# Optimizing Inventory Management for Maximized Profitability

The objective is to review our current inventory management performance and identify areas for improvement to improvement to maximize profitability.

The slides includes:

1. Analyze inventory distribution across ABC categories

2. Understand SKU distribution and its implications

3. Review top-performing products

4. Evaluate correlation between key inventory metrics

5. Explore price vs. sales dynamics

6. Analyze sales trends over time

7. Conclude with actionable recommendations

Yi-Ling Tsai 08/20/2024
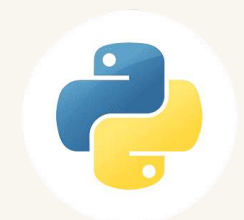
ABC Analysis Overview

Inventory Value Distribution

Category A - dominates with 80% of the inventory value, amounting to $2.25M.

Categories B & C - represent 15% ($0.42M) and 5% ($0.14M) of the inventory value, respectively.
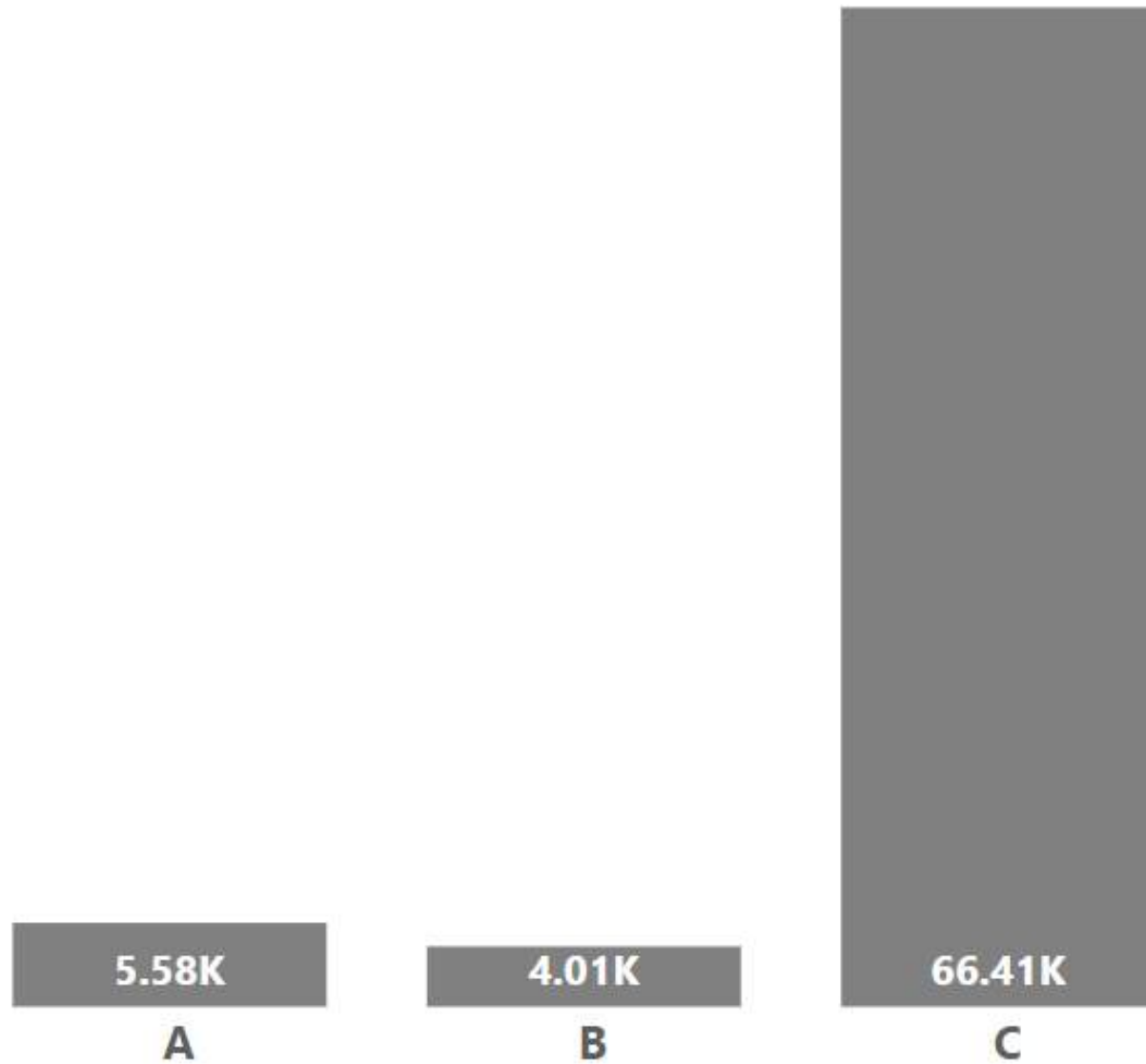
Key Insights

The majority of our value is concentrated in Category A, emphasizing the need to prioritize management and optimization efforts on these high-value items.

Visuals

A pie chart depicts the inventory value distribution among A, B, and C categories, while a bar chart shows the total inventory value by each ABC category.

Total Inventory Value in Each ABC Category

C $0.14M (5%)

B $0.42M (15%)

A $2.25M (80%)
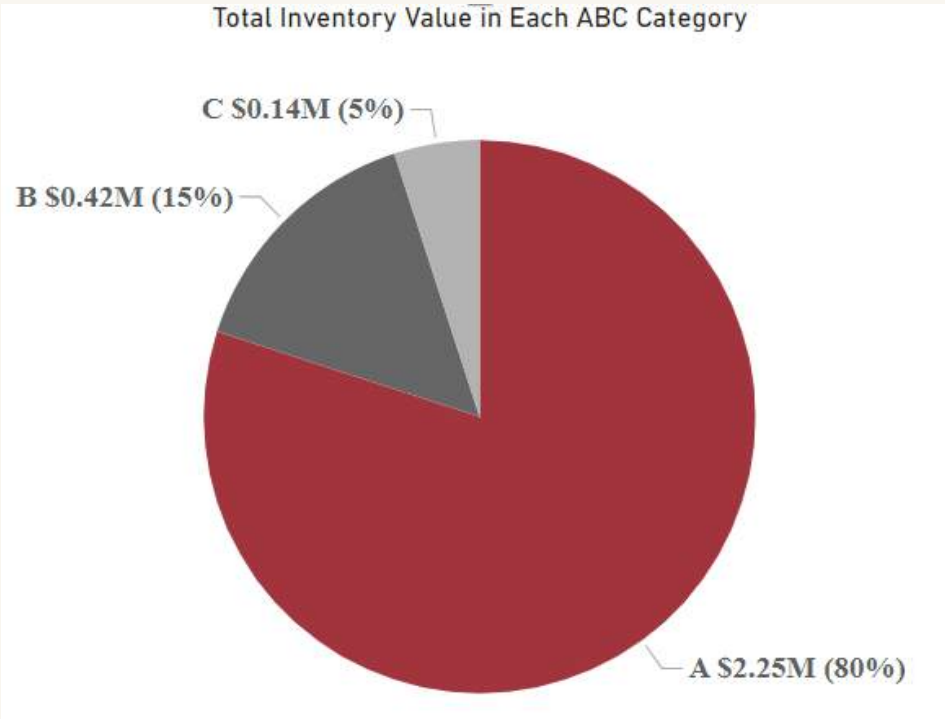
SKU Counts by ABC_Category

5.58K — A
4.01K — B
66.41K — C

SKU Distribution in ABC Categories

1 **Visual Representation**

A bar chart illustrates the count of SKUs in each ABC category.
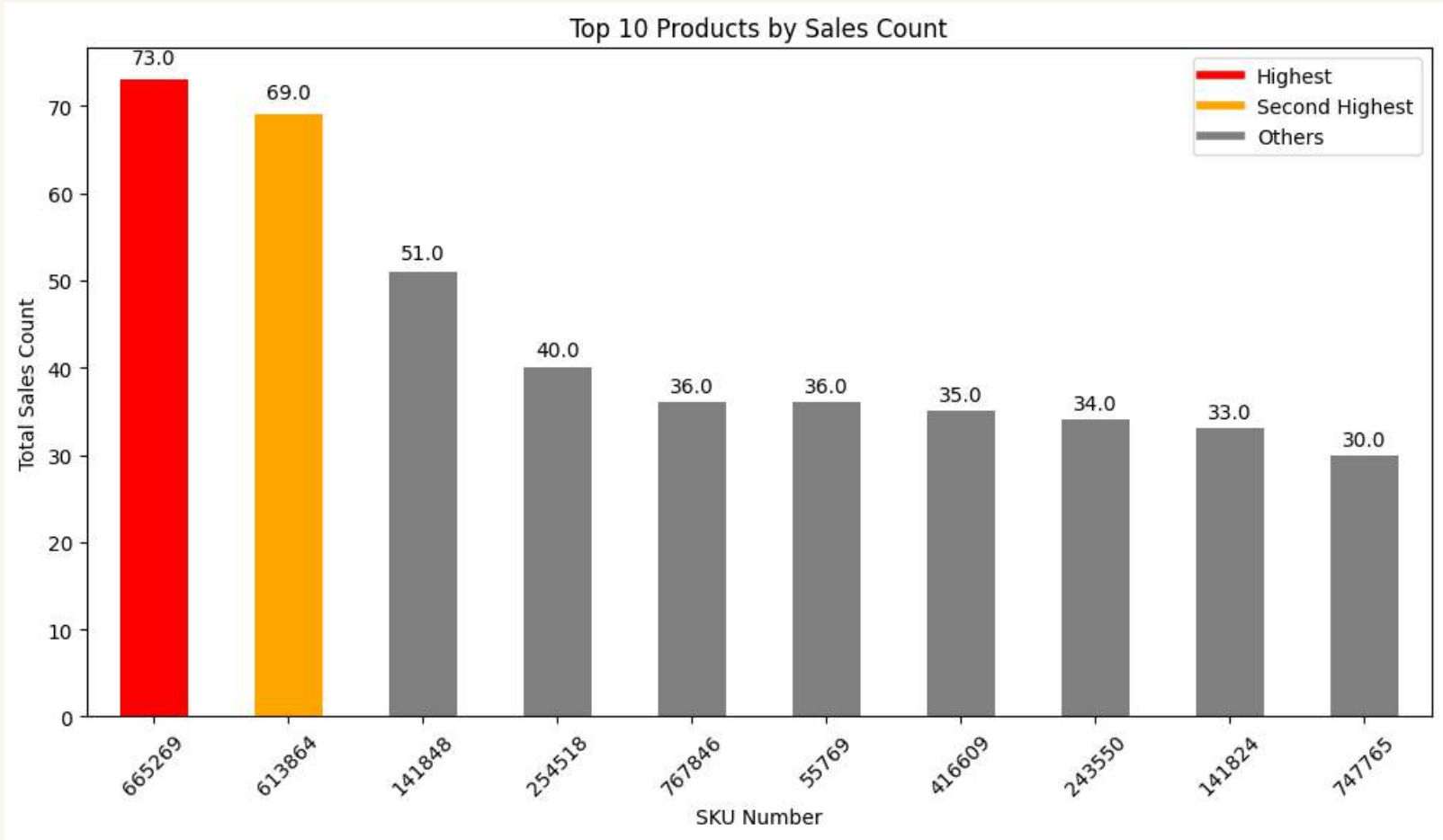
2 **Key Insights**

Category C has the largest number of SKUs (~67K), but these items contribute the least to total value.
Category A, with around ~6K SKUs, holds the majority of the value.

3 **Conclusion**

The high SKU count in Category C presents an opportunity to **streamline** inventory, reducing low-value items to improve efficiency and focus on more valuable SKUs.

Top 10 Products by Sales Count

Top Performing SKUs

These are the top-performing SKUs by sales count, which represent our highest-demand items. By continuously monitoring these products, we can maximize revenue and adjust our inventory strategy to ensure consistent availability.

Key Insights: SKUs 665269 and 613864 are the top performers, leading sales significantly. The top 10 SKUs drive a substantial portion of our sales, indicating their critical role in our product portfolio.

Conclusion: Ensuring the availability and strategic marketing of these top-performing SKUs will be crucial for maintaining and boosting sales.

| Rank	SKU	Sales Count
1	665269	Highest
2	613864	Second Highest
3-10	Various	Significant

Correlation Insights: Pricing and Sales Dynamics

Key Insights

StrengthFactor vs. MarketingType (-0.35):
Moderate negative correlation suggests that stronger products are marketed differently. Consider aligning marketing strategies to better highlight product robustness.

LowUserPrice vs. PriceReg (0.18):
Weak positive correlation indicates that as regular prices increase, so do low user prices, though the relationship is minimal. Review pricing strategies for effectiveness.

Conclusion

The heatmap suggests that **product strength** and **marketing strategy** relationships are noteworthy, while price and sales correlations are weak, indicating a need for further exploration of other sales drivers.

Extended Correlation Heatmap
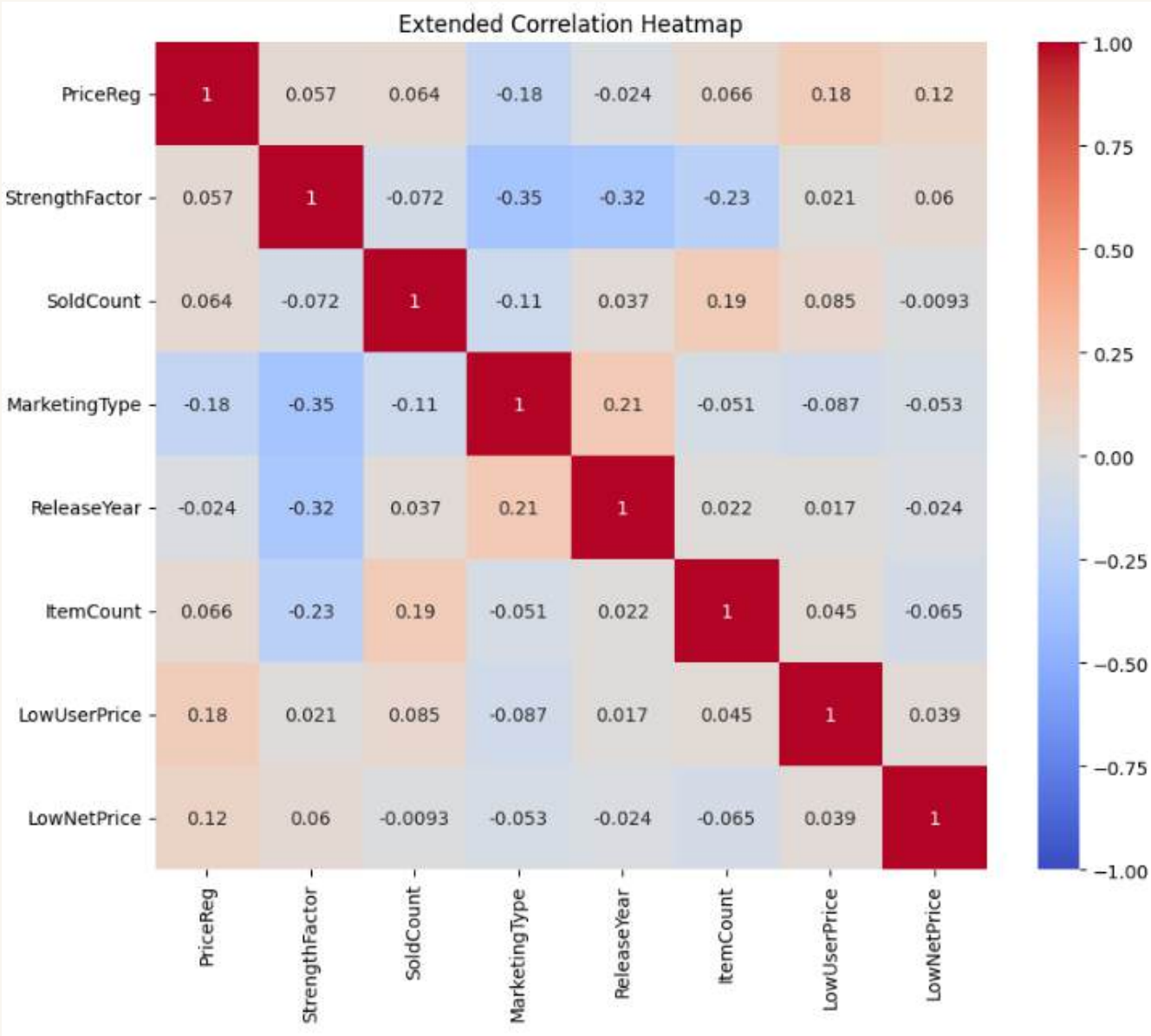
Price vs. Sales Distribution

Visual

Scatter plot showing the relationship between regular price and sales count.

Key Insights

Sales are concentrated heavily on items priced <$1K. There's a clear diminishing return on sales as prices increase, indicating price sensitivity in the market.
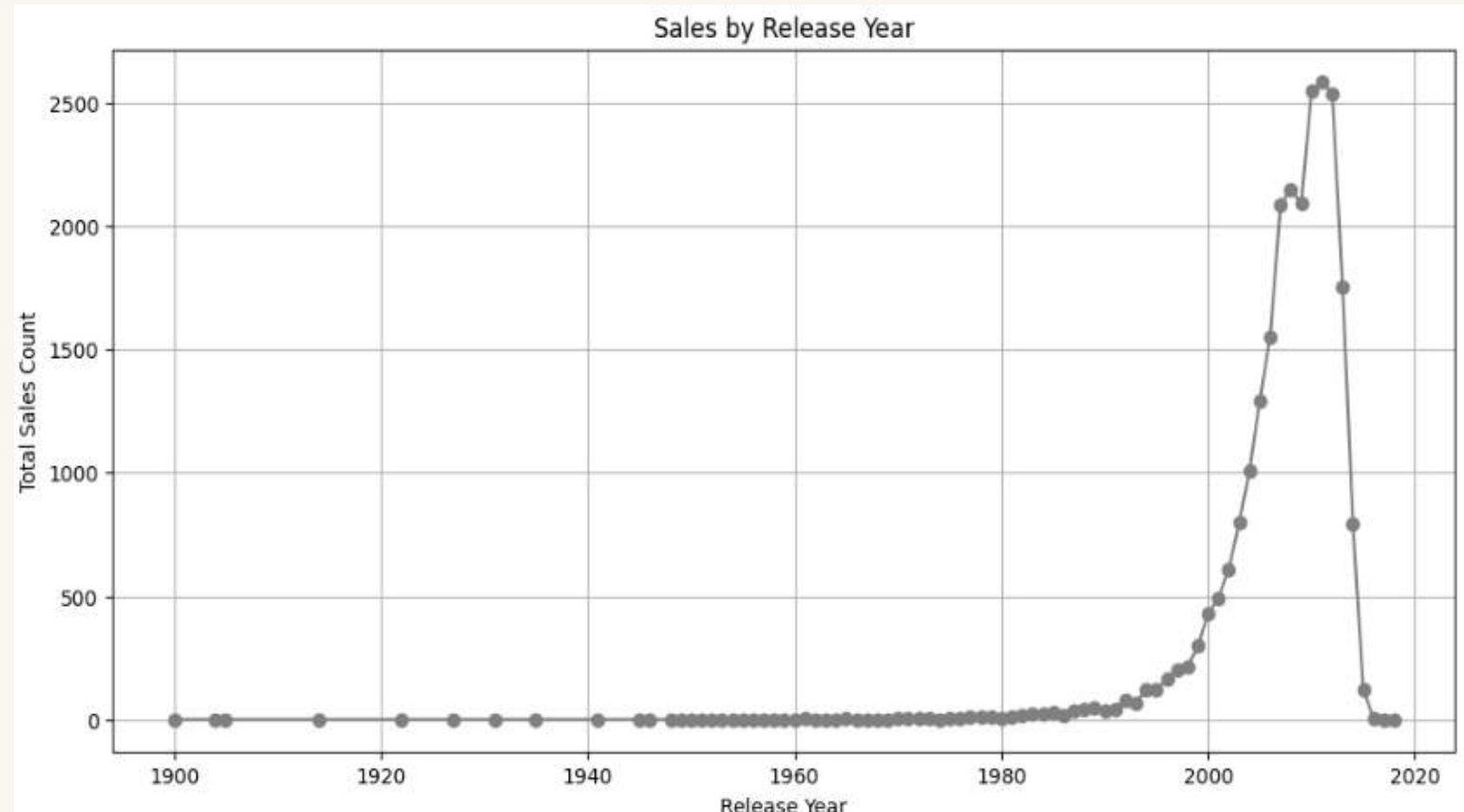
Conclusion

This insight points to the need for more competitive pricing strategies or bundling for higher-priced items to boost their sales.

Price vs Sales

Sales Trends by Product Release Year

Sales by Release Year

1 Visual

Line graph showing the trend of sales by product release year.

2 Key Insights

Sales peaked for products released around the 2000s, followed by a sharp decline in recent years. This decline could indicate market saturation or a shift in consumer preferences.

3 Conclusion

To revitalize sales, we should consider innovating our product offerings or refreshing existing products through updated marketing strategies and price adjustments.

Strategic Recommendations & Conclusion

Focus on Category A

Prioritize inventory management, stocking, and marketing of Category A items due to their high value contribution.

Leverage Sales Data

Maintain and expand efforts on top-selling SKUs, refining pricing strategies to boost the sales of underperforming SKUs.

Streamline Category C

Reevaluate and potentially reduce the SKU count in Category C, focusing on eliminating low-value items.

Revisit Product Strategy

Address the decline in recent sales by exploring new product lines or revitalizing existing products through strategic marketing and pricing.

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