

14. IT IN THE PROFESSIONAL SPHERE



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14.1. Defining IT

14.1. Defining IT

14.2. Importance of IT



What is IT? (1)

- Information Technology (IT) is often misunderstood
 - ▣ People use IT as a generic term to refer to various kinds of computer-related work
 - ▣ IT has become a catch-all phrase for any job that works with computers
 - ▣ Some consider software developers to be IT workers while others consider them engineers

What is IT? (2)

- Information technology (IT) is the **use of computers to store, retrieve, transmit, and manipulate data, or information**, often in the context of a business or other enterprise.
- IT is considered to be a subset of information and communications technology (ICT).

Distinguishing IT from ICT

- IT and ICT have many similarities
 - ▣ ICT is a European term that is often synonymous with IT
 - ▣ North America and Asia favor the term IT
- IT focuses on **information** (storing, transmitting, etc.)
 - ▣ IT assumes communication
- ICT focuses on the **communication** aspect using telecommunications

IT Characteristic (1): Data Storage

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- **Stored information is data**
 - ▣ Stored on various physical media, such as hard drives
- IT stores the data in an organized manner
 - ▣ Databases
 - ▣ Filesystems



IT Characteristic (2): Data Retrieval

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- Retrieving data on demand
- Languages, such as SQL retrieve specific data from databases
- Meaningful data becomes information



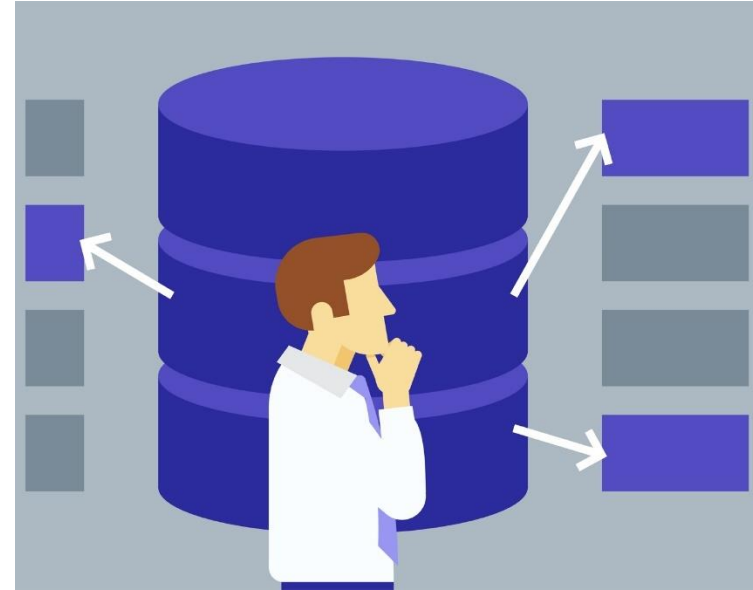
IT Characteristic (3): Data Transmission

- Data transmission has three aspects
 - ▣ Transmission – Sending data
 - ▣ Propagation – Distributing data from one data source to other data sources
 - Data is not all stored in the same location
 - The same data is accessible in various locations
 - ▣ Reception – Receiving data

IT Characteristic (4): Data Manipulation

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- The process of changing data to make it easier to read or better organized.
 - ▣ Sorting data alphabetically
 - ▣ Summarizing data
 - ▣ Generating reports with specific data



What do you think?

- Is IT a subset of ICT?
 - ▣ Does IT have a lesser focus on communication?
- Does ICT extend IT by adding a telecommunication component?
 - ▣ Does ICT have a lesser focus on information?
- Are they the same thing just different terms?
- Or, are the two fields different?

IT Work

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- Those who work in IT:
 - ▣ Manage the systems required for organizations, businesses, or clients to store, retrieve, transmit, and manipulate data.



IT Department Primary Job

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- To keep the company or organization running
- Companies are built on IT infrastructure
 - ▣ Networks, servers, computers, software, etc.



IT Department Core Functions

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- ❑ Stores the data
- ❑ Protects the data
- ❑ Provides technical support
- ❑ Ensures connectivity
- ❑ Keeps technology current in the organization
- ❑ And many more...



14.2. Importance of IT

14.1. Defining IT

14.2. Importance of IT



Many Sectors Rely on IT

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- Many sectors are built around information technology.
- Even if information is not a sector's primary business (e.g., construction, transportation, delivery, beauty, etc.), they still need to work with their business information (e.g., client data, finance).



The Importance of IT

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- Information technology is vital to many sectors and professions
 - Business
 - Education
 - Finance
 - Healthcare



Importance of IT in Business (1)

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- Companies use information technology to ensure that their business operations run smoothly.
 - ▣ Computers, business software, networks, etc.



Importance of IT in Business (2)

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- Businesses use information technology in different departments, such as human resources, finance, manufacturing, and security.



Uses of IT in Business

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- Help keep up with supply and demand
- Financial transactions
- Knowledge about markets and customers
- Connecting with customers



Importance of IT in Education (1)

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- We live in a changing world with a reliance on IT.
- ▣ Using IT for teaching and learning keeps education relevant to the workforce and equips students with IT-related skills.



Importance of IT in Education (2)

- IT is important in education because it
 - ▣ Improves skills, such as problem solving and self-learning
 - ▣ Increases collaboration and interaction
 - Students can work together easier using cloud computing
 - ▣ Increases access to information through digital resources
 - ▣ Opens up new ways of teaching and learning

Uses of IT in Education

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- ❑ Online learning
- ❑ Collaborative learning
- ❑ Learn using cloud computing
- ❑ Access to online resources
- ❑ Student records
- ❑ Online grades



Importance of IT in Finance (1)

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- Banks are an essential industry in our world
- All other industries rely on the electronic services of the financial sector



Importance of IT in Finance (2)

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- Information technology makes it possible to manage and transfer money electronically
- Today's economies are based on the seamless and electronic transfer of money



Uses of IT in Finance

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- ❑ Electronic payment of goods
- ❑ Electronic transfer of money
- ❑ Borrowing or lending funds
- ❑ Online commerce
- ❑ Adds security to financial transactions



Importance of IT in Healthcare (1)

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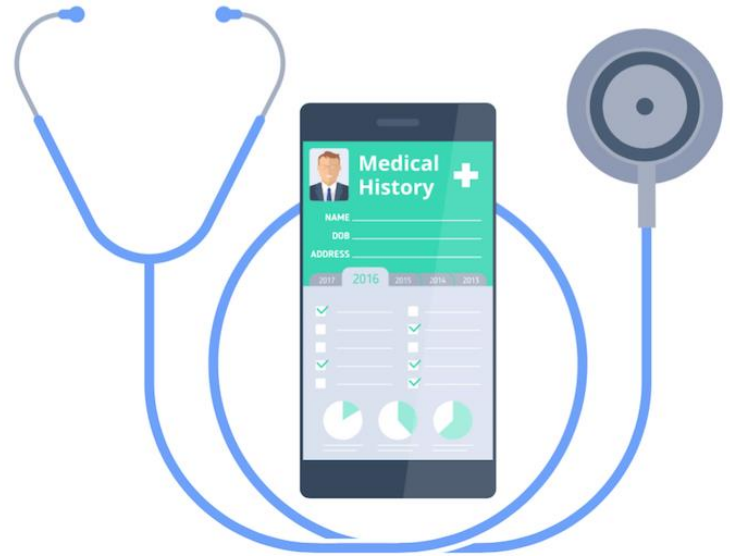
- Improves the quality of healthcare delivery, increases patient safety, decreases medical errors, and strengthens the interaction between patients and healthcare providers.



Importance of IT in Healthcare (2)

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- ❑ Improves hospital efficiency by accessing electronic medical records
- ❑ Provide better care for patients by knowing the patient's medical history



Uses of IT in Healthcare

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- ❑ Universal access to patient records
- ❑ Medical staff have access to latest research on how to diagnose and treat patients
- ❑ Computerized analysis and reporting
- ❑ Storing digital imaging (MRI)
- ❑ Artificial Intelligence

