



# **L3 Data Essentials**

**Module 1**

**Data Mindset in a Digital World**

**2-day class-based learning**





# SESSION OVERVIEW



Engage in practical activities to support module evidence collection.



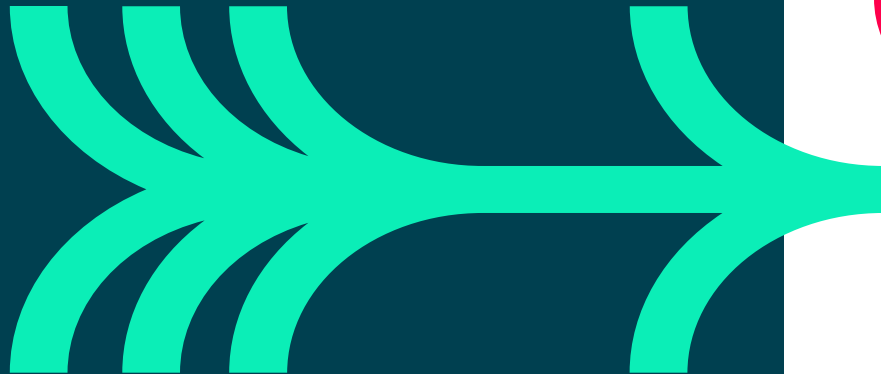
Introductions and ice-breaker activity.



Provide an overview of the 2-day class-based learning.



Provide support and guidance for the successful completion of Module 1.





# UNDERSTANDING THE FRAMEWORK FOR DELIVERY

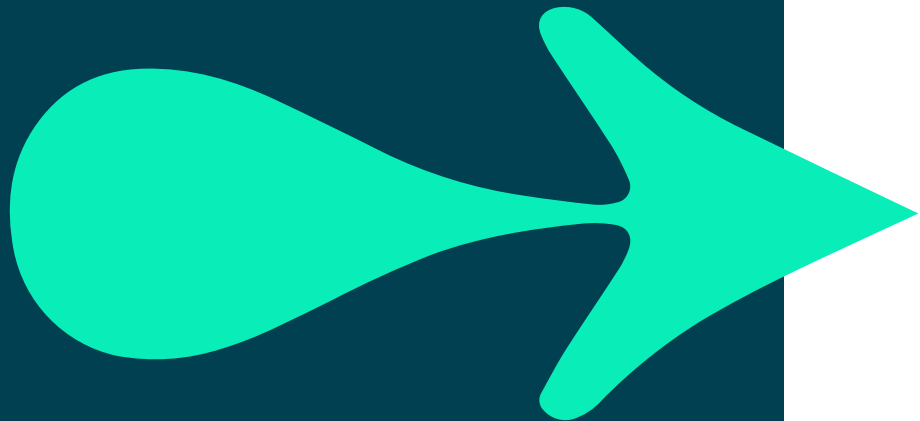
Module 1:  
Data Mindset in a Digital World





# OVERVIEW OF MODULE 1 LEARNING

- Understanding the KSBs (knowledge, skills, and behaviours) framework
- Activities to support knowledge, understanding, and skill-based application
- Class-based learning to provide opportunities for demonstration and consolidation
- End-point assessment (EPA) signposting





# THE KSB FRAMEWORK



## Knowledge

- K1** Range of different types of existing data. Common sources of data: internal, external, open data sets, public, and private. Data formats and their importance for analysis. Data architecture - the framework against which data is stored and structured including on premises and cloud.
- K2** How to access and extract data from a range of already identified sources.
- K3** How to collate and format data in line with industry standard.
- K6** The value of data to the business.
- K8** How to filter details, focusing on information relevant to the data project.



# THE KSB FRAMEWORK



## Knowledge

**K13** Legal and regulatory requirements e.g., Data Protection, Data Security, Intellectual Property Rights (IPR), Data sharing, marketing consent, personal data definition. The ethical use of data.

**K15** The role of data in the context of the digital world including the use of external trusted open data sets, how data underpins every digital interaction, and connectedness across the digital landscape including applications, devices, IoT, and customer centricity.



# SCHEDULE: DAY 1

## AM

- **Ice breaker** – Embracing technology
- **Activity 1** – Identify and categorise data types in HR Data

## PM

- **Activity 2** – Identify and categorise data types
- **Activity 3** – Excel fundamentals



# SCHEDULE: DAY 2

## AM

- Trusted and reliable information sources
- **Activity 4** – Accessing open data sets

## PM

- **Activity 5** – Importing web data with Power Query
- **Activity 6** – Data protection and security scenarios





# Day 1





# EMBRACING TECHNOLOGY

**‘The new way to work is to embrace technology.’**

1. In pairs, discuss this statement based on your own work role and technology use. (By embracing technology, are you improving job roles and work patterns?)
2. Consider weighing the **pros** and **cons** of embracing technology.
3. You will communicate your responses in the class discussion.



# QA Embracing technology

Pros	Cons

# QA Embracing technology

Pros	Cons



# DATA, DATA, EVERYWHERE

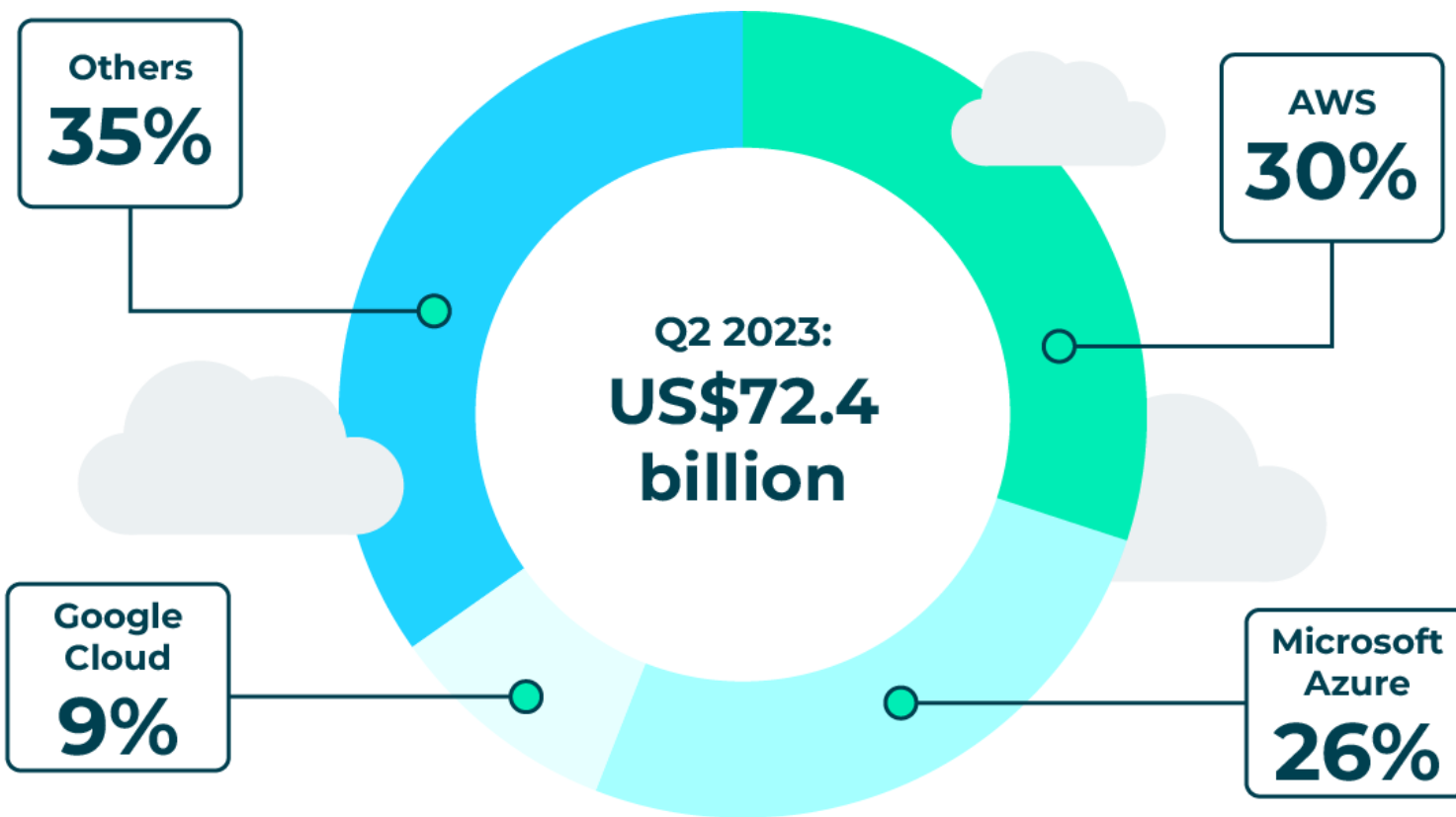
- As more and more of the global economy moves online and becomes digitised, more and more data becomes accessible.
- Social media, online books / journals / reports, music, videos, and the increased number of sensors have all added to the astounding increase in the amount of data that has become available for analysis.





# PUBLIC CLOUD REVENUES

## Worldwide cloud infrastructure services spend, Q2 2023





# Activity 1:

## Identifying data types in HR data

EmployeeID	FirstName	Surname	DayOfBirth	MonthOfBirth	YearOfBirth	Department	YearsOfService	Salary	AverageYEReviewScore
424211	Virginia	Gretsch	30	January	1980	Admin	10	£22,000	3.8
545215	Robert	Richardson	15	October	1977	Admin	7	£20,000	4.1
654158	Shakeela	Mohammed	8	June	1991	Sales	1	£25,000	5

**Open file**

Human Resources Data.xlsx

## QA Tasks:

1. Review the short extract of structured human resources data shown on the Excel spreadsheet.
2. Write down your first impressions of the data set in terms of how it is set-out, labelled, and structured.
3. Identify and classify the data types that you can see e.g., is Salary data a discrete data type?
4. Write 1-2 paragraphs summarising your findings (what data types were evident / could be classified?). In addition, identify what changes you would make to the data set to make it more user friendly and / or transferable?

In addition to your documentary evidence, you are also required to discuss your findings in a group / class environment, ensuring that everyone has a chance to contribute with questions.





## QA Activity 2: Identifying and categorising data types

Syntax	Category	Description
<b>=ISNUMBER(value)</b>	Information	Returns 'TRUE' if the cell contains a number and 'FALSE' if not.
<b>=ISTEXT(value)</b>	Information	Returns 'TRUE' if the cell contains text, including numbers formatted as text.
<b>=TYPE(value)</b>	Information	Returns an integer indicating the data type of value.
<b>=IF(logical_test,[value_if_true],[value_if_false])</b>	Logical	Returns values based on a 'TRUE' or 'FALSE' condition.

# IDENTIFYING AND CATEGORISING DATA TYPES



## TYPE function

Returns an integer representing the data type of a value

If value is	Type returns
Number	1
Text	2
Logical value	4
Error value	16

## IDENTIFYING AND CATEGORISING DATA TYPES



## IF Function

=IF(logical\_test, value\_if\_true, [value\_if\_false])

- **Logical\_test (Required)** - The comparison being tested.
- **Value\_if\_True (Required)** - The action Excel should take if the result of the logical test is true.
- **Value\_if\_False (Optional)** - The action to be taken if the result of the logical test is false.



## ACTIVITY 2: IDENTIFYING AND CATEGORISING DATA TYPES



**Objective:** Apply Excel functions to identify and categorise various data types in an Excel sheet.

### Open files

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Guide-Identify and categorise data types.pdf

Identify and Categorise data types.xlsx



## ACTIVITY 3: EXCEL FUNDAMENTALS



Fundamentals	
Sum and sumif	Tables
Fill	Drop-downs
Split	Analyse
Transpose	Charts
Sort & Filter	Pivot Tables

### Open files

Excel Fundamentals Data.xlsx

Guide – Excel Fundamentals.pdf



# DAY 1 SUMMARY

- ✓ Identifying data types in HR data.
- ✓ Identify and categorise data types.
- ✓ Excel Fundamentals.

