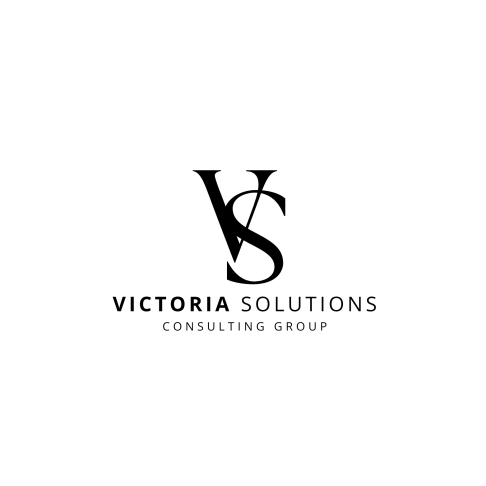
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| --- | --- |
| Name | Asad |
| Contact Number | 07443892214 |
| Project Title (Example – Week1, Week2, Week3) | Week 1 |



**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”

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 1 project**

**Cleaned Dataset Summary**

The original dataset contained 20 transaction records with 10 columns, including Date, Product, Category, Quantity, Price, and Total Amount. Data cleaning began with checking for structural issues. No duplicate rows were found, ensuring integrity. One missing value in the Total Amount field was corrected by calculating Quantity × Price. The Date column initially caused errors during grouping; a helper column was created using Excel’s DATEVALUE function to convert all entries into valid date formats. This resolved sorting and monthly aggregation issues. Text fields such as Customer ID, Product, Category, Payment Method, and Region were cleaned using TRIM and PROPER functions to remove inconsistencies in casing and spacing. These steps ensured uniformity across all categorical data. Once cleaned, the dataset was ready for analysis using PivotTables and charts. The result was a consistent and structured file suitable for trend identification, seasonal sales analysis, and customer behaviour evaluation, as required in the project brief.

**Exploratory Data Analysis Summary**

Analysis of the sales dataset revealed several key trends. Sales peaked in January and April, indicating strong early- and mid-year performance, likely influenced by seasonal demand or promotions. In contrast, March recorded the lowest sales, suggesting an off-peak period with limited customer activity. Among product categories, Electronics dominated overall revenue, with Smartphones, Laptops, and Tablets emerging as the top-selling items. Clothing and Books contributed the least to total sales. A review of customer behaviour showed that most customers made single transactions, while only two customers (C001 and C002) made repeat purchases, highlighting an opportunity to foster loyalty. Payment method analysis showed a strong preference for Credit Card and Cash, with limited use of digital alternatives such as PayPal. Regionally, the South generated the highest revenue, while the East underperformed. These findings provide a foundational understanding of sales performance and customer behaviour across time, categories, payment methods, and geographic areas.

**Visualizations (Reference)**

Four key visualizations were developed in Excel using PivotTables and chart tools to support the analysis of ShopEase’s sales data:

1. **Monthly Sales Trend (Line Chart)**  
   This chart presents total sales for each month from January to June. Sales were highest in **January (2100)** and **April (1740)**, indicating peak performance in early and mid-year. A significant dip occurred in **March (325)**, suggesting a seasonal slowdown. The chart was created using a PivotTable grouped by clean monthly date values and clearly illustrates sales patterns over time.
2. **Sales by Product Category (Clustered Column Chart)**  
   This bar chart compares sales revenue across the three product categories: **Electronics**, **Clothing**, and **Books**. Electronics is the dominant category, contributing the highest revenue overall. Clothing and Books lag significantly, highlighting an opportunity to review or reposition those product lines. The chart uses color-coded bars and includes clear labels to emphasize differences in sales volume.
3. **Sales Distribution by Payment Method (Pie Chart)**  
   The pie chart breaks down total revenue by payment method. **Cash** leads with 3225, followed by **Credit Card** (2580), **Debit Card** (1900), and **PayPal** (225). This visualization highlights customer payment preferences, showing that traditional payment methods dominate. The chart is useful for identifying trends in checkout behaviour and where digital payment adoption may be encouraged.

All charts were labelled clearly, included data values, and were designed to be easily interpreted by stakeholders. Together, they provide a well-rounded view of sales trends, category and product performance, and customer behaviour.

**Customer Behaviour Analysis**

Analysis of the dataset reveals that most customers were one-time buyers, with only two (C001 and C002) making repeat purchases. This suggests a transactional buying pattern with limited customer retention, highlighting an opportunity to implement loyalty programs or personalized offers to encourage repeat business. In terms of product interest, customer behaviour clearly Favors Electronics, which accounted for the highest revenue across all transactions. This indicates a strong preference for tech-related purchases and suggests ShopEase should continue investing in this category. Clothing and Books saw minimal engagement, which may warrant promotional support or a reassessment of their offerings. Regarding payment behaviour, Cash and Credit Card were the most common methods used, while PayPal and Debit Card were less frequent. This implies a need to improve awareness or incentives around digital payment options. Collectively, these patterns provide actionable insights into customer preferences, buying frequency, and opportunities for targeted engagement.

**Ethical Considerations**

The dataset used in this project did not include any personal information such as names, emails, phone numbers, or addresses. This helps protect customer privacy and follows data protection rules like GDPR. Each customer was identified only by a code, such as C001, which does not reveal who they are. These codes appeared more than once in some cases, showing repeat purchases, but they could not be linked to real people. This means the data was anonymous enough for analysis while still showing general patterns. The analysis focused on overall trends, such as what products sold best or which payment methods were most used. No attempt was made to track or profile individual customers. The data was used responsibly, with care taken to avoid any privacy risks. This approach keeps the analysis ethical and ensures that no customer’s identity or personal behaviour was exposed in the process.

**Final Recommendations**

Based on the analysis, several steps can help ShopEase improve both sales performance and customer experience. First, inventory and promotions should focus on best-selling electronics, particularly Smartphones and Laptops, which generated the highest revenue. These products are clearly in high demand and should be prioritized in marketing efforts. Second, sales tend to drop in months like March and May, so targeted promotions during these times—such as discounts, flash sales, or bundle deals—could help boost performance. Third, since most customers only purchase once, introducing a loyalty program or referral system could encourage repeat business and increase customer retention. This would help turn one-time buyers into long-term customers. Lastly, although Credit Card and Cash are the most used payment methods, ShopEase should make digital options like PayPal or mobile wallets more visible and attractive. Promoting these methods can improve convenience, speed up checkout, and appeal to younger, tech-savvy customers.

**Bonus: Low-Performing Month Strategies**

To boost sales during low-performing months like March and May, ShopEase can introduce time-limited promotions, such as flash sales or product bundles, to create urgency and attract buyers. These offers can be promoted via email, social media, and on-site banners to maximize visibility. Additionally, focusing on region-specific marketing, especially in underperforming areas like the East, can help drive local engagement. This could include geo-targeted ads, regional discount codes, or partnerships with local influencers. Combining seasonal promotions with targeted regional campaigns can effectively increase sales and customer activity during slower periods of the year.