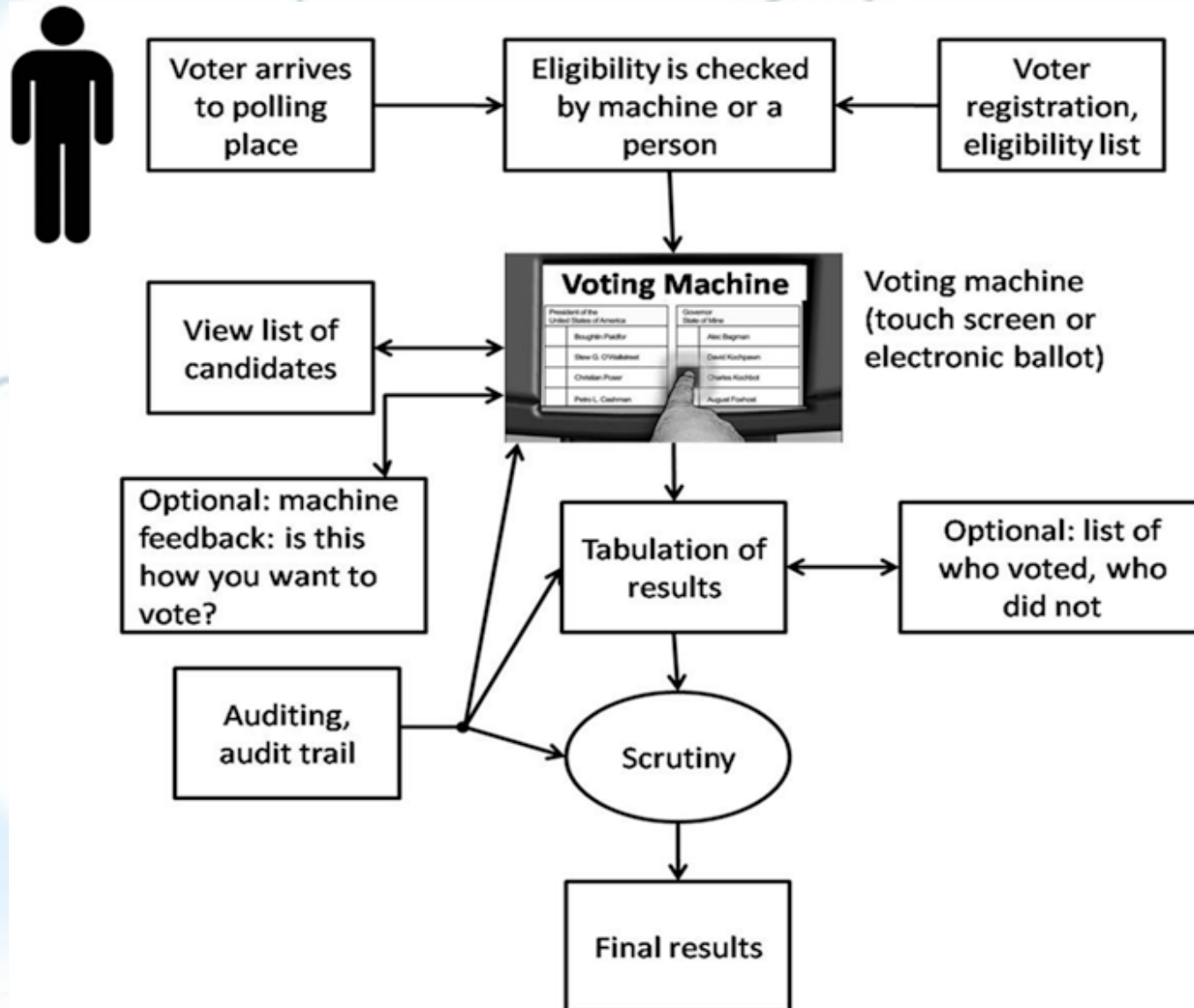
Figure 5.1 E-Government Categories of Activities



DIGITAL GOVERNMENT: AN OVERVIEW

- **Government-to-Citizens (G2C)***
 - *Electronic Voting*
 - *Electronic Benefits Transfer*
- **Government-to-Business (G2B)***
 - *Government E-Procurement*
 - *Group Purchasing*
 - *Forward and Reverse E-Auctions*

Figure 5.2 The Process of Using a Voting Machine



DIGITAL GOVERNMENT: AN OVERVIEW

- **Government-to-Government (G2G)***
- **Government-to-Employees and Internal Efficiency and Effectiveness**
 - **Government-to-employees (G2E)***
 - ***Internal Efficiency and Effectiveness (IEE)***

DIGITAL GOVERNMENT: AN OVERVIEW

- **Implementing E-Government**
- **The Transformation to E-Government**
- **E-Government 2.0 and Social Networking**
 - **Government 2.0***
 - ***The Potential of E-Government 2.0***

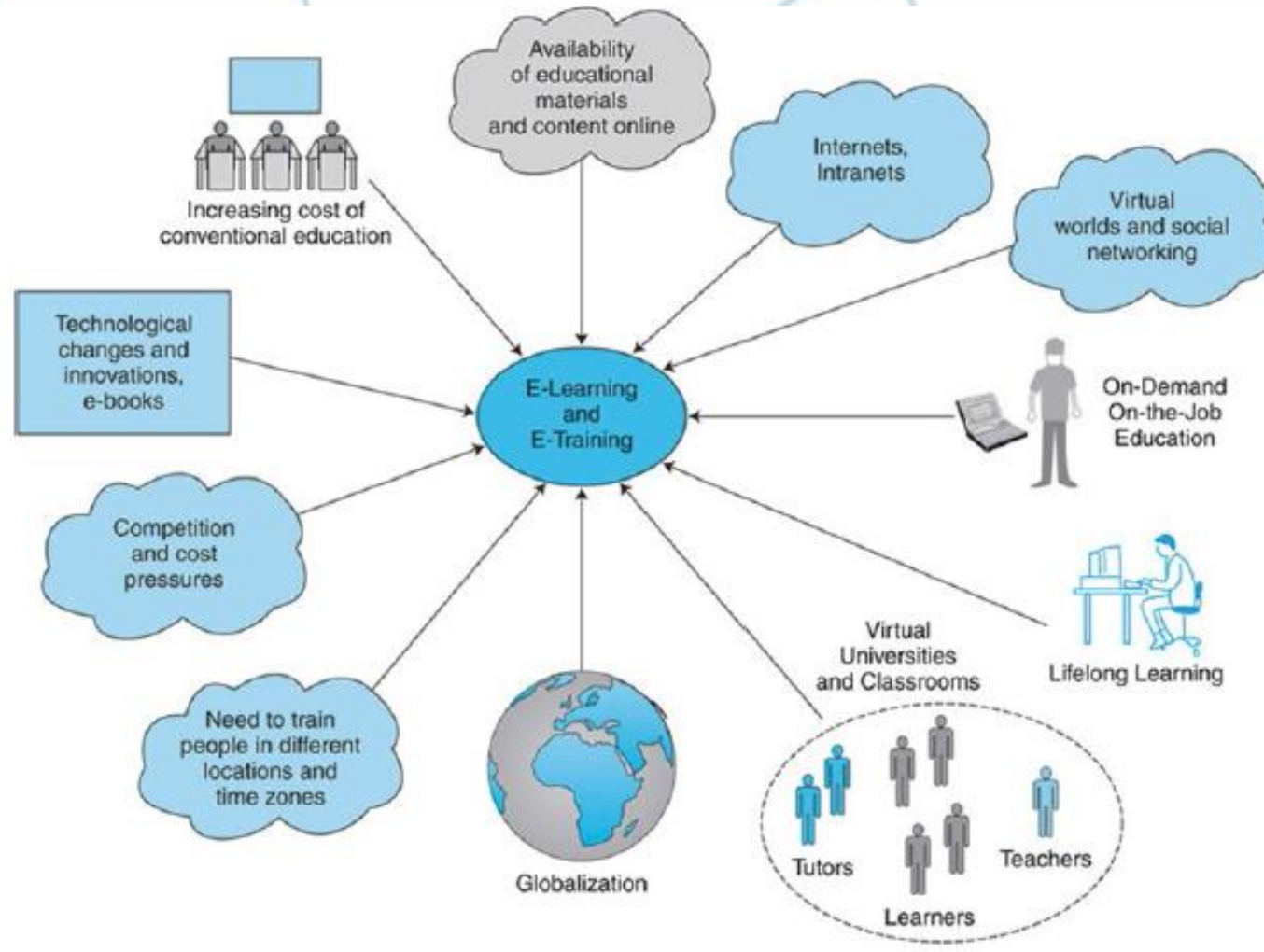
DIGITAL GOVERNMENT: AN OVERVIEW

- **M-Government**
 - **Mobile government (m-government)***
 - ***The Benefits of M-Government***
 - More citizens and employees can be reached (anyplace, anytime)
 - Cost reduction
 - Modernizing the operations of the government
 - Employees can bring their own mobile devices to work, saving hardware and software costs
 - Providing quality, flexible services to the public
 - Increasing the reach and speed for public dissemination of information
 - ***Some Implementation Issues***

E-LEARNING, E-TRAINING, AND E-BOOKS

- **The Basics of E-Learning: Definitions and Concepts**
 - E-learning*
 - *M-learning**

Figure 5.3 The Drivers of E-Learning



E-LEARNING, E-TRAINING, AND E-BOOKS

- **Benefits and Drawbacks of E-Learning**
 - ***Benefits of E-Learning***
 - Education
 - Learning and training time reduction
 - Cost reduction
 - Large number and diversity of learners
 - Innovative teaching
 - Measurement and assessment of progress
 - Self-paced and motivation learning
 - Richness and quality

E-LEARNING, E-TRAINING, AND E-BOOKS

- ***Drawbacks and Challenges of E-Learning***
 - **Need for instructor retraining**
 - **Equipment needs and support services**
 - **Lack of face-to-face interaction and campus life style**
 - **Assessments and examinations**
 - **Maintenance and updating**
 - **Need for reliable wireline and wireless communication networks and devices**
 - **Protection of intellectual property**
 - **Student retention**

E-LEARNING, E-TRAINING, AND E-BOOKS

- **Distance Learning and Online Universities**
 - Distance learning*
 - *Virtual Universities—Real Degrees*
 - Virtual universities*
 - *Innovations in E-Learning*
- **Online Corporate Training**
 - *Using Computer Games for Training Current and New Employees*

Figure 5.4 The Eng-Key, Robot English Teacher



(Source: The Korea Advanced Institute of Science and Technology.) Used with permission

E-LEARNING, E-TRAINING, AND E-BOOKS

- **Social Networks and E-Learning**
 - **Social learning***
 - Social networking technology possesses the following capabilities that may facilitate learning:
 - *Connect learners in a learning project*
 - *Make 'social' part of the company's learning strategy*
 - *Build the know-how of experts*
 - *Enable learners to engage*

E-LEARNING, E-TRAINING, AND E-BOOKS

- **Visual Interactive Simulation**
- **E-Learning Management Systems**
 - **Learning management system (LMS)***
 - Provide effective student-instructor interactions
 - Centralize and automate program administration
 - Enable the use of self-service and self-guided e-learning services
 - Create and rapidly deliver learning content modules
 - Provide a single point of access to all e-learning online materials

E-LEARNING, E-TRAINING, AND E-BOOKS

- **Electronic Books (E-Books)***
 - Several types of e-books that can be delivered and read in various ways:
 - **Via a dedicated reader**
 - **Via Web access**
 - **Via Web download and smart phones**
 - **Via a general-purpose reader**
 - **Via a Web server**

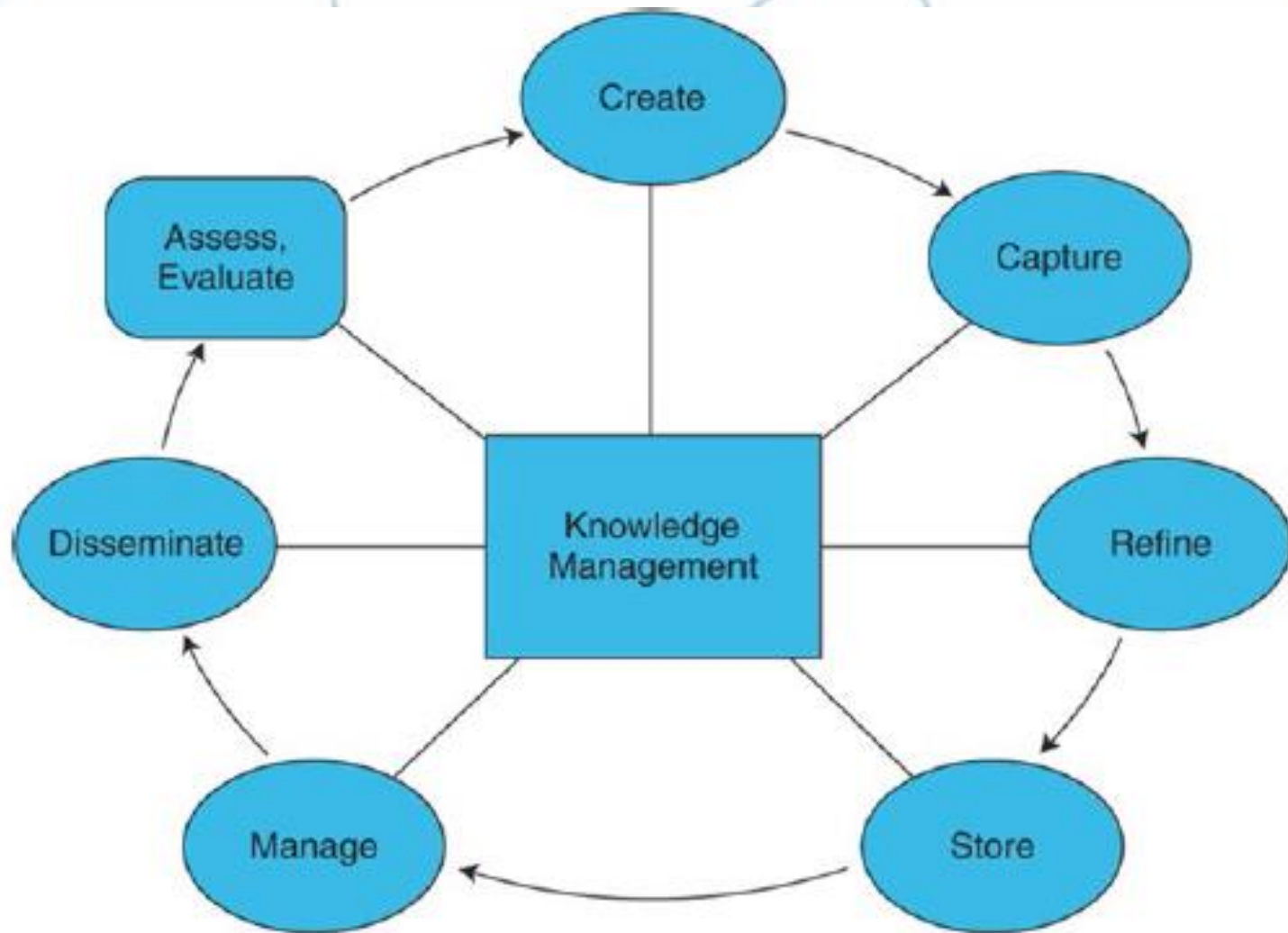
E-LEARNING, E-TRAINING, AND E-BOOKS

- ***Devices for Reading E-Books***
- ***Combining E-Readers and Tablets***
- ***Advantages and Limitations of E-Books***
 - Ability to store hundreds of books on a small mobile device
 - Lower cost to buyers
 - Searchable text
 - Instant delivery via downloads from anywhere
 - Portability
- ***A Final Note: Is This the End of Printed Books?***

KNOWLEDGE MANAGEMENT, INTELLIGENT SYSTEMS, AND ROBOTS

- **An Overview of Knowledge Management**
 - Knowledge management (KM)*
- **Knowledge Management Types and Activities**
 - Create knowledge
 - Capture knowledge
 - Refine knowledge
 - Store knowledge
 - Update knowledge
 - Disseminate knowledge

Figure 5.5 The Knowledge Management System Cycle



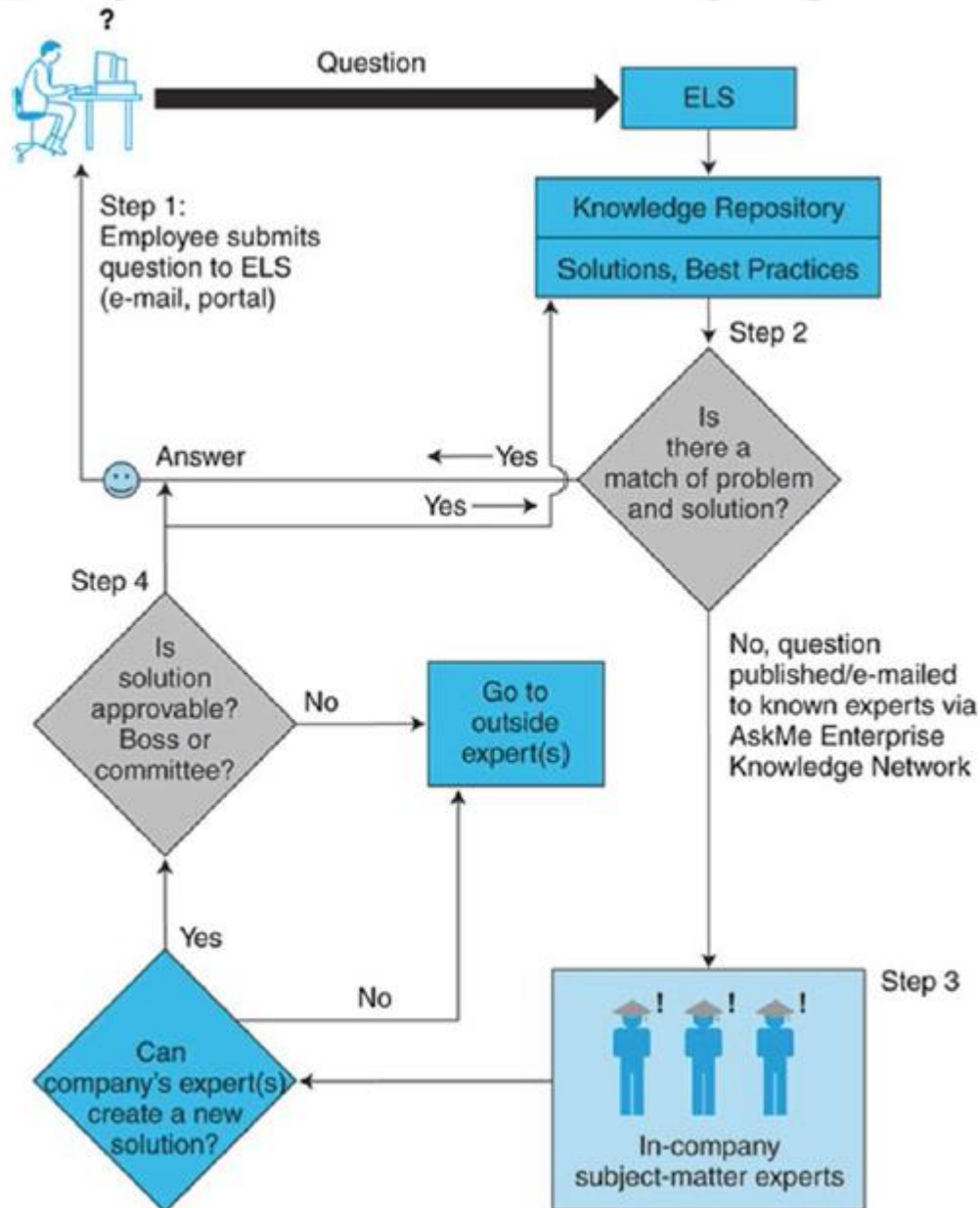
KNOWLEDGE MANAGEMENT, INTELLIGENT SYSTEMS, AND ROBOTS

- **Knowledge Sharing**
 - *Software Tools for Knowledge Sharing*
- **How Is Knowledge Management Related to E-Commerce?**
- **KM and Social Networks**

KNOWLEDGE MANAGEMENT, INTELLIGENT SYSTEMS, AND ROBOTS

- **Finding Expertise and/or Experts Electronically and the Use of Expert Location Systems**
 - *Answers Provided by People on Social Networks or Portals*
 - *Automated Question-Answer Systems**
 - *Live Chat with Experts*
 - *Chat with Avatars*
 - *Expert/expertise location systems (ELS)**
 - *Seeking Expertise in Social Networks*

Figure 5.6 AskMe's Expert Location System



KNOWLEDGE MANAGEMENT, INTELLIGENT SYSTEMS, AND ROBOTS

- **Knowledge-Based and Intelligent Systems**
 - *Robotics in E-Commerce*

E-HEALTH

- **Definition**
 - **E-health***
- **Electronic Medical Record Systems (EMR)**
- **Doctors' System**
- **Patients Services**

E-HEALTH

- **Social Media and Commerce**
- **Medical Devices and Patients Surveillance**
- **Medical Research**
- **Administrative Purposes**

CONSUMER-TO-CONSUMER ELECTRONIC COMMERCE

- **Consumer-to-consumer (C2C) EC***
- **E-Commerce: C2C Applications**
 - *C2C Auctions*
 - *Selling and Buying in C2C*

CONSUMER-TO-CONSUMER ELECTRONIC COMMERCE

- **Person-to-Person Money Lending**
 - *Classified Ads*
 - *Personal Services*
 - *File-Sharing Utilities: Napster and Others*
 - *C2C Activities in Social Networks and Trading Virtual Properties*

MANAGERIAL ISSUES

- 1. How do we design the most cost-efficient government e-procurement system?**
- 2. How do we design the portfolio of e-learning knowledge sources?**
- 3. How do we incorporate social networking-based learning and services in our organization?**
- 4. What will be the impact of the e-book platform?**

SUMMARY

- 1. E-government activities**
- 2. Implementing e-government to citizens, businesses, and its own operations**
- 3. E-learning and training**
- 4. E-books and their readers**
- 5. Knowledge management and dissemination**
- 6. Online advisory systems**
- 7. E-health**
- 8. C2C activities**

HENRY FORD HEALTH SYSTEM PROVIDES SUPERIOR PATIENT EXPERIENCE USING IT AND E-COMMERCE

- Henry Ford Health System (HFHS) is a comprehensive health system that provides care to 2.2 million patients annually in Metro Detroit and several other cities
- The HFHS complex includes five medical centers and 24,000 employees

HENRY FORD HEALTH SYSTEM PROVIDES SUPERIOR PATIENT EXPERIENCE USING IT AND E-COMMERCE

- **The Challenges**

- The system's mission is to support the communication and collaboration of the mobile employees, patients, insurers, physicians, visitors and vendors, and to assure the operation of the many mobile biomedical devices
- HFHS needed a massive electronic network
- The hospital needed a wall-to-wall coverage by wireless connection that would work without interferences and enable a large volume of wireless traffic

HENRY FORD HEALTH SYSTEM PROVIDES SUPERIOR PATIENT EXPERIENCE USING IT AND E-COMMERCE

- **The Solution**

- HFHS decided to install an advanced Wi-Fi system
- The resultant solution enabled the integration of over 3,500 biomedical devices into the Wi-Fi network
- To support the wireless, it was necessary to bring access point antennas in over 90 elevators and many stairway corridors
- The solution enabled connecting with the many brands of mobile devices belonging to patients and visitors

HENRY FORD HEALTH SYSTEM PROVIDES SUPERIOR PATIENT EXPERIENCE USING IT AND E-COMMERCE

- **The Results**
 - The success of Wi-Fi was featured in a best practice article in the "Association for the Advancement of Medical Instrumentation"
 - Patient satisfaction has increased drastically and so has the productivity and quality of the hospital's employees and the physicians

HENRY FORD HEALTH SYSTEM PROVIDES SUPERIOR PATIENT EXPERIENCE USING IT AND E-COMMERCE

- The networks also enable members of the community to access the educational material disseminated by the hospital
- The Wi-Fi enables the biomedical devices to operate smoothly, to enable safe access to all needed information, and to facilitate communication, collaboration, and team work