

**IS 3400**  
**Management Information Systems**

**Lesson 1 - Information Systems in Global Business Today**

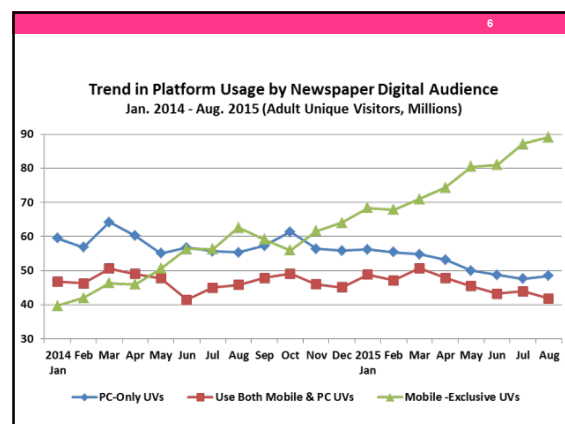
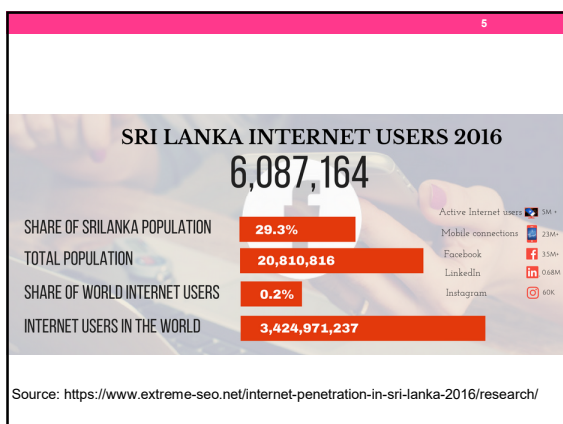
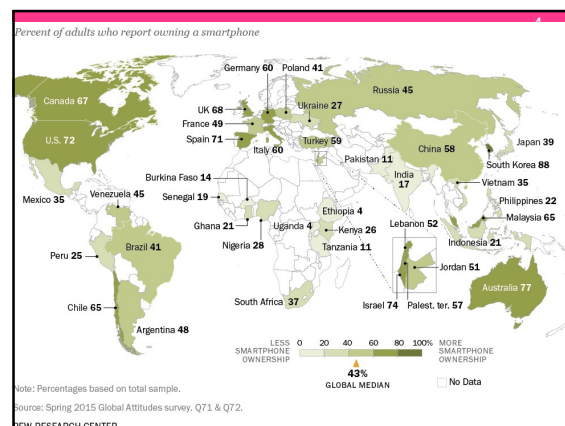
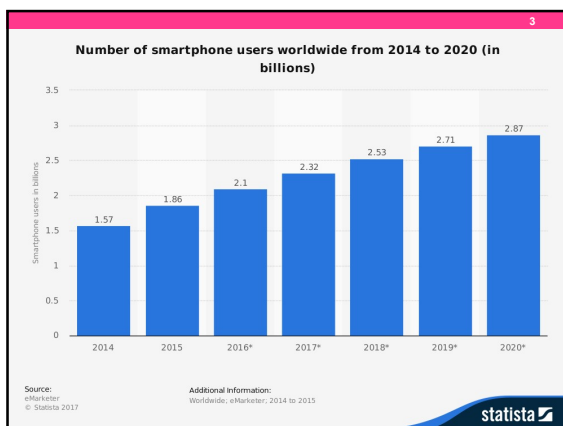
Thilini Weerasuriya  
Dept. of Interdisciplinary Studies  
Faculty of Information Technology  
University of Moratuwa

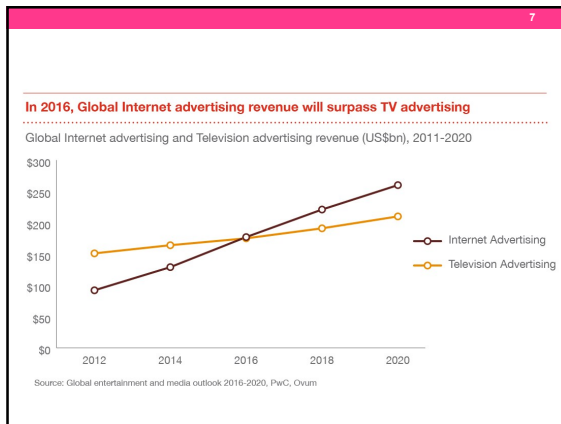
**Source:**  
Laudon, K. and Laudon, J., 2016,  
Management Information Systems: Managing the Digital Firm,  
Thirteenth Edition, Prentice Hall

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**The Role of Information Systems in Business Today**

- How information systems are transforming business:
  - Mobile digital platform
  - Systems used to improve customer experience, respond to customer demand, reduce inventories, and more
  - Growing online newspaper readership
  - Expanding e-commerce and Internet advertising

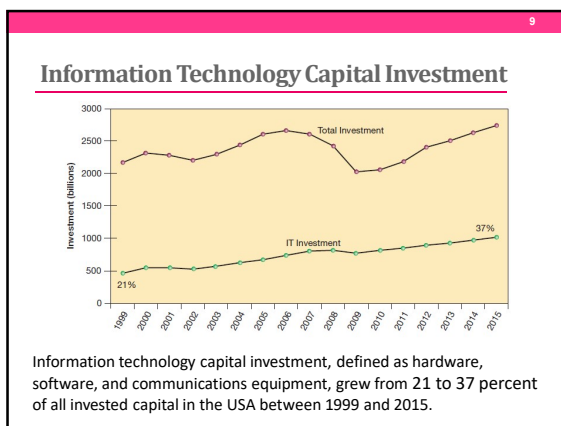




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### The Role of Information Systems in Business Today

- **Increased globalization**
  - Globalization: The development of an increasingly integrated global economy
  - Internet has drastically reduced costs of operating on a global scale
- **Discussion Question:**
  - What are the opportunities and challenges of globalization for developed countries and developing countries?



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### The Emerging Digital Firm

- **In a digital firm:**
  - Significant business relationships are digitally enabled and mediated.
  - Core business processes are accomplished through digital networks.
  - Key corporate assets are managed digitally.

With customers, suppliers, and employees

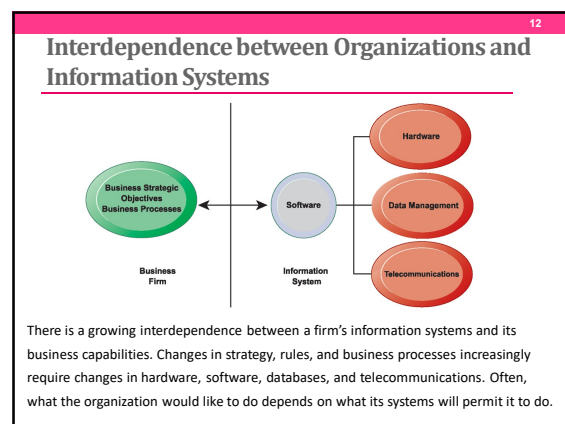
Intellectual property, core competencies, and financial and human assets

The set of logically related tasks and behaviours in an organization, that produce specific business results

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### The Emerging Digital Firm

- **Advantages of digital firms over traditional firms:**
  - Rapid sensing of and response to environment
  - Greater flexibility in organization and management
  - "Time shifting" and "space shifting"
- **Discussion:**
  - Why is a digital firm more likely to benefit from globalization than a traditional firm?
- **Homework:**
  - Find examples of digital firms and how they operate



### Strategic Business Objectives of Information Systems

1. Operational excellence
2. New products, services, and business models
3. Customer and supplier intimacy
4. Improved decision making
5. Competitive advantage
6. Survival

### Strategic Business Objective: Operational Excellence

- Improvement of efficiency to attain higher profitability
- Information systems and technologies are important tools in achieving greater efficiency and productivity
- *Example:* Walmart's Retail Link system links suppliers to stores for a superior replenishment system
- **Discussion:** Will efficiency simply increase when an organization installs a new information system? (i.e. no other changes to the organization are made)

### Strategic Business Objective: New Products, Services, and Business Models

- **Business model:** describes how a company produces, delivers, and sells products or services to create wealth
- Information systems and technology are a major enabling tool for new products, services, business models
- *Examples:*  
Apple's iPad, Uber, and Netflix

### Strategic Business Objective: Customer and Supplier Intimacy

- Serving customers well leads to customers returning, which raises revenues and profits.
- *Example:* High-end hotels that use computers to track customer preferences, which are used to monitor and customize the room environment
- Intimacy with suppliers allows them to provide vital inputs, which lowers costs.
- *Example:* The US department store chain JCPenney's information system which links sales records to their contract manufacturers

### Strategic Business Objective: Improved Decision Making

- Without accurate information:
  - Managers must use forecasts, best guesses, luck
  - Results in:
    - Overproduction, underproduction, misallocation of resources, poor response times
  - Poor outcomes raise costs, lose customers
- *Example:* US telecommunications company, Verizon's Web-based digital dashboard to provide managers with real-time data on customer complaints, network performance, line outages, etc.

### Strategic Business Objective: Competitive Advantage

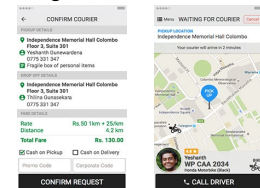
- An advantage that a firm has over its competitors, allowing it to generate greater sales or margins and/or retain more customers than its competition.
- Competitive advantage can be achieved by:
  - Delivering better performance
  - Charging less for superior products
  - Responding to customers and suppliers in real time
- *Examples:* Apple, Walmart

### Strategic Business Objective: Survival

- Information technologies as necessity of business
- Industry-level changes
  - Example: Citibank's introduction of ATMs
- Governmental regulations requiring record-keeping
  - Example: Sarbanes-Oxley Act in USA

### Discussion

- You are starting a small courier service that hand-delivers packages via employees equipped with motorbikes, within a small geographical area. Given your type of services, could your firm be a digital firm? If so, what would make this a digital firm?

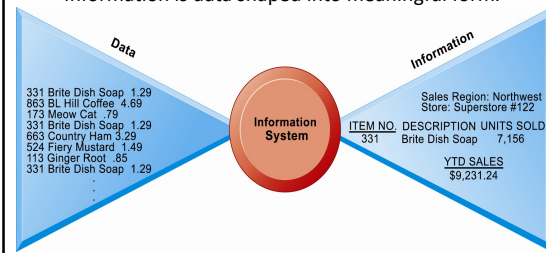


### What is an Information System?

- Information system:
  - Set of interrelated components that collect, process, store, and distribute information to support decision making, coordination, and control.
- Information systems may also help managers and workers analyze problems, visualize complex subjects, and create new products

### Data and Information

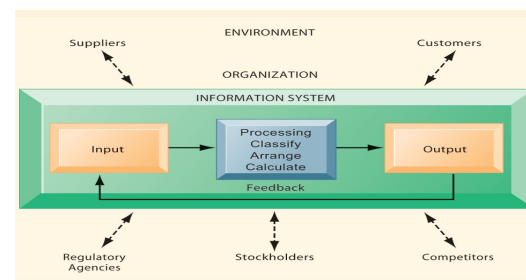
- Data are streams of raw facts.
- Information is data shaped into meaningful form.



### Functions of an Information System


- Input:**
  - Captures raw data from organization or external environment
- Processing:**
  - Converts raw data into meaningful form
- Output:**
  - Transfers processed information to people or activities that use it
- Feedback:**
  - Output that is returned to appropriate members of the organization to help evaluate or correct the input stage.

### Functions of an Information System



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### Information Systems Are More Than Computers

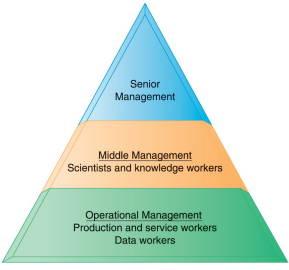


- An information system creates value for the firm as an organizational and management solution to challenges posed by the environment

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### Organizational Dimension of Information Systems

- Hierarchy of authority, responsibility



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### Organizational Dimension of Information Systems

- Separation of business functions
  - Sales and marketing
  - Human resources
  - Finance and accounting
  - Manufacturing and production
- Unique business processes
- Unique business culture
- Organizational politics

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### Management Dimension of Information Systems

- Managers set organizational strategy for responding to business challenges
- In addition, managers must act creatively:
  - Creation of new products and services
  - Occasionally re-creating the organization

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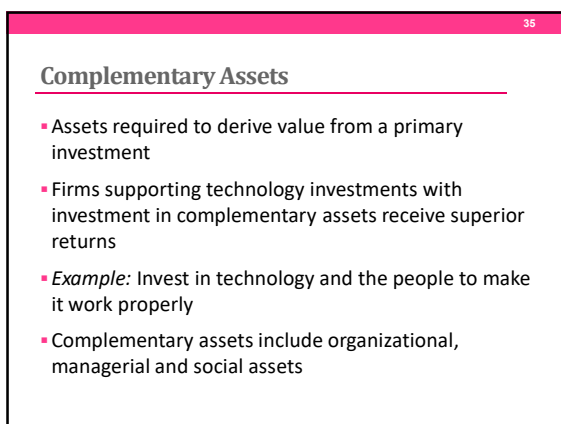
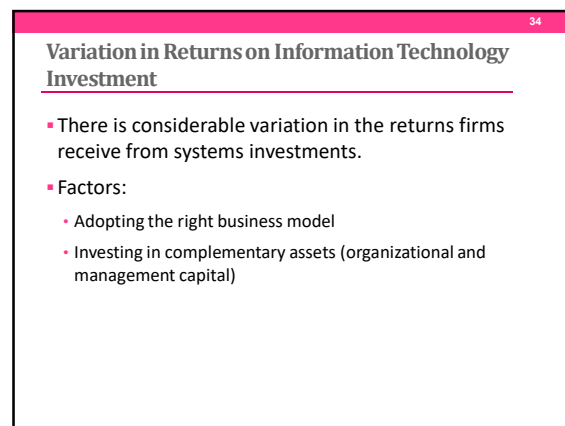
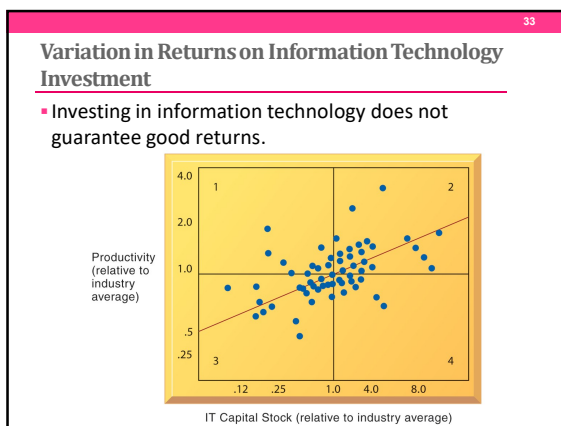
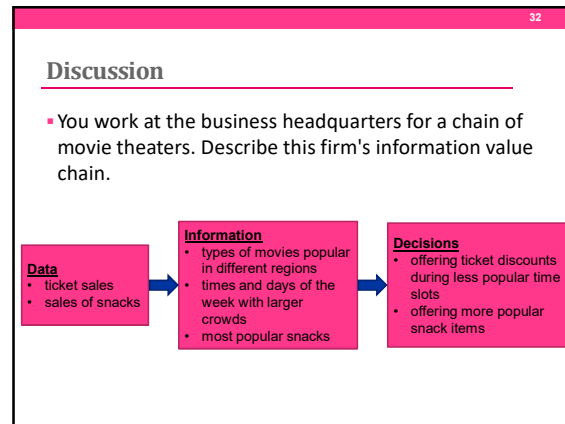
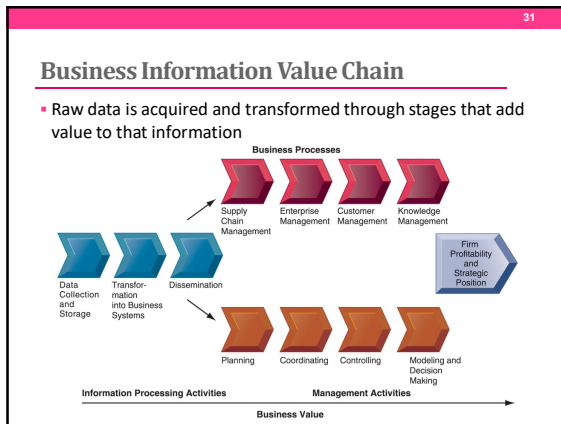
### Technology Dimension of Information Systems

- Computer hardware and software
- Data management technology
- Networking and telecommunications technology
- IT infrastructure: provides the platform that systems are built on

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### Business Perspective on Information Systems

- Information system is an instrument for creating value
- Investments in information technology will result in superior returns:
  - Productivity increases
  - Revenue increases
  - Superior long-term strategic positioning



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### Complementary Assets

- Managerial assets:
  - Strong senior management support for technology investment and change
  - Incentives for management innovation
  - Teamwork and collaborative work environments
  - Training programs to enhance management decision skills
  - Management culture that values flexibility and knowledge-based decision making

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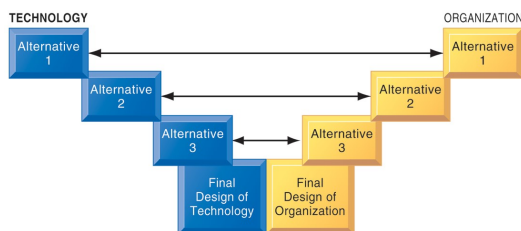
### Complementary Assets

- Social assets (Investments made by the society at large, other firms, governments, and other key market actors) :
  - The Internet and telecommunications infrastructure
  - IT-enriched educational programs raising labour force computer literacy
  - Technology standards
  - Laws and regulations creating fair, stable market environments
  - Technology and service firms in adjacent markets to assist implementation

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### A Sociotechnical Perspective on Information Systems

- In a sociotechnical perspective, the performance of a system is optimized when both the technology and the organization mutually adjust to each other until a satisfactory fit is obtained.



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### Discussion

- Information systems are too important to be designed only by computer specialists. Do you agree?
- Justify your answer in 200 - 400 words.
- Assignment on Moodle
  - Online submission of text
  - Due date: 25<sup>th</sup> April 2017

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### Summary

- Organizations are evolving into digital firms by digitally enabling their core business processes.
- Globalization has increased due to reduced costs of producing, buying and selling goods on a global scale.
- Survival and strategic goal achievement of firms in many industries is difficult without the use of information technology.

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### Summary

- Information systems collect, process, store and distribute information to support organizational functions, decision making, communication, control, etc.
- An information system provides a solution to a problem or challenge facing a firm, and represents a combination of management, organization and technology elements.
- Organizations must invest in complementary assets to obtain meaningful value from information systems.