Just IT

B2W group

Apprenticeships | Training | Recruitment

Data Technician

Name:

Course Date:

Table of contents

Day 1: Task 1

Please research and complete the below boxes on common laws and regulations that must be followed when working with customers data, use the below bulleted list to support your answers.

- What is it
- Why is it important
- Provide a real-world example of how you can follow it
- How does it impact working with data
- What could happen if you breached it

Data Protection Act	**What is it**: UK legislation that governs how personal data is used, stored, and protected. It complements the UK GDPR. **Why is it important**: It ensures individuals' privacy rights are respected and that organizations handle data responsibly. **Real-world example**: A company encrypts customer data and only allows access to authorized staff. **Impact on working with data**: Requires data to be processed lawfully, transparently, and for specific purposes. Staff must be trained in data handling. **Consequences of breach**: Fines up to £17.5 million or 4% of global turnover, reputational damage, and legal action
GDPR	**What is it**: A regulation that sets rules for processing personal data and gives individuals more control over their data. **Why is it important**: It strengthens data protection rights and harmonizes standards across the UK and EU. **Real-world example**: A website asks for explicit consent before collecting cookies or personal information. **Impact on working with data**: Organizations must document data usage, conduct impact assessments, and appoint Data Protection Officers if needed. **Consequences of breach**: Severe financial penalties, mandatory reporting to the ICO, and potential lawsuits from affected individuals
Freedom of Information Act	**What is it**: A law that gives the public the right to access information held by public authorities. **Why is it important**: Promotes transparency and accountability in government and public services. **Real-world example**: A journalist requests data on council spending, and the council responds within 20 working days. **Impact on working with data**: Public bodies must maintain clear records and respond to requests unless exemptions apply.

	Consequences of breach: Complaints to the Information Commissioner's Office, legal challenges, and reputational harm.
Computer Misuse Act	**What is it**: Legislation that criminalizes unauthorized access to computer systems and data, including hacking and malware distribution **Why is it important**: Protects individuals and organizations from cybercrime and ensures digital systems are secure. **Real-world example**: An employee avoids accessing files they're not authorized to view, even if technically possible. **Impact on working with data**: Encourages secure access controls, monitoring, and ethical use of IT systems. **Consequences of breach**: Criminal prosecution, fines, imprisonment (up to 10 years for serious offenses), and job loss

Day 2: Task 1

Please research and complete the following tasks within the retail-sales_dataset.xlsx document, paste a print screen into the provided boxes below:

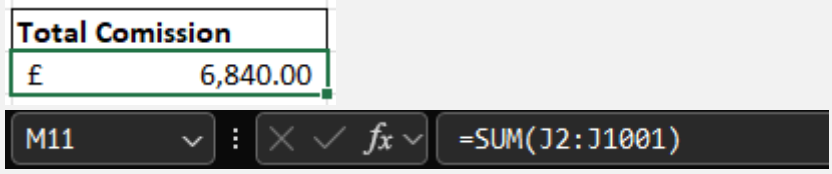
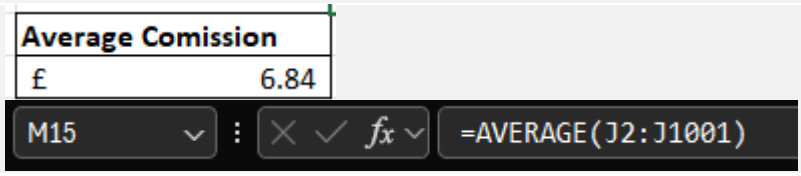
1. In the sheet 'retail_sales_dataset' add all available data between columns **A – J** into a 'Table'. Remember to select only the data you want to convert.
2. Using the dropdown menu in the 'Age' column, sort the data by age, 'largest to smallest'
3. Using the 'SUM' function, show me the commission total in cell '**M10'**
4. Using the 'AVERAGE' function, show me the average commission in cell **'M11'**

Print screen 1

A	B	C	D	E	F	G	H	I	J	
Transaction ID	Date	Customer ID	Gender	Age Category	Age	Product Category	Quantity	Price per Unit	Total Sales	Con
1	24/11/2023	CUST001	Male	Adult	34	Beauty	3	£50.00	£150.00	£
2	27/02/2023	CUST002	Female	Young Adult	26	Clothing	2	£500.00	£1,000.00	£
3	13/01/2023	CUST003	Male	Senior	50	Electronics	1	£30.00	£30.00	£
4	21/05/2023	CUST004	Male	Adult	37	Clothing	1	£500.00	£500.00	£
5	06/05/2023	CUST005	Male	Adult	30	Beauty	2	£50.00	£100.00	£
6	25/04/2023	CUST006	Female	Adult	45	Beauty	1	£30.00	£30.00	£
7	13/03/2023	CUST007	Male	Adult	46	Clothing	2	£25.00	£50.00	£
8	22/02/2023	CUST008	Male	Adult	30	Electronics	4	£25.00	£100.00	£
9	13/12/2023	CUST009	Male	Senior	63	Electronics	2	£300.00	£600.00	£
10	07/10/2023	CUST010	Female	Senior	52	Clothing	4	£50.00	£200.00	£
11	14/02/2023	CUST011	Male	Young Adult	23	Clothing	2	£50.00	£100.00	£
12	30/10/2023	CUST012	Male	Adult	35	Beauty	3	£25.00	£75.00	£
13	05/08/2023	CUST013	Male	Young Adult	22	Electronics	3	£500.00	£1,500.00	£
14	17/01/2023	CUST014	Male	Senior	64	Clothing	4	£30.00	£120.00	£
15	16/01/2023	CUST015	Female	Adult	42	Electronics	4	£500.00	£2,000.00	£
16	17/02/2023	CUST016	Male	Young Adult	19	Clothing	3	£500.00	£1,500.00	£
17	22/04/2023	CUST017	Female	Young Adult	27	Clothing	4	£25.00	£100.00	£
18	30/04/2023	CUST018	Female	Adult	47	Electronics	2	£25.00	£50.00	£
19	16/09/2023	CUST019	Female	Senior	62	Clothing	2	£25.00	£50.00	£
20	05/11/2023	CUST020	Male	Young Adult	22	Clothing	3	£300.00	£900.00	£
21	14/01/2023	CUST021	Female	Senior	50	Beauty	1	£500.00	£500.00	£
22	15/10/2023	CUST022	Male	Young Adult	18	Clothing	2	£50.00	£100.00	£
23	12/04/2023	CUST023	Female	Adult	35	Clothing	4	£30.00	£120.00	£
24	29/11/2023	CUST024	Female	Adult	49	Clothing	1	£300.00	£300.00	£
25	26/12/2023	CUST025	Female	Senior	64	Beauty	1	£50.00	£50.00	£
26	07/10/2023	CUST026	Female	Young Adult	28	Electronics	2	£500.00	£1,000.00	£
27	03/08/2023	CUST027	Female	Adult	38	Beauty	2	£25.00	£50.00	£
28	23/04/2023	CUST028	Female	Adult	43	Beauty	1	£500.00	£500.00	£
29	18/08/2023	CUST029	Female	Adult	42	Electronics	1	£30.00	£30.00	£
30	29/10/2023	CUST030	Female	Adult	39	Beauty	3	£300.00	£900.00	£
31	23/05/2023	CUST031	Male	Adult	44	Electronics	4	£300.00	£1,200.00	£
32	04/01/2023	CUST032	Male	Adult	30	Beauty	3	£30.00	£90.00	£
33	23/03/2023	CUST033	Female	Senior	50	Electronics	2	£50.00	£100.00	£
34	24/12/2023	CUST034	Female	Senior	51	Clothing	3	£50.00	£150.00	£
35	05/08/2023	CUST035	Female	Senior	58	Beauty	3	£300.00	£900.00	£
36	24/06/2023	CUST036	Male	Senior	52	Beauty	3	£300.00	£900.00	£
37	23/05/2023	CUST037	Female	Young Adult	18	Beauty	3	£25.00	£75.00	£
38	21/03/2023	CUST038	Male	Adult	38	Beauty	4	£50.00	£200.00	£
39	21/04/2023	CUST039	Male	Young Adult	23	Clothing	4	£30.00	£120.00	£
40	22/06/2023	CUST040	Male	Adult	45	Beauty	1	£50.00	£50.00	£

Print screen 2

Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Sales	Comission 2023	Com
14	17/01/2023	CUST014	Male	64	Clothing	4	£30.00	£120.00	£ -	£
25	26/12/2023	CUST025	Female	64	Beauty	1	£50.00	£50.00	£ -	£
80	10/12/2023	CUST080	Female	64	Clothing	2	£30.00	£60.00	£ -	£
122	03/10/2023	CUST122	Male	64	Electronics	4	£30.00	£120.00	£ -	£
161	22/03/2023	CUST161	Male	64	Beauty	2	£500.00	£1,000.00	£ -	£
163	02/01/2023	CUST163	Female	64	Clothing	3	£50.00	£150.00	£ -	£
173	08/11/2023	CUST173	Male	64	Electronics	4	£30.00	£120.00	£ -	£
187	07/06/2023	CUST187	Female	64	Clothing	2	£50.00	£100.00	£ -	£
191	18/10/2023	CUST191	Male	64	Beauty	1	£25.00	£25.00	£ -	£
218	22/09/2023	CUST218	Male	64	Beauty	3	£30.00	£90.00	£ -	£
220	03/03/2023	CUST220	Male	64	Beauty	1	£500.00	£500.00	£ -	£
223	02/02/2023	CUST223	Female	64	Clothing	1	£25.00	£25.00	£ -	£
282	25/08/2023	CUST282	Female	64	Electronics	4	£50.00	£200.00	£ -	£
363	03/06/2023	CUST363	Male	64	Beauty	1	£25.00	£25.00	£ -	£
376	16/05/2023	CUST376	Female	64	Beauty	1	£30.00	£30.00	£ -	£
399	01/03/2023	CUST399	Female	64	Beauty	2	£30.00	£60.00	£ -	£
408	15/04/2023	CUST408	Female	64	Beauty	1	£500.00	£500.00	£ -	£
429	28/12/2023	CUST429	Male	64	Electronics	2	£25.00	£50.00	£ -	£
440	26/10/2023	CUST440	Male	64	Clothing	2	£300.00	£600.00	£ -	£
473	25/02/2023	CUST473	Male	64	Beauty	1	£50.00	£50.00	£ -	£
532	19/06/2023	CUST532	Female	64	Clothing	4	£30.00	£120.00	£ -	£
561	27/05/2023	CUST561	Female	64	Clothing	4	£500.00	£2,000.00	£ -	£
566	02/12/2023	CUST566	Female	64	Clothing	1	£30.00	£30.00	£ -	£
596	07/02/2023	CUST596	Female	64	Electronics	1	£300.00	£300.00	£ -	£
692	07/09/2023	CUST692	Female	64	Clothing	2	£50.00	£100.00	£ -	£
698	19/07/2023	CUST698	Female	64	Electronics	1	£300.00	£300.00	£ -	£
735	04/10/2023	CUST735	Female	64	Clothing	4	£500.00	£2,000.00	£ -	£
758	12/05/2023	CUST758	Male	64	Clothing	4	£25.00	£100.00	£ -	£
830	22/06/2023	CUST830	Female	64	Clothing	3	£50.00	£150.00	£ -	£
882	06/06/2023	CUST882	Female	64	Electronics	2	£25.00	£50.00	£ -	£
897	26/09/2023	CUST897	Female	64	Electronics	2	£50.00	£100.00	£ -	£
9	13/12/2023	CUST009	Male	63	Electronics	2	£300.00	£600.00	£ -	£
57	18/11/2023	CUST057	Female	63	Beauty	1	£30.00	£30.00	£ -	£
153	16/12/2023	CUST153	Male	63	Electronics	2	£500.00	£1,000.00	£ -	£

Print screen 3	
Print screen 4	

Day 2: Task 2

Please research and complete the following tasks within the retail-sales_dataset.xlsx document, paste print screens into the provided box below:

Student name	English	Mathematic:	Science	Average	Highest score
Carol	75	85	85		
Ted	80	75	90		
Khan	85	75	80		
Harry	80	70	80		
Sarah	80	70	80		
John	65	80	70		
Linda	90	50	70		
Edward	55	80	60		
Mary	55	70	65		
Thomas	55	30	65		

Task

1) Apply filter and sorting to show the best students in each subject.
2) Calculate the average for all students and fill into Column E. (Use formula)
3) Using the =MAX fucntion, tell me what the students highest score was in column F.
4) Apply filter and sorting to show the best student in this classroom by average.
5) Apply filter and sorting to show the best student in this classroom by highest score.
6) Use conditional formatting to clearly identify the highest and lowest average scores

Print screen 1	1) For Highest English Scores

Student name	English	Mathema	Scienc	Averag	Highest sco
Linda	90	50	70		
Khan	85	75	80		
Ted	80	75	90		
Harry	80	70	80		
Sarah	80	70	80		
Carol	75	85	85		
John	65	80	70		
Edward	55	80	60		
Mary	55	70	65		
Thomas	55	30	65		

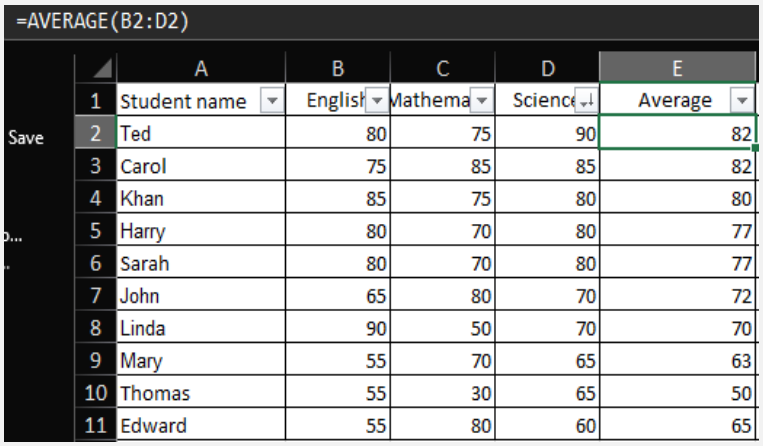
For Highest Mathematics Scores

Student name	English	Mathema	Scienc	Averag	Highest sco
Carol	75	85	85		
John	65	80	70		
Edward	55	80	60		
Khan	85	75	80		
Ted	80	75	90		
Harry	80	70	80		
Sarah	80	70	80		
Mary	55	70	65		
Linda	90	50	70		
Thomas	55	30	65		

For Highest Science Scores

Student name	English	Mathema	Scienc	Averag	Highest sco
Ted	80	75	90		
Carol	75	85	85		
Khan	85	75	80		
Harry	80	70	80		
Sarah	80	70	80		
John	65	80	70		
Linda	90	50	70		
Mary	55	70	65		
Thomas	55	30	65		
Edward	55	80	60		

2)



	A	B	C	D	E
1	Student name	English	Mathema	Scienc	Average
2	Ted	80	75	90	82
3	Carol	75	85	85	82
4	Khan	85	75	80	80
5	Harry	80	70	80	77
6	Sarah	80	70	80	77
7	John	65	80	70	72
8	Linda	90	50	70	70
9	Mary	55	70	65	63
10	Thomas	55	30	65	50
11	Edward	55	80	60	65

3)

=MAX(B2:D2)

	A	B	C	D	E	F
1	Student name	English	Mathema	Science	Average	Highest score
2	Ted	80	75	90	82	90
3	Carol	75	85	85	82	85
4	Khan	85	75	80	80	85
5	Harry	80	70	80	77	80
6	Sarah	80	70	80	77	80
7	John	65	80	70	72	80
8	Linda	90	50	70	70	90
9	Mary	55	70	65	63	70
10	Thomas	55	30	65	50	65
11	Edward	55	80	60	65	80

4)

A	B	C	D	E	F
Student name	English	Mathema	Science	Average	Highest score
Ted	80	75	90	82	90
Carol	75	85	85	82	85
Khan	85	75	80	80	85
Harry	80	70	80	77	80
Sarah	80	70	80	77	80
John	65	80	70	72	80
Linda	90	50	70	70	90
Edward	55	80	60	65	80
Mary	55	70	65	63	70
Thomas	55	30	65	50	65

5)

Student name	English	Mathema	Science	Average	Highest score
Ted	80	75	90	82	90
Linda	90	50	70	70	90

6)

Student name	English	Mathema	Science	Average	Highest score
Ted	80	75	90	82	90
Linda	90	50	70	70	90
Carol	75	85	85	82	85
Khan	85	75	80	80	85
Harry	80	70	80	77	80
Sarah	80	70	80	77	80
John	65	80	70	72	80
Edward	55	80	60	65	80
Mary	55	70	65	63	70
Thomas	55	30	65	50	65

Day 2: Task 3

Using the skills developed today, have some fun with the data set you have imported. Paste your work below and enjoy!

Print screen 1	

Day 3: Task 1

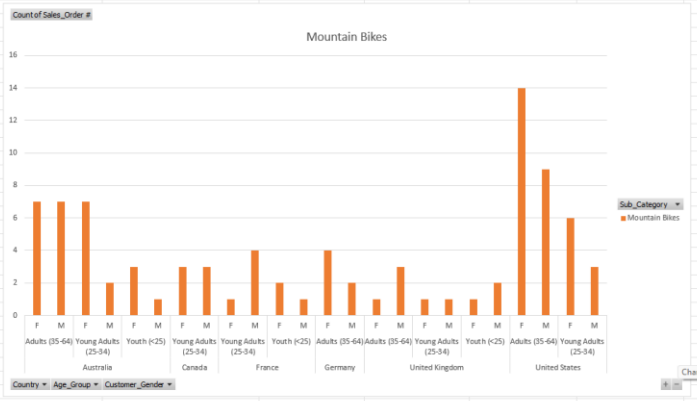
Please download the dataset 'Day_3_Task_1_Bike_Sales_Pivot_Lab.xlsx' from here.

The lab instructions can be found here. Do not worry if you do not complete the lab, just working with data and playing with the pivot table will be good experience.

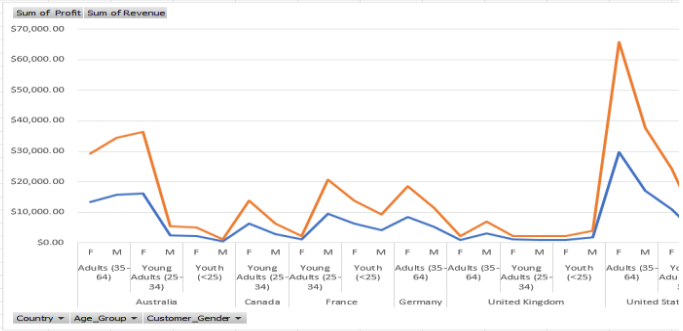
Please paste your final pivot table below and complete the reflection questions:

Print screen 1

Count of Sales_Order #	Column Labels	
Row Labels	Mountain Bikes	Grand Total
Australia	27	27
Adults (35-64)	14	14
F	7	7
M	7	7
Young Adults (25-34)	9	9
F	7	7
M	2	2
Youth (<25)	4	4
F	3	3
M	1	1
Canada	6	6
Young Adults (25-34)	6	6
F	3	3
M	3	3
France	8	8
Young Adults (25-34)	5	5
F	1	1
M	4	4
Youth (<25)	3	3
F	2	2
M	1	1
Germany	6	6
Adults (35-64)	6	6
F	4	4
M	2	2
United Kingdom	9	9
Adults (35-64)	4	4
F	1	1
M	3	3
Young Adults (25-34)	2	2
F	1	1
M	1	1



Row Labels	Sum of Profit	Sum of Revenue
Australia	$50,326.00	$111,506.00
Adults (35-64)	$28,932.00	$63,668.00
F	$13,276.00	$29,218.00
M	$15,656.00	$34,450.00
Young Adults (25-34)	$18,639.00	$41,773.00
F	$16,204.00	$36,414.00
M	$2,435.00	$5,359.00
Youth (<25)	$2,755.00	$6,065.00
F	$2,265.00	$4,985.00
M	$490.00	$1,080.00
Canada	$9,123.00	$20,080.00
Young Adults (25-34)	$9,123.00	$20,080.00
F	$6,302.00	$13,870.00
M	$2,821.00	$6,210.00
France	$20,981.00	$46,175.00
Young Adults (25-34)	$10,474.00	$23,050.00
F	$1,054.00	$2,320.00
M	$9,420.00	$20,730.00
Youth (<25)	$10,507.00	$23,125.00
F	$6,291.00	$13,845.00
M	$4,216.00	$9,280.00
Germany	$13,636.00	$30,010.00
Adults (35-64)	$13,636.00	$30,010.00
F	$8,410.00	$18,510.00
M	$5,226.00	$11,500.00
United Kingdom	$9,072.00	$19,972.00
Adults (35-64)	$4,194.00	$9,230.00
F	$1,043.00	$2,295.00
M	$3,151.00	$6,935.00
Young Adults (25-34)	$2,090.00	$4,602.00
F	$1,047.00	$2,307.00
M	$1,043.00	$2,295.00
Youth (<25)	$2,788.00	$6,140.00



In which markets does Germany have customers?	Germany has a market for Adults aged 35-64

What country has sales in all markets?	The countries that have sales in all markets are Australia and the United Kingdom
What are the most profitable markets by country, age group, and gender?	By country – United States By Age group – Adults (35-64) By Gender - Female
Any other findings?	

Day 3: Task 2

The dataset below tracks the sales performance of different products in various counties in England. Please paste the dataset into a blank Excel workbook. Your task is to:

- **Create a Pivot Table** to summarise the data by county and product.
- **Use the SWITCH function** to categorise products based on their sales volume.

Dataset:

County	Product	Sales Volume
Yorkshire	Laptops	500
Yorkshire	Smartphones	200
Cornwall	Laptops	700

Cornwall	Printers	400
Lancashire	Smartphones	150
Lancashire	Laptops	600
Essex	Printers	800
Essex	Smartphones	300
Durham	Laptops	250
Durham	Printers	300
Greater Manchester	Smartphones	600
Greater Manchester	Laptops	400

Step 1: Create a Pivot Table

- Select the dataset (columns A to C).
- Insert a Pivot Table to summarise the data by **County** in the rows and **Products** in the columns. Use **Sales Volume** as the value to be summarised.

Step 2: Use the SWITCH Function

In a new column next to your data, use the SWITCH function to categorise products based on **Sales Volume** as follows:

- For sales greater than 600: **"High"**
- For sales between 300 and 600: **"Medium"**
- For sales less than 300: **"Low"**

SWITCH Function Example:

```
=SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")
```

- Apply this formula to each row, and check if the products are categorised correctly.
- In 'Sales Volume' you need to remove the space after each amount
- Confirm the data type is numerical

Submission:

- A completed Pivot Table summarising sales by county and product.
- A new column in the dataset categorising products by sales volume using the SWITCH function.
  - Please paste your completed work below

Print screen 1

D2 : =SWITCH(TRUE, C2 > 600, "High", C2 >= 300, "Medium", "Low")

	A	B	C	D	E	F
1	County	Product	Sales Volume	Category		
2	Yorkshire	Laptops	500	Medium		
3	Yorkshire	Smartphones	200	Low		
4	Cornwall	Laptops	700	High		
5	Cornwall	Printers	400	Medium		
6	Lancashire	Smartphones	150	Low		
7	Lancashire	Laptops	600	Medium		
8	Essex	Printers	800	High		
9	Essex	Smartphones	300	Medium		
10	Durham	Laptops	250	Low		
11	Durham	Printers	300	Medium		
12	Greater	Smartphones	600	Medium		
13	Greater Manchester	Laptops	400	Medium		

Sum of Sales Volume	Column Labels			
Row Labels	Laptops	Printers	Smartphones	Grand Total
Cornwall	700	400		1100
Durham	250	300		550
Essex		800	300	1100
Greater Manchester	400		600	1000
Lancashire	600		150	750
Yorkshire	500		200	700
Grand Total	**2450**	**1500**	**1250**	**5200**

Day 3: Task 3

Please download the dataset 'Day_3_Task_3_Bike_Sales_Visualisations_Lab.xlsx' from here.

The lab instructions can be found here. Do not worry if you do not complete the lab, just working with data and playing with the charts will be good experience.

Please paste your results below:

Print screen 1	

Day 4: Task 1

You have been asked to deliver your analysis findings to the board of directors, within your analysis you have identified that customers are leaving your company at the 12-month point, this is typically when they receive their renewal price.

Conduct research and complete the below questions:

How would you prepare for the delivery?	To prepare effectively for delivering these findings to a board of directors, I would take a structured, strategic approach focused on clarity, impact, and next steps: **Clarify the Core Message** - Key finding: There is a customer attrition spike at the 12-month renewal point. - Impact: This is likely tied to pricing perception, renewal communication, or lack of perceived value by that stage. - Objective for the board: Gain alignment on the severity of the issue and secure support for corrective actions.
What tools would you use for the delivery?	- Powerpoint or google slides as the main deck of the presentation for clean and clear with strategic messaging tailored for executive level attention spans. - Tableau, Power BI and Excel charts for financial impacts and to display trend lines, simple charts and display figures visually - Speaker notes to Ensure key messages and data points are delivered concisely without reading slides
What is prospecting and why would you complete this before your delivery?	Prospecting, in this context, refers to the process of informally sounding out key stakeholders or board members ahead of the formal presentation to understand their perspectives, priorities, and potential concerns. It is essentially pre-alignment and intelligence gathering before stepping into the boardroom.

Tell me best practices for public speaking and providing updates to senior leaders	- Speak in short, punchy sentences and land better than long winded explanations - Link your message to cost, risk and revenue and state the best way to navigate the next steps based on data - Be upfront with the outcome/conclusion without excess build up - State if action is required based on everything that has been consolidated
What will you show the board in your delivery?	- I would state the core insight of what's currently happening and set the tone with relevance - Display a simple, clean chart showing customer volume over time with a clear drop at month 12 - Highlight the point visually whilst being clear with the underlying - Discuss the root hypothesis whilst proposing strategic options to mitigate the losses incurred
How will you articulate the changes that are needed?	To articulate the changes needed clearly and persuasively to a board of directors or senior leadership, I would frame them using strategic, commercially aligned language that moves from problem → implication → solution → value gain.
Provide a list of online resources and videos that will support your preparation for public speaking	"The Trick to Powerful Public Speaking" — Lawrence Bernstein (TED) A short, practical talk on reducing audience-speaker distance. YouTube

	"Chris Anderson: TED's secret to great public speaking" Insights from the curator of TED on structure, purpose, and storytelling. TED "Julian Treasure: How to speak so that people want to listen" Focuses on vocal delivery, presence, and being heard. TED "The 110 techniques of communication and public speaking" — David JP Phillips (TED) A deep dive into many micro-techniques you can use in delivery. TED "The Secret to Great Public Speaking (No, It's Not Confidence)" — Jess Ekstrom On reframing your role as "shining light on others" rather than spotlighting yourself.
Evaluate tools that provide visualisation. **Tell me what they are.** **Tell me what you would choose when delivering your presentation and why**	**Prepare Targeted Data and Insights** - Present retention curve or churn timeline showing the drop clearly at month 12. - Quantify the financial impact (e.g., "A 10% improvement in 12-month retention could increase annual revenue by £X million"). - Segment data (if available) by customer type, product, or channel to demonstrate depth of insight. - Include a brief comparison to industry benchmarks to contextualize the issue.

Course Notes

It is recommended to take notes from the course, use the space below to do so, or use the revision guide shared with the class:

We have included a range of additional links to further resources and information that you may find useful, these can be found within your revision guide.

END OF WORKBOOK

Please check through your work thoroughly before submitting and update the table of contents if required.

Please send your completed work booklet to your trainer.