UNIT 2 LO1 KNOWLEDGE ORGANISER

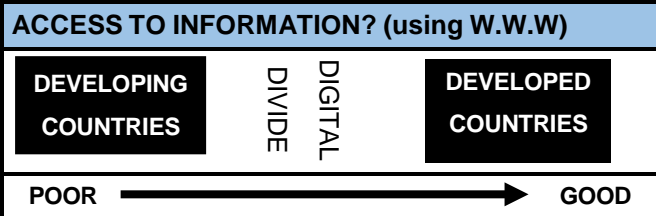# Understand where information is held globally and how it is transmitted

1.1 HOLDERS OF INFORMATION

Categories of holders (individual citizens, businesses, educational institutions, governments, charities, healthcare services and community organisations)

Location (e.g. developing country, developed country, urban, rural, home, workplace)

Comparison of technologies available and access issues across the global divide (e.g. between developed and developing countries)

Citizens	Date of birth, address, phone number
Businesses	Payroll, financial data, sales info
Educational	Results, pupil & teacher details
Governments	Population, employment data, taxes
Charities	Donor info, amount raised
Healthcare	Contact details, medical records
Community	Contact details etc.

RURAL – poor infrastructure, slow speed

URBAN – built-up areas with better infrastructure

ACCESS TO INFORMATION? (using W.W.W)

DEVELOPING COUNTRIES — DIGITAL DIVIDE — DEVELOPED COUNTRIES

POOR ⟶ GOOD

1.2 TYPES OF INFORMATION STORAGE

Paper (e.g. forms, handwritten notes, maps, telephone directories)

Optical media (e.g. CD and DVD)

Magnetic media (e.g. magnetic hard drives and tapes)

Solid state media (e.g. SSD hard drives, memory cards)

- characteristics
- purpose
- advantages and disadvantages

	PAPER	**ELECTRICAL**	**OPTICAL**	**MAGNETIC**
	Note, map, memo, form	Solid Sate Drive, SD Card	CD ROM, DVD, Blu-ray	Hard Disk, Tape
ADV	Convenient No tech needed	Robust High-speed data transfer	Inexpensive Portable	High capacity Cheaper than SSD
DISADV	Easily lost/ damaged	Lower capacity than magnetic Expensive	Not robust Storage limited Needs a drive	Not robust Slow data transfer

1.3 TYPES OF INFORMATION ACCESS AND STORAGE DEVICES

Handheld device (e.g. small tablet, smart phone, wearable device, eBook readers)

Portable devices (e.g. laptop, large tablet)

Fixed devices (e.g. desktop computer, smart TV, games consoles)

Shared devices (e.g. database server, data centre, cloud storage devices)

Characteristics

- purpose
- advantages and disadvantages

MULTI-USER SUPPORT?

SECURITY?

COST?

Choosing a device

PORTABILITY?

VERSATILITY?

CONNECTIVITY?

1.4 THE INTERNET

**a network of interconnected networks,** spanning the world

internet connections

type (e.g. copper-cable, optical-fibre, satellite, microwave, mobile data networks)

characteristics (e.g. speed, range (distance), storage capacity)

INTERNET = " *A Network of networks*"

Connection Method		Speed	Range/ Distance	Storage capacity
	Copper Cable	✓	✓	✓
	Fibre	✓✓✓✓	✓✓✓	✓✓✓✓
	Satellite	✓✓✓	✓✓✓✓✓	✓✓✓
	Microwave	✓✓	✓✓	✓✓
	Mobile data	✓✓✓✓	✓✓✓✓	✓✓✓
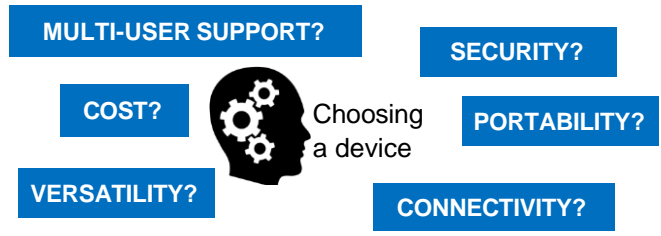
1.5 WORLD WIDE WEB TECHNOLOGIES

types of networks that use www software:

internet (e.g. public, open access)
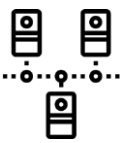
intranet (e.g. private, closed access)

extranet (e.g. private, part shared access)

comparison of networks (e.g. suitability for given uses, issues related to access to the network)

◆ characteristics of networks

◆ purpose of networks

The internet is a giant network of networks; access available to all via an **internet service provider**

An **intranet** is a private, internal network which is only available to people within an organisation and is not connected to the internet..
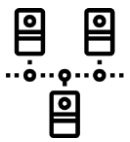
An **extranet** is an intranet that allows some users outside of the organisation to connect to it via the internet.

Organisations have to consider a range of factors when choosing networking solutions. i.e. Who will access the data? What will the network be used for?

1.7 ADVANTAGES

for individuals (e.g. speed of personal communication, easy access to large amounts of information for research, access to internet banking 24/7) •

for organisations (e.g. share large amounts of information quickly between different countries; charity websites accepting donations 24/7)

Access to the internet has made many things possible; i.e. communication over long distances, through the use of email, electronic messaging and video calling. Individuals have a vast array of services available through the internet - from banking and paying pills to booking an eye test.

Not only does the internet allow information to be shared quickly, but it makes it possible for organisations to operate on different sites (and even in different countries) . Businesses can remain constantly "open" due to ecommerce websites.

1.6 INFORMATION FORMATS

Webpages (static and dynamic)

Blogs

Podcasts

Streamed audio and video (e.g. internet radio, catch-up TV)

Social media channels (e.g. Twitter, LinkedIn, discussion boards)

Document stores (upload and download)

RSS feeds

◆ purpose

◆ accessibility

WEB-PAGES:

Dynamic (refreshes on reload) or **static** (content doesn't change)

BLOGS:

Can be written by individuals or organisations

Hosted online

Often "themed" i.e. tech, fashion

PODCASTS:

Can be audio or video

Downloadable for mobile devices

STREAMING:

Music/video/catch-up TV

High bandwidth needed

DOCUMENT STORAGE:

Online (i.e. Dropbox/Google Drive/iCloud)

Can be accessed anywhere (as long as there is an internet connection)

SOCIAL MEDIA:

Used by individuals or companies;

Also includes forums, discussion boards

RSS:

Needs a "reader" to subscribe to feeds

Short updates of news and info

1.8 DISADVANTAGES

for individuals (e.g. potential for identity theft, cost of data connection)

for organisations (e.g. threats caused by malicious attacks, cost of maintaining websites and data stores)

A fast internet connection is expensive. In addition services like web-hosting and online stay may have limited free provision, and would require monthly or annual payment.

A range of threats exist when data is shared/ accessed online; for example, ID theft, DDOS attacks, phishing, data theft, trolling & cyberbullying.