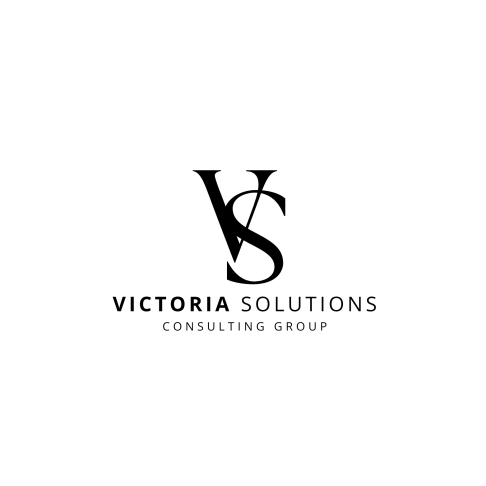
|  |  |
| --- | --- |
| Name | Asad |
| Contact Number | 07443892214 |
| Project Title (Example – Week1, Week2, Week3) | Week 2 project |



**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”

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

**START YOUR PROJECT FROM HERE:**

**Week 2 project**

**Cleaned Dataset Summary**

The raw dataset was cleaned in Excel to ensure accuracy and consistency before analysis. Missing email values were filled with "Unknown," and missing phone numbers were replaced with "Not Provided" and right aligned for clarity. The Order Date column was standardized to the YYYY-MM-DD format for proper time-based analysis. Missing discount values were filled with zero to avoid skewed calculations. Excel’s duplicate check found no duplicate rows. After cleaning, the dataset was saved as raw\_sales\_data.csv and imported into SQL Server for structured analysis and visualization in Power BI. This prepared the data for extracting clear business insights.

**SQL Queries Used**

Several SQL queries were written and executed to extract meaningful insights from the cleaned dataset. These included calculating total revenue by product category, average discount per category, monthly revenue trends, customer order counts, and monthly order volumes. Each query helped identify key performance areas and patterns, such as top-performing products and seasonal spikes. The queries were run using SQL Server and results were used to create Power BI visualizations. Including screenshots of these query results in the report supports the analysis and demonstrates accurate execution. Together, the queries provided a strong foundation for business insights and recommendations.

**SELECT**

**Product\_Category,**

**SUM(Revenue) AS Total\_Revenue**

**FROM**

**dbo.raw\_sales\_data**

**GROUP BY**

**Product\_Category**

**ORDER BY**

**Total\_Revenue DESC;**

**SELECT**

**Product\_Category,**

**AVG(Discount) AS Average\_Discount**

**FROM**

**dbo.raw\_sales\_data**

**GROUP BY**

**Product\_Category**

**ORDER BY**

**Average\_Discount DESC;**

**SELECT**

**FORMAT(CAST(Order\_Date AS DATE), 'yyyy-MM') AS Sales\_Month,**

**SUM(Revenue) AS Monthly\_Revenue**

**FROM**

**dbo.raw\_sales\_data**

**GROUP BY**

**FORMAT(CAST(Order\_Date AS DATE), 'yyyy-MM')**

**ORDER BY**

**Sales\_Month;**

**SELECT**

**Customer\_Name,**

**COUNT(\*) AS Order\_Count,**

**SUM(Revenue) AS Total\_Revenue**

**FROM**

**dbo.raw\_sales\_data**

**GROUP BY**

**Customer\_Name**

**ORDER BY**

**Total\_Revenue DESC;**

**SELECT**

**Product\_Category,**

**COUNT(\*) AS Order\_Count**

**FROM**

**dbo.raw\_sales\_data**

**GROUP BY**

**Product\_Category**

**ORDER BY**

**Order\_Count DESC;**

**SELECT**

**FORMAT(CAST(Order\_Date AS DATE), 'yyyy-MM') AS Sales\_Month,**

**COUNT(\*) AS Order\_Count**

**FROM**

**dbo.raw\_sales\_data**

**GROUP BY**

**FORMAT(CAST(Order\_Date AS DATE), 'yyyy-MM')**

**ORDER BY**

**Sales\_Month;**

**SELECT**

**FORMAT(CAST(Order\_Date AS DATE), 'yyyy-MM') AS Sales\_Month,**

**SUM(Revenue) AS Monthly\_Revenue,**

**AVG(Discount) AS Avg\_Discount**

**FROM**

**dbo.raw\_sales\_data**

**GROUP BY**

**FORMAT(CAST(Order\_Date AS DATE), 'yyyy-MM')**

**ORDER BY**

**Sales\_Month;**

A computer screen with a white box

AI-generated content may be incorrect. **example 1**

A computer screen with a white box

AI-generated content may be incorrect. **example 2**

**Power BI Visualizations**

1. Bar Chart – Total Revenue by Product Category

This visual displays total revenue generated by each product category. Electronics had the highest revenue, followed by Furniture and then Clothing. The chart uses custom colours and data labels to clearly show the revenue values for each bar. Axis scaling was manually adjusted to ensure the tallest bar was not cut off. A legend was added to maintain consistency across visuals. This chart helps identify which product lines are performing best and where the business should focus its sales strategy.

A screenshot of a computer

AI-generated content may be incorrect.

2. Line Chart – Monthly Revenue Trend

This line chart tracks how revenue fluctuated over different months. A noticeable sales peak occurs in December, with another in January, suggesting a seasonal pattern tied to the holiday period. The Order Date field was converted into a proper date format and grouped by month using a custom column. The line chart includes clear data points, axis labels, and a smoothed line to improve readability. This visual helps highlight trends over time and supports decisions around seasonal inventory and promotions.

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3. Bar Chart – Average Discount by Product Category

This bar chart compares the average discount percentage across all product categories. Furniture received the highest average discount, followed by Electronics, while Clothing had the lowest. The chart uses colour to distinguish each bar and includes data labels for exact values. It helps identify which categories are being discounted most, offering insights into pricing strategy and potential margin impacts. Understanding this helps the business assess whether higher discounts are translating into higher sales or reducing profitability.

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AI-generated content may be incorrect.

4. Table – Revenue by Customer

This visual is a table that ranks customers based on total revenue generated. It displays the customer’s name alongside their total spend, allowing easy identification of top-paying clients. Customers like Bob Miller and David White appear at the top. A total row is included at the bottom to show overall revenue across all customers. The table is useful for customer segmentation and targeting high-value individuals for loyalty programs or personalized offers. It complements other visuals by offering customer-level insight not seen in category-level charts.

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AI-generated content may be incorrect.

**Key Insights**

The analysis revealed that Electronics generated the highest revenue, followed by Furniture. Furniture also had the highest average discount, suggesting that while discounts may drive sales, there is room to optimize pricing strategy. Customer-level data showed that a few key customers contributed significantly to overall revenue. Monthly trends highlighted sales peaks in December and January, indicating strong holiday-season demand. In contrast, the Clothing category received minimal discounts and showed relatively weak performance. These insights help guide decisions on which products to promote, how to use discounts strategically, and when to focus marketing efforts for the greatest impact.

**Business Recommendations**

Based on the analysis, the business should focus on high-performing categories like Electronics and Furniture, as they contribute the most to overall revenue. Implementing consistent, moderate discounts of 15–20% could increase conversions while protecting profit margins. Retaining top-spending customers through loyalty rewards or exclusive offers can help sustain long-term revenue. Additionally, the clear sales peaks in December and January suggest strong holiday demand, so the business should prepare with advanced inventory planning and targeted promotions. These recommendations are data-driven and aim to maximize sales, improve customer engagement, and enhance overall operational efficiency during key sales periods.