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Project Title (Example – Week1, Week2, Week3)	Week 1

Project Guidelines and Rules

1. **Formatting and Submission**
   - **Format:** Use a readable font (e.g., Arial/Times New Roman), size 12, 1.5 line spacing.
   - **Title:** Include Week and Title (Example - Week 1: TravelEase Case Study.)
   - **File Format:** Submit as PDF or Word file to contact@victoriasolutions.co.uk
   - **Page Limit:** 4–5 pages, including the title and references.

2. **Answer Requirements**
   - **Word Count:** Each answer should be 100–150 words; total 800–1,200 words.
   - **Clarity:** Write concise, structured answers with key points.
   - **Tone:** Use formal, professional language.

3. **Content Rules**
   - Answer all questions thoroughly, referencing case study concepts.
   - Use examples where possible (e.g., risk assessment techniques).
   - Break complex answers into bullet points or lists.

4. **Plagiarism Policy**
   - Submit original work; no copy-pasting.
   - Cite external material in a consistent format (e.g., APA, MLA).

5. **Evaluation Criteria**
   - **Understanding:** Clear grasp of business analysis principles.
   - **Application:** Effective use of concepts like cost-benefit analysis and Agile/Waterfall.
   - **Clarity:** Logical, well-structured responses.
   - **Creativity:** Innovative problem-solving and examples.
   - **Completeness:** Answer all questions within the word limit.

6. **Deadlines and Late Submissions**
   - **Deadline:** Submit on time; trainees who submit fail to submit the project will miss the "Certificate of Excellence"

7. **Additional Resources**
   - Refer to lecture notes and recommended readings.
   - Contact the instructor or peers for clarifications before the deadline.

START YOUR PROJECT FROM HERE:

Cleaned dataset

Transaction_ID	Date	Customer_ID	Product	Category	Quantity	Price	Total_Amount	Region	Payment_Method	Correlation
1001	2024-01-05	C001	Laptop	Electronics	1	800	£800.00	North	Credit Card	-0.199315258
1002	2024-01-10	C002	Smartphone	Electronics	2	600	£1,200.00	South	Cash	-0.199315258
1003	2024-01-12	C003	Headphones	Electronics	1	100	£100.00	West	PayPal	-0.199315258
1004	2024-02-05	C004	Tablet	Electronics	1	500	£500.00	East	Debit Card	-0.199315258
1005	2024-02-08	C005	Book	Books	3	20	£60.00	North	Credit Card	-0.199315258
1006	2024-02-10	C001	Laptop	Electronics	1	800	£800.00	North	Credit Card	-0.199315258
1007	2024-03-15	C006	Shoes	Clothing	2	50	£100.00	South	Cash	-0.199315258
1008	2024-03-18	C007	T-Shirt	Clothing	1	25	£25.00	West	PayPal	-0.199315258
1009	2024-03-20	C008	Smartwatch	Electronics	1	200	£200.00	East	Debit Card	-0.199315258
1010	2024-04-01	C009	Book	Books	2	20	£40.00	North	Credit Card	-0.199315258
1011	2024-04-05	C002	Smartphone	Electronics	2	600	£1,200.00	South	Cash	-0.199315258
1012	2024-04-10	C010	Tablet	Electronics	1	500	£500.00	East	Debit Card	-0.199315258
1013	2024-05-01	C011	Shoes	Clothing	1	50	£50.00	South	Cash	-0.199315258
1014	2024-05-05	C012	Headphones	Electronics	1	100	£100.00	West	PayPal	-0.199315258
1015	2024-05-08	C013	Laptop	Electronics	1	800	£800.00	North	Credit Card	-0.199315258
1016	2024-05-10	C014	T-Shirt	Clothing	3	25	£75.00	South	Cash	-0.199315258
1017	2024-06-01	C015	Smartwatch	Electronics	1	200	£200.00	East	Debit Card	-0.199315258
1018	2024-06-05	C016	Book	Books	4	20	£80.00	North	Credit Card	-0.199315258
1019	2024-06-08	C017	Smartphone	Electronics	1	600	£600.00	South	Cash	-0.199315258
1020	2024-06-10	C018	Tablet	Electronics	1	500	£500.00	East	Debit Card	-0.199315258
										-0.199315258
				Sum	31	6510	6510			
				Average	1.55	325.5	396.5			
				Median	1	200	200			
				Mode	1	800	800			
				St.dev	0.887041208	302.4848844	390.4184665			
				Variance	0.786842105	91497.10526	152426.5789			

Own collaboration based on MS Excel.

1.Cleaned Dataset – Summary.

- Dataset has 11 columns and 21 rows,

- Dataset contains 20 transactions,

- 4 columns are non-numeric (Product, Category, Region and Payment Method),

- There are 3 product categories such as: Electronics, Books and Clothing,

- There are 4 regions: North, South, East and West,

- There are 5 payment methods such as: Credit Card, Cash, PayPal and Debit Card,

- 6 statistics measures have been calculated for columns from E to H.

2.Exploratory Data Analysis – Summary.

Correlation - Table 1 Correlation matrix – for quantity, price and total amount.

	Column 1	Column 2	Column 3
Column 1	1		
Column 2	-0.42379	1	
Column 3	-0.19932	0.8924	1

Own collaboration, based on MS Excel.

Indications:

Column 1 – quantity
Column 2 -price
Column 3 – total amount

Summary:

- Quantity versus price has moderate negative correlation (-0.42379) because products with higher prices are normally sold in small amounts, while products with lower prices are sold in larger amounts.
- Quantity versus total amount has weak negative correlation (-0.19932) because selling more units doesn't significantly boost revenue, higher quantities are connected to low price products, while pricey products sell in minor numbers but gain higher earnings.
- Price versus total amount has a strong positive correlation (0.8924) because return is powered by product price – higher price items result in higher sales even with small loads.

Revenue is powered more by pricing of the product than by sales volume. Increasing sales of items with a high value has bigger impact on total revenue than selling larger amounts of products with lower cost.

Peak Sales

- On January the highest sales have been noted (2100 GBP),
- The second highest sales have been noted on April (1740 GBP).

3.Three Data Visualizations.

Chart nr. 1 – Total sales by category (bar chart).

Row Labels	Sum of Total_Amount
Books	180
Clothing	250
Electronics	7500
Grand Total	**7930**
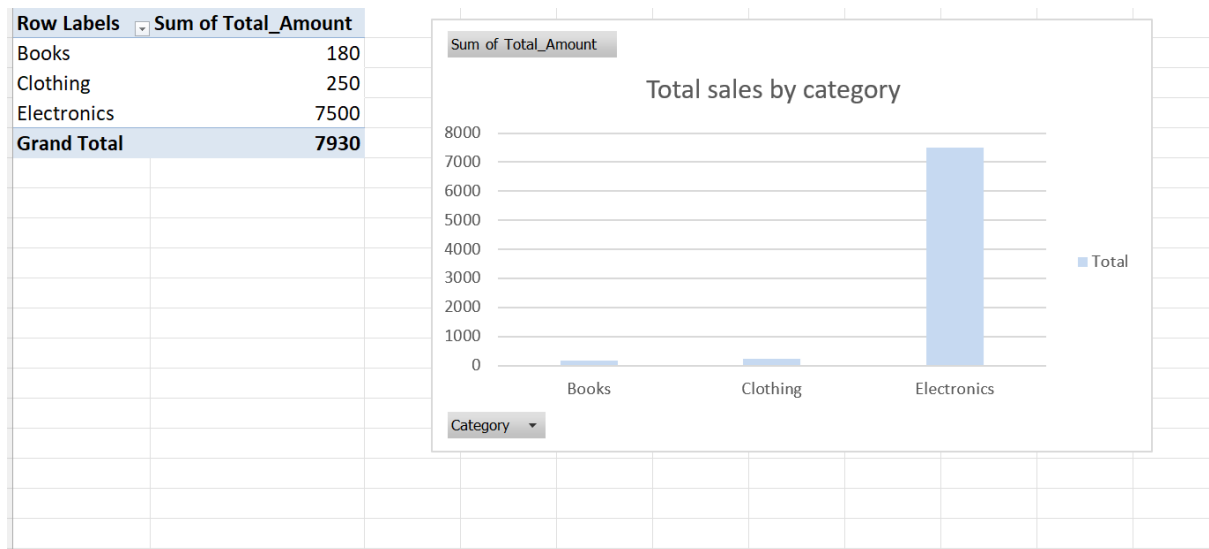
Own collaboration based on MS Excel.

- Total Sales: £7,930,
- Electronics: £7,500 → contributes most sales (≈ 95%),
- Clothing: £250 → small share (≈ 3%),
- Books: £180 → smallest share (≈ 2%).

Overall revenue is almost entirely driven by Electronics, which account for about 95% of total sales. Books and Clothing make only minimal contributions, highlighting the need to prioritize and strengthen the Electronics category in sales and marketing strategies.

Chart nr. 2 – Total sales by region (bar chart).

Row Labels	Sum of Total_Amount
East	1900
North	2580
South	3225
West	225
Grand Total	**7930**
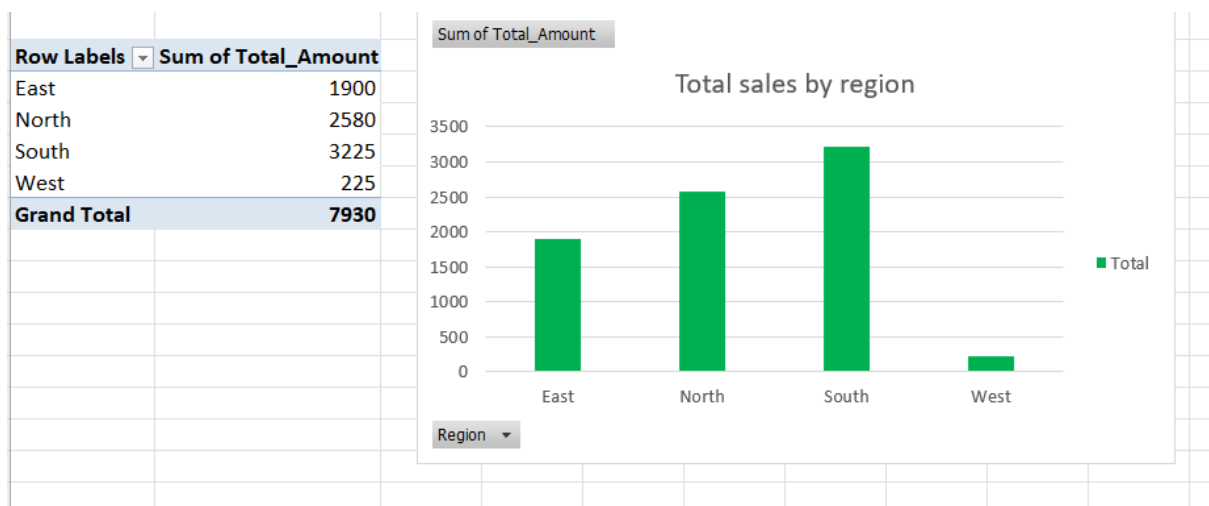
- Total Sales: £7,930

- South: £3,225 → the leading region (≈ 41% of total sales)

- North: £2,580 → second highest (≈ 33%)

- East: £1,900 → moderate sales (≈ 24%)

- West: £225 → minimal sales (≈ 3%)

Sales are strongest in the South and North regions, which together generate nearly three-quarters of total revenue. The West region contributes very little, suggesting either limited market presence or low demand there.

Chart nr. 3 – Total amount by date (line chart).
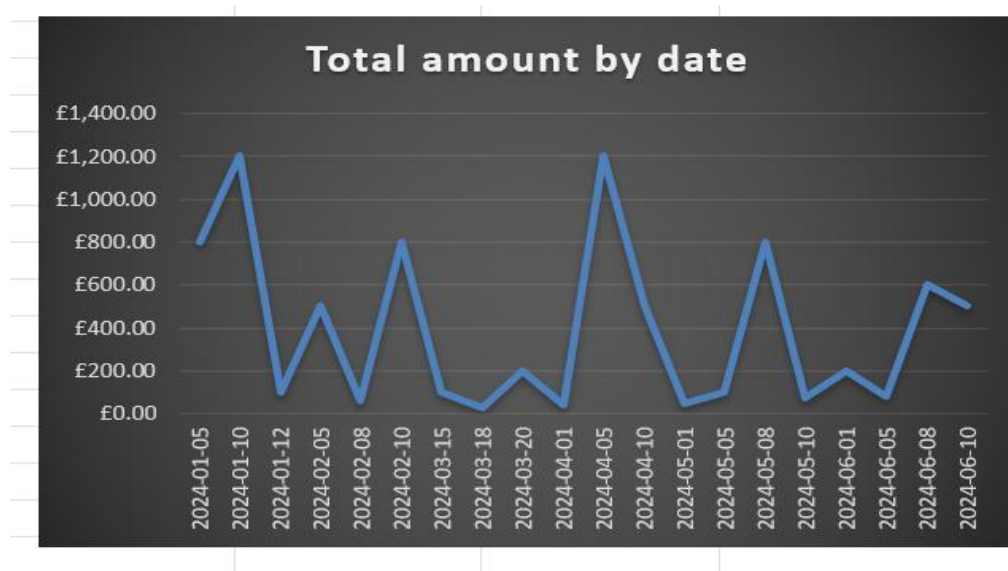
own collaboration, based on MS Excel.

- Highest sales peaks appear on: 2024-01-10 (£1,200 – Smartphone sales) and 2024-04-05 (£1,200 – Smartphone sales again),

- Strong sales also on: 2024-01-05 (£800 – Laptop), 2024-02-08 (£800 – Laptop) and 2024-05-08 (£800 – Laptop),

- Lowest sales points are close to £0 around 2024-03-18 and 2024-03-20 (low-value T-shirt and Smartwatch sales),

- The trend shows sharp spikes when high-value electronics are sold and dips when only low-cost items are purchased.

Sales are highly volatile, driven mainly by occasional large transactions of high-value electronics (laptops, smartphones). Low-cost items create activity but have minimal impact on revenue. This pattern reflects a low-volume, high-value business model, where overall sales performance depends on securing big-ticket purchases.

4.Final Data Insights Report.

Best Months and Best Categories.

January led sales at £2,100, followed by April at £1,740, mainly driven by high-value electronics. Electronics account for ~95% of revenue (£7,500 of £7,930), while books (£180) and clothing (£250) contribute only slightly.

Correlation with Sales Factors.

Quantity vs. Revenue shows a weak negative correlation (-0.199), pointing higher unit sales don't guarantee more revenue. Price vs. Revenue shows a strong positive correlation (0.892), demonstrating revenue is predominantly price-driven rather than volume-driven.

Customer Behaviours & Purchasing Trends.

Sales are shaped by single-item, high-value electronics purchases (laptops, smartphones, tablets), although books and clothing sell in higher volumes but account for little revenue. Regionally, the South and North account for about 75% of sales, with the West showing minimal activity.

Recommendation for sales improvement.

- Seasonal campaigns in January and April,
- Fuel sales by spotlighting top-priced electronics,
- Investigate why West is under indexing,
- Scale up in high-performing regions,
- Double down on laptops, smartphones, and tablets.

Ethics.

- Stay compliant with GDPR (EU),
- Protect privacy – delete any personal ID before making analyses,
- Be transparent with customers.