

ICT Fundamentals, Information Systems, and

Topic 1: ICT Fundamentals, Information

Systems, and Digital Literacy

1. Introduction & Learning Outcomes

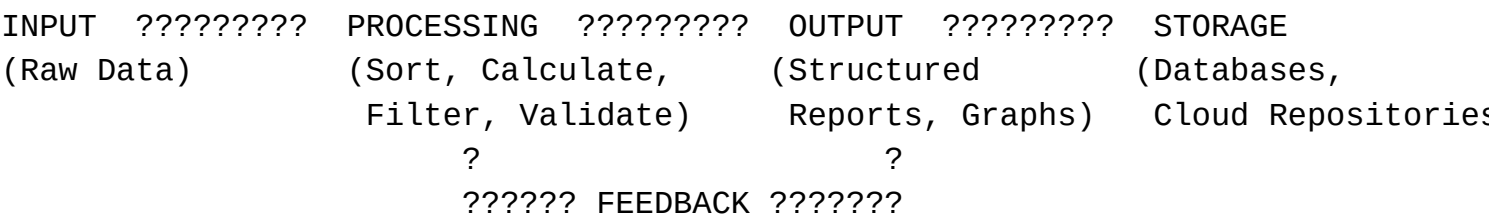
In contemporary commerce, Information Communication Technology (ICT) is not merely a support tool; it is the fundamental operational infrastructure of modern business. For professional accountants and finance executives, digital literacy is required to extract audit evidence, operate automated enterprise resource planning (ERP) systems, and maintain data governance.

Learning Outcomes

By the end of this study session, candidates should be able to:

1. Define ICT and distinguish between raw data, information, and business intelligence.
2. Identify the characteristics of valuable, decision-useful information.
3. Analyze the five components of a Computer-Based Information System (CBIS).
4. Classify organizational information systems by management hierarchy (TPS, MIS, DSS, ESS).
5. Evaluate the digital competencies required of modern accountants in Kenya.

2. Data vs. Information: The Information Processing Cycle



2.1 The Data-Information-Knowledge-Wisdom (DIKW) Hierarchy

- **Data:** Unprocessed facts (e.g., 45000, 2026-10-14, INV-891).

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- **Information:** Processed data with context (e.g., "Invoice #891 of KSh 45,000 issued on 14 October 2026 is 30 days overdue").
- **Knowledge:** Understanding patterns and applying expertise (e.g., "This client routinely delays payment until receiving a formal statutory demand notice").
- **Wisdom / Intelligence:** Strategic foresight (e.g., "Adjust credit terms for high-risk debtor categories to protect cash flow").

2.2 Qualitative Characteristics of Good Information (ACCURATE Model)

- **A - Accurate:** Free from material computational or input errors.
 - **C - Complete:** Contains all vital parameters required for a sound decision.
 - **C - Cost-effective:** The benefit derived from the information must exceed the cost of obtaining it.
 - **U - Understandable:** Clear formatting, free from unnecessary jargon.
 - **R - Relevant:** Pertinent to the specific problem being addressed.
 - **A - Accessible:** Readily available to authorized decision-makers when needed.
 - **T - Timely:** Produced within the timeframe where it can still influence outcomes.
 - **E - Easy to use:** Logical presentation.
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3. Computer-Based Information Systems (CBIS)

A CBIS consists of five interdependent components:

1. **Hardware:** Physical computer machinery, processors, memory, and networking gear.
 2. **Software:** Programs and operating systems that instruct hardware.
 3. **Data:** The digital facts stored in tables, files, and databases.
 4. **People:** End-users, system analysts, programmers, and database administrators.
 5. **Procedures:** Operating manuals, backup protocols, security standards, and IT governance rules.
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4. Organizational Hierarchy of Information Systems

STRATEGIC LEVEL (Long-term Planning)	[Executive Support Systems (ESS)] Board & C-Suite: Trend analysis & competitive intelligence ?
TACTICAL LEVEL	[Management Information Systems (MIS) / DSS]

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(Medium-term Control) Department Heads: Budget variance, regional sales data

Digital Literacy

OPERATIONAL LEVEL

[Transaction Processing Systems (TPS)]

(Daily Execution)

Clerks & Front-line: Payroll, M-Pesa point-of-sale,

5. Key Takeaways & Exam Summary

1. **Processing Transforms Data:** Raw data is converted into actionable information via the input-processing-output-storage cycle.
2. **ACCURATE Benchmark:** Evaluate business reports against accuracy, completeness, cost-effectiveness, and timeliness.
3. **Systems Alignment:** TPS captures transactions, MIS/DSS facilitates middle management control, and ESS drives executive strategy.