

Coffee Orders Project Summary and Insights

Overview

coffeeOrdersProject.xlsx dataset, which contains coffee sales data from 2019 to 2022 across multiple countries, coffee types, roast types, and customer segments. The dataset includes sales by coffee type (Arabica, Excelsa, Liberica, Robusta), monthly and yearly breakdowns, country-wise sales, top customers, and detailed order information, including product IDs, quantities, unit prices, and customer loyalty status.

Data Structure

The dataset is organized into several sections:

1. **Sales by Coffee Type and Time:** Aggregated sales data by year (2019–2022) and month for four coffee types (Arabica, Excelsa, Liberica, Robusta).
2. **Sales by Country:** Total sales for the United Kingdom, Ireland, and the United States.
3. **Sales by Customer:** Total sales for top customers.
4. **Order Details:** Transaction-level data with order IDs, dates, customer information, product details (coffee type, roast type, size), quantities, unit prices, sales, and loyalty card status.
5. **Product Details:** Information on product IDs, coffee types, roast types, sizes, unit prices, price per 100g, and profit margins.

Key Insights

1. Sales Trends by Coffee Type

- **Arabica:** Consistently high sales across all years, peaking in September 2021 (\$840.93). Arabica shows steady demand, with notable spikes in April 2019 (\$307.12) and March 2021 (\$418.30). It is the most popular coffee type in the United States.
- **Excelsa:** Significant fluctuations, with a peak in April 2019 (\$681.07) and a low in August 2022 (\$41.25). Excelsa sales are volatile, suggesting seasonal or promotional influences.
- **Liberica:** Strong performance in January 2022 (\$843.71), but generally lower sales compared to Arabica. Liberica has a niche market, with higher sales in Ireland.
- **Robusta:** Steady sales with a peak in September 2019 (\$492.90). Robusta is popular for its affordability, especially in medium roast variants.

Seasonal Patterns:

- Sales typically peak in spring (March–April) and fall (September–October) across all coffee types, possibly due to seasonal promotions or consumer behavior.

- Lower sales are observed in August, particularly in 2022, indicating a potential summer slowdown.

2. Geographic Sales Distribution

- **United States:** Dominates total sales at \$35,638.88, accounting for approximately 78% of the dataset's revenue. The U.S. market prefers Arabica and medium roast coffee.
- **Ireland:** Contributes \$6,696.86 to total sales, with a strong preference for Liberica coffee. Ireland's per capita sales are notable given its smaller market size.
- **United Kingdom:** Lowest sales at \$2,798.51, suggesting a smaller market presence. The UK favors Robusta and light roast variants.

Insight: The U.S. is the primary market, but Ireland shows strong per capita engagement. Expanding marketing efforts in the UK could increase sales, focusing on Robusta's affordability.

3. Customer Analysis

- **top five customers by sales):**
 1. Don Flintiff (\$278.01)
 2. Nealson Cuttler (\$281.67)
 3. Terri Farra (\$289.11)
 4. Brenn Dundredge (\$307.04)
 5. Allis Wilmore (\$317.07)
- **Loyalty Card Impact:** Approximately 54% of orders involve customers with loyalty cards, indicating a strong loyalty program. Loyalty card holders tend to purchase larger sizes (1 kg or 2.5 kg) and contribute to repeat sales.
- **Insight:** High-value customers are likely influenced by loyalty programs. Enhancing loyalty rewards (e.g., discounts on bulk purchases) could further increase sales.

4. Product and Pricing Analysis

- **Product Variants:**
 - **Coffee Types:** Arabica has the highest average unit price (\$11.98 per kg), followed by Excelsa (\$10.27), Liberica (\$9.77), and Robusta (\$8.46).
 - **Roast Types:** Light roasts command higher prices (e.g., Arabica Light at \$12.95/kg), while dark roasts are cheaper (e.g., Arabica Dark at \$9.95/kg).
 - **Sizes:** Larger sizes (2.5 kg) offer better value per 100g, with prices as low as \$0.82 per 100g for Robusta Dark 2.5 kg.
- **Profit Margins:**
 - Highest profit per kg are for Liberica Light 2.5 kg (\$4.74) and Liberica Medium 2.5 kg (\$4.35).
 - Lowest profit per kg are for Robusta Light 0.2 kg (\$0.22) and Robusta Dark 0.2 kg (\$0.16).
- **Insight:** Larger sizes and light roast variants yield higher profits. Promoting bulk purchases of Liberica and Arabica light roasts could maximize profitability.

5. Order Patterns

- **Order Frequency:** Orders are spread evenly across years, with no significant spikes in specific months, except for notable peaks in September and April.
- **Quantity Trends:** Most orders involve quantities of 1–6 units, with 2.5 kg packages being popular for bulk buyers.
- **Customer Preferences:**
 - U.S. customers prefer medium and light roasts of Arabica.
 - Irish customers favor Liberica, particularly in dark roasts.
 - UK customers lean toward Robusta medium roasts.
- **Insight:** Tailoring product offerings by country (e.g., Liberica dark roasts in Ireland) could enhance customer satisfaction and sales.

6. Operational Insights

- **Customer Contact Information:** Some orders lack email or phone details, which may hinder follow-up marketing efforts. Approximately 10% of orders have missing contact information.
- **Product ID Structure:** Product IDs (e.g., A-L-0.2 for Arabica Light 0.2 kg) are consistent and allow for easy categorization, facilitating inventory management.
- **Insight:** Improving data collection for customer contact details and leveraging product ID structures for inventory forecasting could streamline operations.

Recommendations

1. **Targeted Marketing:**
 - Focus on the U.S. market with Arabica promotions, emphasizing medium and light roasts.
 - Increase marketing in Ireland for Liberica dark roasts, leveraging loyalty programs.
 - Explore growth opportunities in the UK with affordable Robusta variants.
2. **Seasonal Promotions:**
 - Launch campaigns in March–April and September–October to capitalize on peak sales periods.
 - Offer summer discounts in August to counteract the seasonal dip.
3. **Loyalty Program Enhancement:**
 - Introduce tiered rewards for loyalty card holders, encouraging bulk purchases of high-profit products like Liberica 2.5 kg packages.
4. **Product Strategy:**
 - Promote larger sizes (2.5 kg) to increase profit margins.
 - Highlight light roasts for premium pricing and higher profitability.
5. **Operational Improvements:**
 - Ensure complete customer contact data collection to support targeted marketing.
 - Use product ID structures for advanced inventory analytics to optimize stock levels.

Conclusion

The coffee orders dataset reveals a strong market presence in the U.S., with significant opportunities in Ireland and potential for growth in the UK. Arabica dominates sales, but Liberica and Robusta show niche appeal in specific regions. By leveraging seasonal trends, enhancing loyalty programs, and optimizing product offerings, the business can increase sales and profitability while improving operational efficiency.