Global Luxury Market Trends: Pricing Insights and Strategic Recommendations

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1. Overview of Dataset and Methodology

Week 1 Dataset

- **Rows:** 265

- **Columns:** 23

- **Key Attributes:** Includes product details (*Brand, Name, SKU, and URL*) and regional pricing.

Week 2 Dataset

- **Rows:** 266

- **Columns:** 22

- **Key Attributes:** Similar to Week 1, excluding the *URL* column.

SKU (Stock Keeping Unit): SKU serves as the primary key in the datasets, linking Week 1 and Week 2 data. This ensures accurate comparison of the same products across both timeframes.

Methodology

- Regional prices were converted to USD using provided exchange rates to standardize comparisons.

- Missing data, duplicates, and price differences between Week 1 and Week 2 were analyzed.

- Outliers and trends were visualized to highlight regional and product-specific insights.

Currency Conversion Methodology
To standardize regional prices for comparative analysis, all prices were converted to USD using the following exchange rates:

- **France:** 1 EUR = 1.06 USD, **UK:** 1 GBP = 1.27 USD, **USA (Tax Free):** 1 USD

- **Japan:** 1 JPY = 0.0065 USD, **Hong Kong:** 1 HKD = 0.13 USD, **China:** 1 CNY = 0.14 USD

- **Korea:** 1 KRW = 0.00071 USD, **Korea DF:** Same as Korea, **Hainan DF:** Same as China

- **UAE:** 1 AED = 3.67 USD, **Australia:** 1 AUD = 0.65 USD, **Canada:** 1 CAD = 0.72 USD

- **Macao:** 1 MOP = 0.12 USD, **Mexico:** 1 MXN = 0.049 USD, **Saudi Arabia:** 1 SAR = 0.27 USD

- **Singapore:** 1 SGD = 0.75 USD, **Thailand:** 1 THB = 0.029 USD, **Taiwan:** 1 TWD = 0.031 USD

These exchange rates were applied to all regional pricing data to ensure consistent comparisons across all regions. Variations in exchange rates reflect differences in local currencies relative to the USD at the time of analysis.
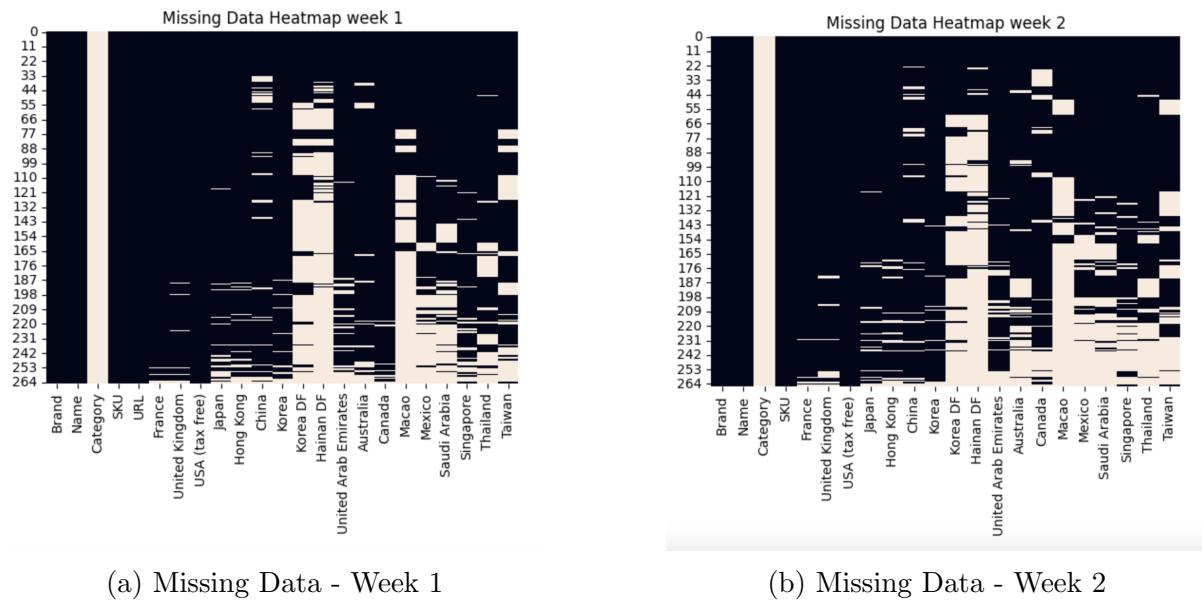
2. Missing Data and Duplicates

(a) Missing Data - Week 1

(b) Missing Data - Week 2

Figure 1: Comparison of Missing Data Between Week 1 and Week 2

Week 1 Missing Data

- **Hainan DF:** 72.83%

- **Korea DF:** 59.62%

- **Macao:** 59.62%

Week 2 Missing Data

- **Hainan DF:** 72.93%

- **Korea DF:** 59.77%

- **Macao:** 60.15%

Key Takeaways: Null Value Analysis

Regions such as **Hainan DF**, **Korea DF**, and **Macao** consistently exhibit high levels of missing data across both weeks, indicating systematic reporting gaps. Notable increases in null values were observed in **Australia** (from 23 to 66) and **Canada** (from 7 to 50), potentially due to data collection challenges or disruptions. Meanwhile, **China** showed

slight improvement, with missing data decreasing from 29 to 26, reflecting incremental progress. The **United Kingdom** experienced a minor rise in null values (from 7 to 11), while regions like **France**, **Japan**, and **Korea** maintained stable null patterns. Addressing these persistent and emerging data inconsistencies, particularly in high-growth markets, is crucial for ensuring robust analysis and actionable insights.

Duplicates

No duplicate records were detected in either dataset.

3. Price Trends and Distribution

Descriptive Statistics for Regional Pricing (Local Currency)

Region	Week 1 Mean	Week 2 Mean	Min	Max
USA (Tax Free)	3,512.77	3,508.10	605.00	11,500.00
Japan	458,005.20	456,406.80	630.00	1,706,100.00
France	2,896.07	2,893.49	490.00	11,100.00
Hong Kong	27,498.61	27,483.29	630.00	89,800.00
China	26,072.69	25,900.85	685.00	85,700.00
Korea	4,584,252.00	4,573,845.00	630.00	16,590,000.00
Australia	5,068.39	4,641.15	840.00	17,980.00
Canada	4,842.87	4,152.27	605.00	118,795.00
Mexico	69,739.29	62,537.21	605.00	239,745.00
Singapore	4,949.98	4,552.70	630.00	16,660.00
Thailand	122,531.95	110,054.40	630.00	417,500.00
Taiwan	111,586.69	100,077.09	630.00	381,000.00

Table 1: Descriptive Statistics for Regional Pricing (All prices are in local currency)
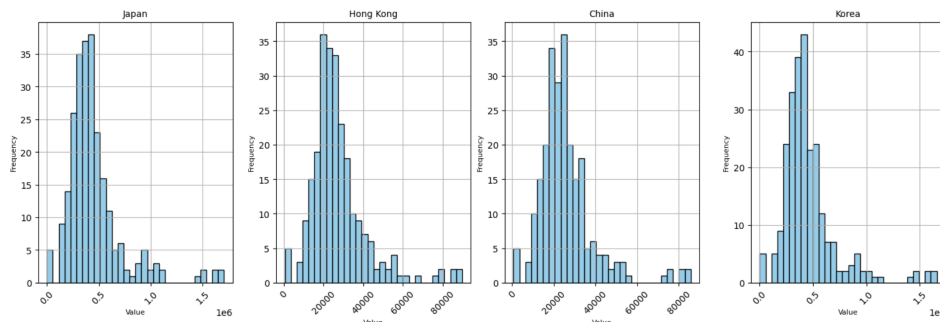

Figure 2: Price Distribution Across Regions

Observations

- **Japan:** Exhibited the highest mean prices and variability, reflecting the premium pricing of luxury items in the local market.

- **USA (Tax Free):** Displayed relatively stable pricing with the lowest mean price among major regions, indicating consistent pricing strategies in USD.

- **Australia and Hong Kong:** Notable price ranges were observed, suggesting dynamic pricing strategies influenced by local market demands.

- **France:** Maintained a mid-range price level, consistent with its luxury market positioning.

Value Distribution by Brand

The brand distribution across Week 1 and Week 2 shows remarkable stability, with leading brands like Gucci, Dior, and Saint Laurent maintaining consistent product counts. While most mid-tier brands such as Bottega Veneta, Celine, and Chanel exhibited no changes, Louis Vuitton and Loewe experienced slight reductions in product representation in Week 2. Notably, Goyard emerged with four products in Week 2, highlighting a potential new entry or focus within the dataset. This stability reflects consistent catalog management by most brands while also pointing to selective adjustments.
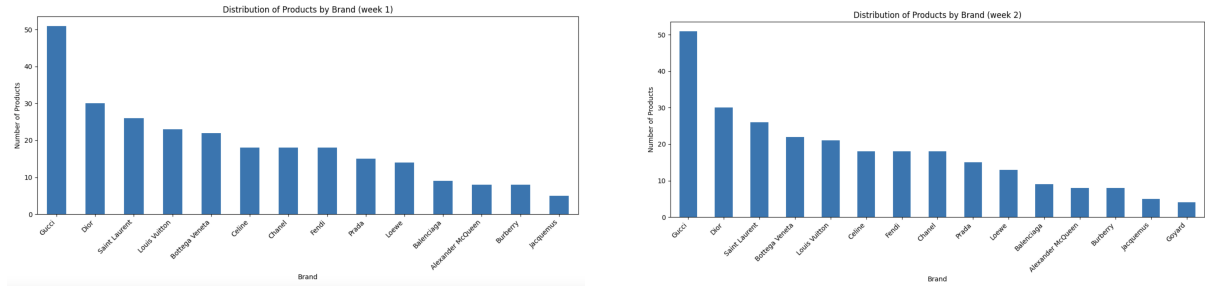
(a) Value Distribution by Brand - Week 1   (b) Value Distribution by Brand - Week 2

Figure 3: Comparison of Missing Data Between Week 1 and Week 2

Data Preparation and Extra Rows Analysis

- Removed empty rows and columns.

- Standardized column names to lowercase and replaced spaces with underscores.

- Converted price columns to numeric format to ensure consistency.

- **Extra Rows in Week 1:** Include SKUs from Louis Vuitton and Loewe.

- **Extra Rows in Week 2:** Include SKUs from brands like Gucci and Goyard.

4. Price Change Analysis

Price Differences Across Weeks

Products with Price Increases:

- **France:** Burberry's Small Lola Bag (+63.6 EUR) and Camera Bag (+42.4 EUR) reflect strong demand and premium adjustments.

- **United Kingdom:** Moderate increases for Burberry products (+40–60 GBP) indicate regional pricing strategies.

- **USA (Tax-Free):** Prada's Symbole Mini Bag (+250 USD) and Galleria line (+100–200 USD) highlight its premium positioning in the U.S.

Products with Price Decreases:

- **Japan and China:** Burberry's Small Frances Bag saw steep declines (-1,093.95 JPY, -1,540 CNY), signaling inventory clearance or waning demand.

- **United Arab Emirates:** Burberry products (-400–600 AED) reflect regional markdowns.

- **Canada:** Chanel's 22 Small Handbag (-80,312.4 CAD) suggests significant local challenges or markdowns.

Key Insights:

- **Prada Strategy:** Consistent price increases globally, especially in the U.S., emphasize a deliberate premium approach.

- **Burberry Adjustments:** Price hikes in Europe align with demand, while declines in Asia and UAE indicate localized strategies.

- **Chanel's Drop in Canada:** The sharp decline points to possible markdowns or market-specific challenges.

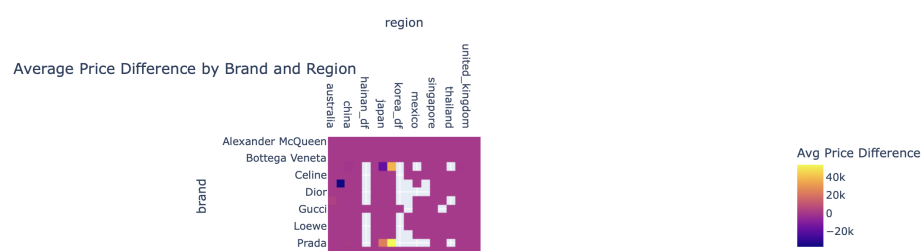# 5. Brand-Level Insights

Analyze Price Differences by Brand

Figure 4: Analyze Price Differences by Brand and Region

- **Burberry:** Price increases in most regions, but a slight decrease in UAE suggests a market-specific adjustment.

- **Prada:** Large positive differences in Japan and Korea, indicating price hikes driven by strong demand or premium positioning.

- **Chanel, Dior, Louis Vuitton:** Stable pricing across most regions, reflecting consistent strategies.

Regional Variability

- **Australia:** Highest average percentage change (+0.81%), likely due to regional pricing adjustments or market-specific conditions.

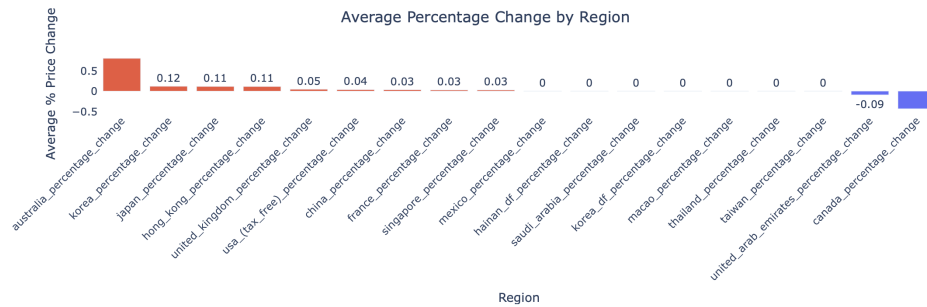- **Canada and UAE:** Showed slight negative trends, though the decreases are minor.

Figure 5: Average Percentage Change by Region

6. Regional Insights

France and United Kingdom

- Products like Small Lola Bag and Small Lola Camera Bag showed consistent increases (+2.5% to +5.5%).

- No significant decreases observed, with most other products showing no change.
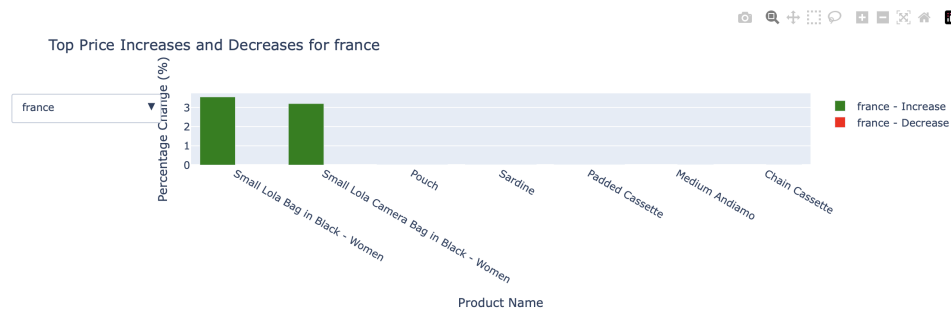

Figure 6: Top Price Increases and Decreases by Region (France)

USA (Tax-Free)

- Significant increases in Prada Symbole Mini Bag (+11.3%) and other Prada products (4–5% range).

- **Price Decrease:** Small Frances Bag (-38%).

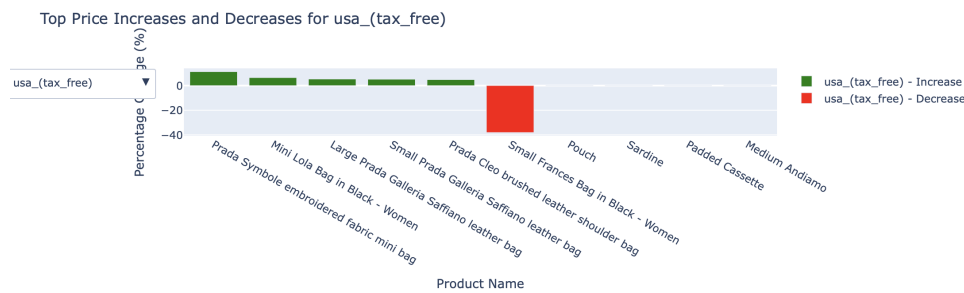Figure 7: Top Price Increases and Decreases by Region (UK)

Figure 8: Top Price Increases and Decreases by Region (USA)

Japan

- Consistent price increases for Prada Cleo and Symbole bags (+7–9%).
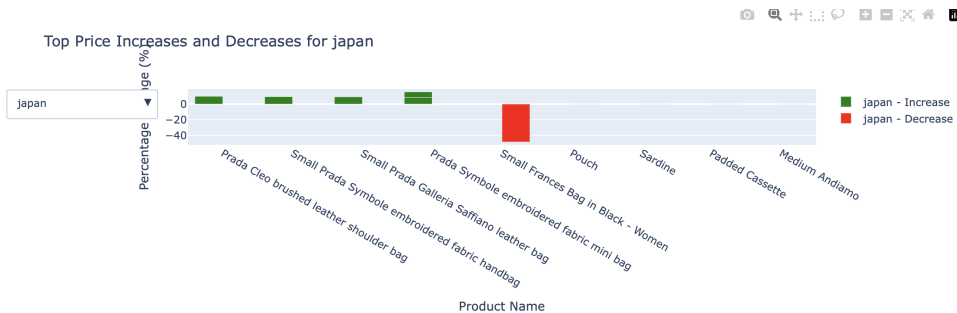
- **Price Decrease:** Small Frances Bag (-48.5%).

Figure 9: Top Price Increases and Decreases by Region (Japan)

Australia

- Exceptional increase in Fendi Sunshine Large (+146%).

- Moderate increases in Prada products (4–5%).

Figure 10: Top Price Increases and Decreases by Region (Australia)

Stable Regions

- Regions like Macao, Mexico, Thailand, and Taiwan showed minimal or no changes, indicating stable pricing or low market activity.
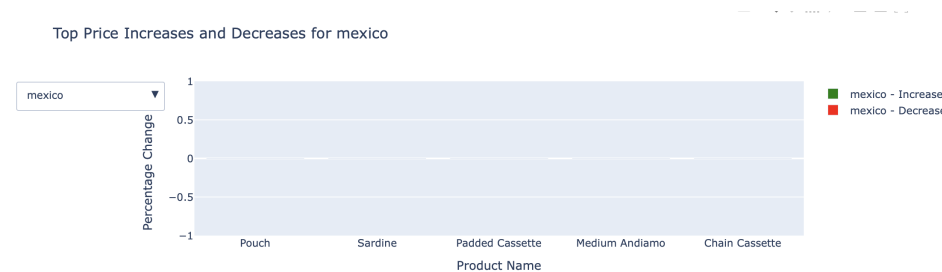

Figure 11: Top Price Increases and Decreases by Region (Mexico)

Insights on Percentage Changes

- **Australia:** Displays the highest average percentage change (+0.808%), indicating a strong market for price increases.

- **Korea and Japan:** Moderate increases of +0.119% and +0.113%, primarily driven by products like Prada bags.

- **Canada:** The only region with a significant negative trend (-0.434%), largely influenced by Chanel's sharp price decrease.

- **Stable Regions:** Macao, Mexico, Thailand, and Taiwan show zero percentage changes, reflecting either minimal market activity or stable pricing strategies.

7. Product-Level Insights

Consistent Price Increases

- Prada Galleria, Cleo, and Symbole bags dominate price increases globally.
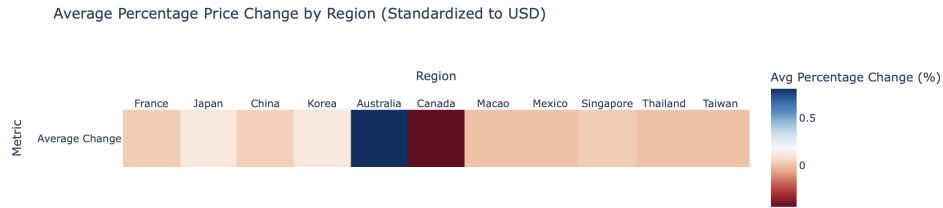
- Reflects Prada's upward pricing adjustment strategy.

Average Percentage Price Change by Region (Standardized to USD)

Figure 12: Average Percentage Price Change by Region

8. Outliers in Regional Luxury Pricing

Luxury Brand Pricing Trends

Prada: Exhibited strong demand globally, with significant price increases for Galleria, Cleo, and Symbole bags, especially in Australia, Japan, and Singapore. These trends highlight Prada's premium positioning. **Burberry:** Moderate price increases were observed for the Small Lola Bag and Small Lola Camera Bag in France, Japan, and Korea, reflecting strategic adjustments in these markets.

Outliers in Price Differences Across Regions (USD)

Figure 13: Outliers in Price Difference Across Regions (USD)

Insights from Outliers Visualization

- **High Positive Outliers:**

  - **Australia:** Driven by Fendi and Prada bags, particularly the Fendi Sunshine Large Bag, which exhibited a sharp price hike (**+\$1,166 USD**), reflecting strong demand or market-specific factors.

  - **Japan and China:** Significant increases in Prada products highlight strong market positioning in these regions.

- **Negative Outliers:**

  - **Canada:** The Chanel 22 Small Handbag faced a steep decline (**-\$57,824 USD**), possibly due to markdowns or localized challenges.

  - **Japan and China:** Burberry products like the Small Frances Bag saw sharp declines (**-\$1,093.95 JPY** in Japan and **-\$215.60 CNY** in China), suggesting inventory clearance or waning demand.

Stable Markets

- **Korea:** Minimal changes (**<$0.10 USD**) for Prada products indicate stable pricing strategies in this market.

- **Singapore:** Moderate growth (**+$140 USD**) for the Prada Cleo Shoulder Bag aligns with consistent regional pricing strategies.

Significant Price Drops

- The Small Frances Bag consistently showed sharp declines (up to -48%), potentially due to inventory clearance or declining demand.

9. Recommendations

1. **Focus on High-Growth Regions:** Target Australia, Korea, and Japan for luxury items with consistent price increases.

2. **Address Negative Trends:** Investigate price drops in Canada and UAE to understand market dynamics.

3. **Optimize Regional Pricing:** Align pricing in high-variability regions like Australia and Japan with market demand.

4. **Review Outliers:** Analyze products like Fendi Sunshine (+146%) and Chanel (-$80,312.4) for strategic adjustments.

10. Dashboard Implementation Overview

This dashboard, developed using Python's Dash framework, provides interactive insights into luxury product pricing trends. Key functionalities include:

- **Data Preparation:** Prices converted to USD and percentage changes computed across weeks.

- **Visualizations:**
    - Heatmaps for average price differences by brand and region.
    - Box plots, scatter plots, and bar charts for percentage changes and outliers.

- **Interactive Features:**
    - Tabs to explore regional trends, outliers, and top movers.
    - Dynamic dropdowns for detailed price increases and decreases by region.

This tool enables stakeholders to effectively analyze pricing strategies and regional trends.
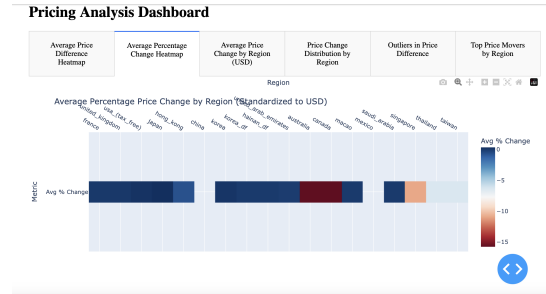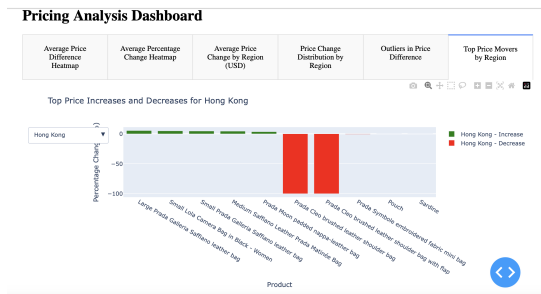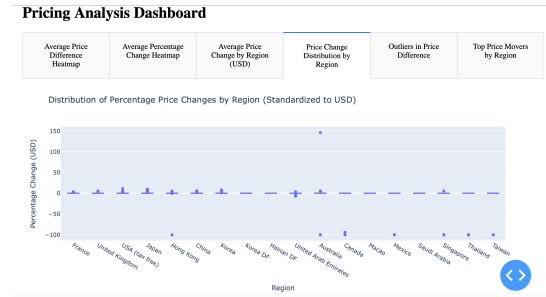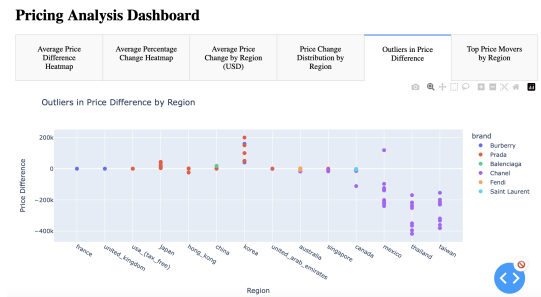
(a) Outliers in Price Difference

(b) Price Change Distribution by Region

(c) Top Price Movers by Region

(d) Average Percentage Change Heatmap

Figure 14: Dashboard Implementation: Key Visualizations and Insights

10. Conclusion

This report highlights critical price trends, outliers, and opportunities across regions. By addressing these insights, stakeholders can refine pricing strategies, capitalize on growth regions, and improve profitability across global markets.