Lecture References

Gelanis, & Dull, *Accounting Information Systems*, 10th International Ed
- Chapter 1
- Supplementary
  - Chapter 1
Textbook Themes

1. Enterprise systems — integrate the business process functionality and information from all of an organization’s functional areas, such as marketing and sales, cash receipts, purchasing, cash disbursements, human resources, production and logistics, and business reporting (including financial reporting).

2. E-Business — use of networks to undertake business processes

3. Internal control — a system of integrated elements that provide reasonable assurance that a business will reach its business process goals

Chapter 1 Objectives

- To appreciate the complex, dynamic environment in which accounting is practiced.
- To know the AIS, its relationship to the organization’s business processes.
- To know the attributes of information.
- To recognize how information is used for different types of decisions and at various levels in the organization.
- To recognize how the information system supports the management function.
- To recognize the accountant’s role in relation to the current environment for AIS.
- To understand how to use this textbook effectively to learn AIS.

Key Terms

- Accounting information system (AIS)
- boundary
- closed system
- Data
- Decision making
- economic event
- Enterprise systems
- information
- information system
- input
- interface
- management information system
- open system
- Operations process
- Output
- Qualities of information
- subsystem
- system
- transaction
- transaction processing system
- value chain
- value system
Sarbanes-Oxley Act of 2002

- Section 404 – (as modified by PCAOB Auditing Standard No. 5)
  - Management must identify, document, and evaluate significant internal controls
  - Auditors must report on management’s assertions regarding internal controls

- Section 409 –
  - Requires disclosure to the public on a "rapid and current" basis of material changes in an organization’s financial condition.
  - Implications for both public and private accountants

The Corporations Act

- Provides for limited liability companies and their listing with ASX
  - Categorises public and proprietary companies
  - Distinguishes between small and large proprietary companies
  - Provides financial reporting and audit requirements
  - Administered by ASIC
Australian Stock Exchange - ASX

The primary role of a stock exchange is to provide and maintain a market for trading securities that is:
- fair and efficient
- well-informed
- internationally competitive
- will secure investor confidence

Australian Accounting Standards

- Developed and maintained by AASB
- AASB is also developing Framework for the Preparation and Presentation of Financial Statements (previously the Statements of Accounting Concepts (SACs))
- SACs were used to provide the framework for general purpose financial reporting
- SACs were used to develop and revise accounting standards
- Reporting entities must prepare financial accounts that comply with the accounting standards

Corporate Governance

- Manner in which organisations are controlled and governed by the board of directors
- Shareholders, directors and auditors all play important roles in corporate governance
- Directors are required to publicly disclose their corporate governance practices on:
  - risk management
  - internal controls
Other Australian regulations on business

- Industry codes of practice
- The Trade Practices Act
- Superannuation levy
- Workers compensation insurance
- Occupational health and safety
- Australian Tax Act
- Industrial Relations Act 1999

CICA's 2009 Top Ten IT Issues

1. Maintaining adequate controls during the recession
2. Maintaining security over moving data
3. Lack of effective IT governance
4. Coping with information overload
5. Impact of IFRS on Information Systems
6. Green computing
7. Security requirements of the Payment Card Industry (PCI)
8. Malicious activity by laid-off employees
9. Role of Web 2.0 applications in organizational information systems
10. Shortage of IT skills

Top 10 Technology Issues for CPAs (2009)

1. Information security management
2. Privacy management
3. Secure data file storage, transmission and exchange
4. Business process improvement, workflow and process exceptions alerts
5. Mobile and remote computing
6. Training and competency
7. Identity and access management
8. Improved application and data integration
9. Document, forms and content knowledge management
10. Electronic data retention strategy
Top 10 Technology Issues for CPAs (2012)

1. Securing the IT environment
2. Managing and retaining data
3. Managing risk and compliance
4. Ensuring privacy
5. Leveraging emerging technologies
6. Managing system implementation
7. Enabling decision support and managing performance
8. Governing and managing IT investment/spending
9. Preventing and responding to fraud
10. Managing vendors and service providers

What is an Information System?

Two Elements to consider

– INFORMATION

– SYSTEMS

A System

Is defined as;

– An organised set of principles intended to explain the working of a systematic whole;
– An organised or established procedure of operation;
– A manner of classifying, symbolising or schematising;
– Harmonious arrangement or pattern, bringing order out of confusion.
SYSTEMS IN A BUSINESS CONTEXT

SYSTEM is
- An ENTITY
- Consisting of interacting parts (sub systems)
- That attempt to achieve a multiplicity of goals

AN ENTITY
- Is a unit of accountability
- Consistent with the entity concept of accounting.

An Information System

Is an organised means of;
- collecting,
- entering,
- and processing data
- and of storing,
- managing,
- controlling,
- and reporting information
so that an organisation can achieve its objectives and goals.

Information is different from Data.

- **Data** represents observations or measurements.
- **Data** is the **input** to an information system.
- **Information** is the processed **output** that is organised, meaningful and useful to the person who receives it.
A system is a set of interdependent elements that together accomplish specific objectives.

- A subsystem is the interrelated parts that have come together, or integrated, as a single system.
Business Cycles

5 Main Cycles

- **INCOME**
  - Revenue Cycle
- **EXPENDITURE**
  - Procurement Cycle
  - Personnell/Payroll Cycle
  - Production
- **FINANCIAL MANAGEMENT**
  - General Ledger & Budgeting
Transaction Cycles (MERCHANDISING)

Transaction Cycles (SERVICE INDUSTRY)

Transaction Cycles (PRODUCTION)

Refer Ch.1 Robinson, Davis & Alderman et. al.
Types Of Information Systems

Several ways of classifying Information Systems
- MANAGEMENT INFORMATION SYSTEMS
- ACCOUNTING INFORMATION SYSTEMS
- DECISION SUPPORT SYSTEMS
- EXECUTIVE SUPPORT SYSTEMS
- EXPERT SYSTEMS
- OFFICE AUTOMATION SYSTEMS
- END-USER SYSTEMS

ACCOUNTING INFORMATION SYSTEM
FINANCE INFORMATION SYSTEM
PERSONNEL INFORMATION SYSTEM
PRODUCTION INFORMATION SYSTEM
SALES/MARKETING INFORMATION SYSTEM
MANAGEMENT INFORMATION SYSTEM

Information System Model

An information system (IS) or management information system (MIS) is a manmade system that generally consists of an integrated set of computer-based and manual components established to collect, store, and manage data and to provide output information to users.

- The Figure on the next slide depicts the functional components of an information system.
The Accounting Information System (AIS)

- Accounting information system (AIS) is a specialized subsystem of the IS.
  - Collect, process and report information related to the financial aspects of business events.
  - Often integrated and indistinguishable from the overall information system.
  - Like the IS, the AIS may be divided into components based on the operational functions supported. Components are called **business processes** or **AIS subsystems**.

Three Business Process Components

- **Information process**: portion of the overall IS related to a particular business process.
- **Operations process**: man-made system consisting of the people, equipment, organization, policies, and procedures whose objective is to accomplish the work of the organization.
- **Management process**: man-made system consisting of the people, authority, organization, policies, and procedures whose objective is to plan and control the operations of the organization.
Comparison of Manual and Automated Systems

#### Manual Accounting Cycle
<table>
<thead>
<tr>
<th>Journalize</th>
<th>Input</th>
<th>Process</th>
<th>Post</th>
<th>Summarize</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record the sales data (input from the sales journal)</td>
<td>Record the sales data (input from the sales event data)</td>
<td>Record the sales data (input from the sales event data)</td>
<td>Post each entry from the sales journal to the customer subsidiary ledger</td>
<td>Prepare a trial balance</td>
</tr>
</tbody>
</table>

#### Automated Accounting Cycle
- Two entries are made on the books of original entry, one for the credit sale and one for the journal entry.
- Smith’s AR balance is decreased by $75 and his balance is increased by $30.
- The sales account and the AR control account are each increased by $125.
- The debit and credit balances in each journal record are found.

Components of Business Process

1. Management hires personnel and establishes the means for accomplishing the work of the organization.

2. Management establishes broad marketing objectives and assigns sales quotas to measure progress toward the long-run objectives. Management also designs the IS procedures for facilitating operations, such as the procedures used to pick and ship goods to the customer.
3. The IS receives the customer’s purchase order.

4. The IS acknowledges the customer’s purchase order (send order acknowledgement).

5. The IS sends a request to ship goods to warehouse. This request identifies the goods and their location in the warehouse.
6. A document (i.e., a packing slip) identifying the customer and the goods is attached to the goods.

7. Goods are shipped to customer.

8. The shipping department reports to the IS that the goods have been shipped.
Components of Business Process

9. The IS prepares an invoice and sends it to the customer.

Components of Business Process

10. The IS sends management a report comparing actual sales to previously established sales quotas.

Qualities Of Good Information

• UNDERSTANDABILITY
• RELEVANCE
• RELIABILITY
• VALIDITY
• PREDICTIVE VALUE/FEEDBACK VALUE
• ACCURACY
• COMPLETENESS
• VERIFIABILITY
• NEUTRALITY OR FREEDOM FROM BIAS
• COMPARABILITY
Good Information

Other issues relating to useful information are:

- REPRESENTATIONAL FAITHFULNESS;
- NEUTRALITY;
- RECOGNITION;
- FLEXIBILITY;
- CLASSIFICATION;
- NATURE AND MAGNITUDE;
- STANDARD TERMS;
- SUBSTANCE OVER FORM;
- PRUDENCE (CARE);
- MATERIALITY TEST

Information Qualities

For details on the qualitative characteristics of accounting information refer to:

- SAC3 Qualitative Characteristics of Financial Information – (now superseded)
- Accounting Framework AASB CF 2013-1 -- Amendments to the Australian Conceptual Framework
  – Chapter 3
**Information Qualities Control Matrix**

<table>
<thead>
<tr>
<th>Information Qualities</th>
<th>Presence</th>
<th>Effectiveness (Flawlessness)</th>
<th>Validity</th>
<th>Complement</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process 1</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process 2</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process 3</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Process n</td>
<td>✓</td>
<td></td>
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</tr>
</tbody>
</table>

**Management Decision Making**

**Intelligence:**
Searching the environment for conditions calling for a decision.

**Design:**
Inventing, developing, and analyzing possible courses of action.

**Choice:**
Selecting a course of action.


**Steps in decision making**

- **Intelligence:**
  - Environmental info
  - Organizational info
  - Info related to possible courses of action

- **Design:**
  - Decision situations
  - Alternatives
  - Info about outcomes of possible courses of action

- **Choice:**
  - Selected courses of action

To simplify feedback loops have been omitted.
Horizontal flows relate to specific business events, such as one shipment, or to individual inventory items.
- the information moves through operational units such as sales, the warehouse, and accounting.

Vertical Flows relate to the flow of information to and from strategic management through tactical management, operations management, and operations and transaction processing.

Higher up the pyramid, the less structured the decision
- Less defined
- External orientation
- More summarized information
- Future oriented
- Less frequent
- Less accurate

Lower down the pyramid, the more structured the decision
- More defined
- Internal orientation
- More detailed information
- Historical
- More frequent
- More accurate
Role of Accountants

- **Users**
- **Evaluators**
- **System Designers**
- **Assurance Providers**
  - A service similar (but not the same as) to auditors
  - Accounting firms increasingly providing this service

What Skills are required of Accountants?

**Generic**
- **Numeracy** - Using numbers and mathematics to solve problems.
- **Active Listening** - Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
- **Writing** - Communicating effectively in writing as appropriate for the needs of the audience.
- **Reading Comprehension** - Understanding written sentences and paragraphs in work related documents.
- **Critical Thinking** - Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
- **Speaking** - Talking to others to convey information effectively.
- **Time Management** - Managing one's own time and the time of others.
- **Information technology expertise** - Accounting and technology job skills go hand in hand.

**Specifically This Unit**
- **Judgment and Decision Making** - Considering the relative costs and benefits of potential actions to choose the most appropriate one.
- **Complex Problem Solving** - Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
- **Active Learning** - Understanding the implications of new information for both current and future problem-solving and decision-making.
- **Systems Analysis** - Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
- **Coordination** - Adjusting actions in relation to others’ actions.
- **Systems Evaluation** - Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.
- **Operations Analysis** - Analysing needs and product requirements to create a design.
What Skills are required of Accountants?

**Monitoring** - Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

**Social Perceptiveness** - Being aware of others' reactions and understanding why they react as they do.

**Service Orientation** - Actively looking for ways to help people.

**Negotiation** - Bringing others together and trying to reconcile differences.

**Learning Strategies** - Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.

**Management of Personnel Resources** - Motivating, developing, and directing people as they work, identifying the best people for the job.

**Persuasion** - Persuading others to change their minds or behavior.

**Instructing** - Teaching others how to do something.

Knowledge required of Accountants

**Computer Literacy**

- Knowing About Computer Hardware and Software
- Knowing What Software Tool to Use
- Knowing When to Use a Software Tool
- Have a Feel for Accounting Transaction Processing: (the Concepts of Files, Transaction Updates, Editing, Reporting, Systems Design and Analysis and Documentation) Not Strictly Limited to Computers but Emphasising Computers

IT Knowledge required of Accounting Graduates

**Operating Systems**

- Hardware
- Database Management
- Transfer of Data Between Programs
- Networking
- PC-Mainframe Links
- Systems Analysis & Design

- General Ledger & Integrated Systems
- Accounting & Desktop Application Software
- Electronic Commerce Applications
- Structured Documentation Tools and Techniques
- Business Systems and Control Frameworks
Accounting Software Tools

- Accounting Software
- Income Tax Software
- Audit Software
- Spreadsheets
- Data Bases
- Word Processing
- Desktop Publishing
- Graphics Software
- Flowcharting Software
- Image Processing
- Desktop Organisers
- Project Management Systems
- Decision Support Systems
- Expert Systems and Artificial Intelligence
- Communications and Networking Software

Benefits to Accountants

Increased Productivity

- Better planning/analysis through 'what-if' modeling
- Decision support
- Reduction in clerical activities

Checkpoints

- What is a system?
- What are the characteristics of a system?
- Differentiate between data and information.
- What are the characteristics of useful information?
- Differentiate between a system and a subsystem.
- What is a system interface? How does it differ from a system boundary?
- What are the usual subsystems of an accounting information system?
- What is your understanding of open systems and closed systems
- What is a value chain? How is it related to a value system?
- What are the value-adding activities of an organisation?
- What are the different types of decisions made in an organisation?
- What is your understanding of inbound logistics and outbound logistics?