UNIT 2 LO3 KNOWLEDGE ORGANISER

Understand the use of global information and the benefits to individuals and organisations

3.1 DATA VERSUS INFORMATION

Data - raw, unorganised facts that needs to be processed

Information - data which is processed, organised and structured into a meaningful context.

Data does not become **information** until a context is applied to it

2020 → PRODUCTS? POUNDS? EMPLOYEES? PROFIT? YEAR? CUSTOMERS?
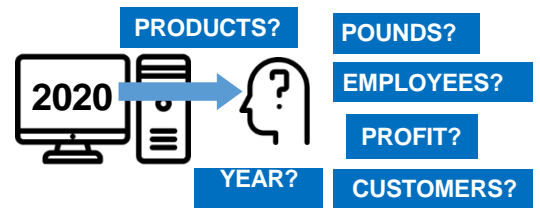
CATEGORIES OF INFORMATION USED BY

3.2 INDIVIDUALS

Communication (e.g. to send an email to a relation living overseas)

Education and training (e.g. by a student to check their current grades on a hand written feedback sheet from their teacher)

Entertainment (e.g. to read a film review in a magazine)

Planning (e.g. to use a shared electronic diary to arrange meeting dates)

Financial (e.g. to use a bank statement to help plan saving for a holiday)

Research (e.g. to look up a recipe online)

Location dependent (e.g. to search for emergency dental care when on holiday)

Benefits and limitations

Communication could include the use of email, SMS, etc.

Educational info could include course materials, textbooks, feedback, reports or progress checks.

Entertainment comes in many forms; ebooks, magazines, online TV/audio/video, video games etc.

Tools like Google Calendar, Google Drive, Microsoft Teams/Outlook make collaboration and **planning** easier

Financial information can be in paper form or organised in spreadsheets or budgeting apps

Research can be carried out using search engines, product review or e-commerce sites.

Location dependent information could include travel directions. The user needs to give an application permissions to access the location of the device.

Consider.. Even though technology can be used to access information in all categories, there are both pro's and con's of doing so.

CATEGORIES OF INFORMATION USED BY

3.3 ORGANISATIONS

Knowledge management and creation (e.g. to create an accurate model of key markets)

Management information systems (MIS) (e.g. to monitor staff training in a hospital; the location and contact details of each charity worker in a disaster area; personnel record of all staff)

Marketing, promotion and sales (e.g. to identify patterns or trends in sales figures)

Financial analysis and modelling (e.g. to determine the top selling products; cash flow each week over a year)

Contact management (e.g. to keep track of appointments at a doctor's surgery)

Decision making (e.g. to decide the number of tents to be sent to a disaster area by a charity; the percentage of faulty items made each month by a manufacturer)

Internal and external communication (e.g. to inform all staff of office closures over the Christmas period)

Big data, i.e. any data that is either too large or too complex for traditional data analysis techniques to be used, e.g. the annual web clicks of a major online retailer, health data on the population of an entire country

Benefits and limitations

Data and information drives everything that an organisation does.

It is important to understand:

- The differences between INTERNAL and EXTERNAL communication

- What is meant by BIG data

- What a MIS does

- Pro's and con's of EACH

Consider.. Can you give relevant, real world examples from each category of information?

3.4 STAGES OF DATA ANALYSIS

Identify the need (e.g. what information is needed? what do we want to find out?)

Define scope (e.g. content, detail, timescales, constraints)

Identify potential sources (e.g. sales figures, customer surveys)

Source and select information (e.g. determine accuracy and reliability of sources, selecting the best)

Select the most appropriate tools (e.g. charts, graphs, regression, trend analysis)

Process and analyse data (e.g. set up a spreadsheet to produce a graph)

Record and store information (e.g. write a report based on the results of the processing)

Share results (e.g. send the report to stakeholders)

DATA ANALYSIS KEY TERMS

TERM	EXPLANATION	EXAMPLE
PRIMARY SOURCE	The information does not exist yet and must be	Survey, poll, focus group
SECONDARY SOURCE	The information exists already	Internet, marketing report, census
QUALITATIVE DATA	Data collected about opinions and reasons	Opinions on the taste of a new breakfast cereal
QUANTATIVE DATA	Numerical data	Increase in sales data from one year to the next

3.5 DATA ANALYSIS TOOLS

Data tables (e.g. a database table of patients)

Visualisation of data (e.g. a pie chart showing sales of five leading trainers)

Trend and pattern identification (e.g. a line graph of last year's sales per month)

Data cleaning (e.g. removing customers who have not made a purchase in the last two years)

Geographic information system/location mapping (e.g. tracking the movement of shipping containers around the world)

LINE – CHARTS

Line charts are used to track trends of RELATED data over time. (i.e. rainfall during a season)

PIE - CHARTS

More suited to comparing different parts of a whole set of data (i.e. the different devices used to access a website)

DATA CLEANING

Ensures that data is relevant and up to date.

Organisations may do periodic data checks to ensure accuracy (i.e. schools confirm pupil

GEOGRAPHIC INFORMATION SYSTEMS

Includes services such as parcel tracking

Delivery time/dates are shared with customers

Happens in real-time (i.e. DHL)

3.6 INFORMATION SYSTEM STRUCTURE

Open systems

Closed systems

Characteristics

Benefits and limitations

An **information system** is a combination of hardware, software, infrastructure and trained personnel organised to facilitate decision making in an organisation

Consider.. What factors should a firm bear in mind when deciding whether to make use of an open or closed information system?

INFORMATION SYSTEMS

	OPEN SYSTEMS	CLOSED SYSTEMS
DESCRIPTION	A system which interacts with additional instructions and data from other departments, individuals or	A system which is "self contained" and does not interact with any "outside" agencies
EXAMPLE	SIMS (used in schools)	R&D department in a company
BENEFITS	Can make use of new ideas/methods	Secure (since no outside interaction)
	Good long-term survival chances	Working methods do not change
LIMITATIONS	Harder to keep ideas and data secret/private	Might become outdated and not fit for purpose