

CIS 2010 Key Topics Exam 1

Note: This guide identifies important concepts discussed in the course. It is not intended as a list of terms but rather as a guide to major areas of CIS 2010 discussion.

The Digital Advantage

What does "digital" mean (including numbers, text, music, images, etc.)
Bits vs bytes—use in representing, storing and transmitting data
What are advantages of "digital."
Impact of Moore's Law on technol.

General systems model

What is productivity and why is it important in any organization?
Data vs. information vs. knowledge

Generations in the workplace

Job security; critical/nonroutine thinking (Chap 1)
Role of IS and IT in a "flat" world. (Do not seek to memorize Friedman's list of flatteners.)

Role of information Systems In Organizations

Operational role & impact measures
Importance of transaction processing systems
Every business transaction does what?
Productivity; Cost of transactions
Strategic role of information systems
What is "strategy?" What is corporate strategy and how does it relate to business strategy?
When is something "strategic?"

Strategic Thinking and Strategic Analysis

Business models—purpose & components
What characteristics of a firm, its products, and its future have greatest impact on its valuation by potential investors?
Commodity products & services
Value chain: role/usage in strategic analysis
Industry structure and the five forces model for analysis of an industry and its attractiveness
Competitive strategy: generic strategies for competitive advantage; competitive scope
Switching costs. Entry barriers Exit barriers
How do business strategy and business models relate to and differ from one another?

The Data World: Data-Driven Business

Relational database principles
Database vs. file vs. record
Single source of truth / facts
Information Siloes—problems caused
Objectives of managing data / of database management;
Importance to business and management of having each objective met?
Meaning and importance of data independence.
How is data independence achieved?

Relation between database management system (DBMS) and an info system. If a firm has a well-designed IS application, does it need a DBMS?

Why should managers/users be concerned about data describing persons, places, things, or events: entities and entity relationships when using (or are involved in development of) company databases?

If a firm uses **databases**, why are **data warehouses** and **data mining** sometimes needed and beneficial?
Big data; (predictive) analytics

Knowledge management: explicit vs. tacit knowledge (read in text)

Information Systems Applications (Apps)

Fundamental business barriers information systems & technology helps the firm overcome Enterprise wide vs. functional info systems
Principal types of enterprise level information systems/apps (as discussed in reading):
ERP, CRM, Supply chain management sys

Data Communication, Networking, & Mobility

Net neutrality: the principal and its purpose
Network types: LAN, WAN, backbone
Internet vs. intranet vs. extranet vs. portals
Physical vs. wireless communication channels
Internet protocol (IP) and why it is important
Packet switched networks What is a packet? Why should consumers care?
Benefits provided by 3G & 4G technologies in cellular communications/cellular networks
Connecting networks for business & commerce
Internet service providers; cable vs. DSL
How is Wi-Fi enabled/possible in a home/apartment?
Near-field communication; bluetooth; infrared
Client / server computing
Distinction between business & consumer network types (e.g.,broadband, mobile, etc.). Benefits of each.
Convergence in business & consumer networks
What does network convergence mean? What is converging? Why is this occurring? What is its significance to business and individual users?
Growth of devices connected to Internet

The chapter on ethics, assigned for background reading, is not included in this exam. Similarly, the tech. guides on hardware, software, and intelligent systems were assigned for background purposes and are not the focus of direct exam questions.

Note: The topics included here should serve as a guide to exam preparation. The list may not be exhaustive. Other topics may be included in the exam.