

Case Study Purpose:

My purpose with this case study is to provide data-driven insights and actionable recommendations to help a plant store increase their sales and come up with a marketing strategy that will help drive results.

Client Profile (Scenario)

My client is a relatively new plant store that sells a huge variety of plants. They have provided me with a comprehensive dataset containing three sheets: sales, inventory, and suppliers.

The store owner is asking me to analyze this dataset to gain valuable insights into their business operations, sales performance, inventory management, and supplier relationships. Also, they will appreciate getting a marketing strategy based on my analysis.

Project Objectives

1. Sales Analysis:

analyzing the sales data to identify top-selling plant varieties, seasonal trends, customer preferences, and revenue drivers. This can help optimize product offerings, pricing strategies, and marketing efforts.

2. Inventory Management:

Leveraging the inventory data to understand stock levels, turnover rates, and potential overstocking or understocking issues. This can lead to improved inventory planning and cost optimization.

3. Supplier Evaluation:

Assessing the supplier data to evaluate supplier performance, pricing, and reliability. This can help streamline processes and negotiate better terms.

4. Strategic Planning:

Combining insights from the sales, inventory, and supplier data to develop strategic recommendations for the plant store. This could include product line expansions, store layout optimization, targeted marketing campaigns, or operational improvements to enhance profitability and customer satisfaction.

Data Sources Used:

The dataset analyzed in this project was obtained from a synthetic data generation website. It consists of three sheets: sales, inventory, and suppliers, mimicking the typical data structure of a plant store or nursery business.

By utilizing a synthetically generated dataset, this project can effectively explore and uncover valuable patterns, trends, and recommendations without compromising sensitive information or encountering data availability constraints.

Raw Data:

Plant Store - Raw Data

Clean Data:

[Plant Store - Clean Data](#)

Cleaning & Manipulation of The Data:

Cleaning data with Excel:

1. Importing all the data into an Excel spreadsheet.
2. Identifying missing data.
3. Correcting the formatting.
4. Sorting the data by the purchase date.
5. Splitting text into columns by using the LEFT, RIGHT, LEN & FIND functions.
6. Using conditional formatting to showcase themes or patterns.

Data Manipulation with SQL:

1. Creating a new database called PlantStore.
2. Creating new tables named Sales, Inventory, Suppliers.
3. Inserting the data into the tables.
4. Inspect the data (Orders, customers, inventory, suppliers).
5. Check for unique values (Dates, customers, and plants).
6. Start the analysis by grouping sales by plant families, to find our best seller.
7. Finding the plants that are not selling as well.
8. Checking for the total sales of each month.
9. Then, checking the total sales for each day of the week and finding the most profitable day for the plant store.
10. Finding our most profitable customer, grouped by the customer type (commercial, landscape, residential).
11. Filtering the plant varieties that are overstocking and not selling.
12. Filtering the plant varieties that need to be re-stocked.
13. Checking which plants cost the shop the most, and which cost the least.
14. Calculating the profitability ratio of the plant store.
15. Exploring supplier performance and reliability.
16. Coming up with conclusions.

Questions I've Asked:

1. What are the top-selling plant varieties, and how do pricing strategies impact sales performance?
2. Which plant varieties have suboptimal inventory levels, leading to potential overstocking or understocking? Which plants cost the shop the most? Which cost the least?
3. How do suppliers perform in terms of pricing, and reliability for high-demand plant varieties?
4. Marketing strategy – What can the plant store improve or do differently to increase sales and customer satisfaction?

Key Conclusions:

1. Top-Selling Plant Varieties:

- Best-Selling Plant: Vanilla, with total sales amounting to \$8,904.
- Worst-Selling Plant: Lettuce, with total sales amounting to \$111.

The significant difference in sales between Vanilla and Lettuce suggests that Vanilla is highly favored by customers, while Lettuce has not attracted much interest.

Recommendation: To boost sales of less popular varieties like Lettuce, consider offering promotions such as "Buy More, Get Lettuce Seeds for Free". This strategy can incentivize customers to purchase more diverse plant varieties, increasing overall sales and customer engagement.

2. Which plant varieties are overstocking or understocking?

Overstocked Plants:

There are several plant varieties with more than 50 units in stock, many of which cost more than \$20 each for the plant store.

Recommendations:

To address the overstocking issue, consider implementing aggressive advertising campaigns to boost sales of these plants. Additionally, explore the option of selling the excess stock to other plant stores to prevent potential losses.

Offer bulk purchase discounts or special promotions to encourage customers to buy these plants

Understocked Plants:

Several plant varieties urgently need to be restocked, as they have sold over 25 units each and currently have very few units left in stock.

Examples of these understocked plants include:

- Pecan - Fabaceae: Only 3 units left.
- Sunflower - Plantaginaceae: Only 4 units left.
- Elm - Rosaceae: Only 5 units left.

Recommendations:

- Immediate Restocking: Prioritize restocking these high-demand plant varieties to prevent stockouts and lost sales.
- Inventory Monitoring: Implement a more robust inventory monitoring system to track sales trends and ensure timely restocking of popular items.
- Supplier Coordination: Work closely with suppliers to ensure a steady supply of high-demand plants and possibly negotiate faster delivery times.

Which plants cost the plant store the most and which cost least?

Most and Least Profitable Plants:

- The most profitable plant for the store is 'Beatley's Clover - Fabaceae', with a profit margin of \$43.99 per plant.
- The least profitable plant is 'Potatotree - Solanaceae', generating only \$1.60 in profit per plant.

Cost Analysis:

- The plant with the lowest cost to the store is 'Birch - Betulaceae', costing just \$1 per plant.
- The plant with the highest cost to the store is 'Ayahuasca - Malpighiaceae', costing \$30 per plant.

Profitability Ratios:

- February 2024: The profitability ratio was 52.5%.
- March 2024: The profitability ratio improved to 62.08%.
- April 2024: The profitability ratio slightly decreased to 57.28%.

Recommendations:

- Focus on High-Profit Plants: Increase marketing efforts and inventory for highly profitable plants like 'Beatley's Clover' to maximize profits.
- Review Low-Profit Plants: Assess the viability of continuing to stock low-profit plants like 'Potatotree'. Consider strategies to improve their profitability, such as cost reduction or bundling with other products.
- Cost Management: For high-cost plants like 'Ayahuasca', explore potential suppliers or bulk purchasing options to reduce costs.
- Monitor Profitability Trends: Continue tracking monthly profitability ratios to identify trends and make informed decisions. Aim to maintain or improve profitability by optimizing the mix of high-profit and low-cost plants.

3. Supplier Reliability:

Stock levels -

All three suppliers have a substantial number of plant units left from previous supply runs. The high number of units left indicates that the suppliers are able to maintain adequate stock levels, which is a positive indicator of reliability. They have sufficient inventory to meet ongoing demand, reducing the risk of stockouts.

Recent orders -

The most recent order was placed with Botanica Growers on '2023-12-24'. This recent activity may suggest that Botanica Growers is more proactive or is more frequently used for restocking high-demand varieties.

Additionally, all suppliers supplied big amount of plant varieties, which is significant and indicates their capability to provide a diverse range of high-demand plants.

Pricing -

All 3 offer similar average plant costs.

The competitive pricing ensures that the plant store can source high-demand plant varieties at a consistent cost across different suppliers.

Reliability -

All three suppliers demonstrate strong reliability through their ability to maintain high stock levels of plant units.

However, 'Evergreen Wholesale' stands out slightly due to the most recent order and the high number of plant varieties supplied (65). This suggests they might have a slight edge in terms of responsiveness and variety.

4. Marketing Strategy - My recommendations:

Promotional Bundles: Create promotional bundles that combine high-demand plants with less popular ones. For example, bundle Vanilla with Lettuce at a discounted price. This can help move inventory and introduce customers to a wider range of products.

Customer Loyalty Programs: Implement a customer loyalty program where customers earn points for every purchase. These points can be redeemed for discounts on future purchases or free products, encouraging repeat business and customer retention.

Targeted Marketing Campaigns: Use data analytics to identify customer preferences and target marketing campaigns accordingly. For instance, promote Lettuce to customers who have previously purchased similar items or show interest in gardening.

Seasonal Promotions: Leverage seasonal trends to promote different plant varieties. For example, Lettuce can be marketed as a fresh addition to summer gardens, while Vanilla can be highlighted during the holiday season for its aromatic qualities.

Feedback and Reviews: Encourage customers to leave reviews and feedback on their purchases. Positive reviews for less popular plants can enhance their attractiveness and build trust among potential buyers.

Educational Content: Provide educational content such as gardening tips, plant care guides, and recipes using the plants. This content can be shared through newsletters, social media, and the store's website to engage customers and highlight the benefits of different plant varieties.