

ICT Concepts and the Role of Information Systems

Topic 1: ICT Concepts and the Role of Information Systems

1. Introduction & Learning Outcomes

Information Communication Technology (ICT) powers contemporary commerce. At the Accounting Technicians Diploma (ATD) level, practical mastery of computer hardware, office productivity tools, spreadsheets, and digital accounting systems is a core requirement for employment.

Learning Outcomes

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

1. Define ICT and explain the difference between data, information, and knowledge.
 2. Identify the five fundamental components of a Computer-Based Information System (CBIS).
 3. Compare manual bookkeeping systems with computerized accounting systems.
 4. Evaluate how ICT enhances speed, accuracy, and customer responsiveness in business.
 5. Identify common ICT challenges faced by small and medium-sized enterprises in Kenya.
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2. Data, Information, and Business Knowledge

DATA (Raw Facts) ??? PROCESSING (Sort, Calculate) ???

INFORMATION (Context) ??? KNOWLEDGE (Action)

e.g., "5000, 2026-10" Format, sum monthly totals "October sales dropped"

- **Data:** Raw, unorganized facts without context (e.g., numbers on receipts).
 - **Information:** Data structured to convey meaning and support decision-making.
 - **Knowledge:** Actionable insights derived from analyzing information patterns over time.
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3. Manual vs. Computerized Accounting Systems

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Evaluation Criterion	Systems	
	Manual Accounting System	Computerized Accounting System
Recording Speed	Slow; manual entry into paper journals and ledgers.	Fast; automated data entry and instant posting.
Arithmetic Accuracy	Vulnerable to human casting and calculation errors.	100% computational accuracy; debits always equal credits.
Financial Statements	Laborious manual compilation at month/year end.	Instant one-click generation of Trial Balance, P&L, and Balance Sheet.
Storage & Security	Bulky physical paper files; vulnerable to fire/water damage.	Compact digital storage with encrypted cloud backups.
Audit Trail	Erasures and missing pages can be hard to track.	Automated, tamper-resistant digital audit logs.

4. Key Takeaways & Exam Summary

1. **System Components:** Hardware + Software + Data + People + Procedures work together as a system.
2. **Computerization Frees Time:** Automation shifts the technician's role from manual ledger writing to analysis and verification.
3. **Training is Crucial:** Successful ICT adoption requires investing in staff training alongside hardware purchases.