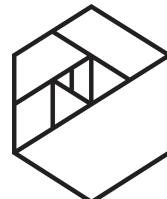

Business Fundamentals Presentation Slides

*Does Global Office Superstore operate in the
most profitable manner possible?*

George Pappy - 13 October 2021



Introduction

Current mission: *Sell everything, everywhere, to everyone:*

- Office Supplies

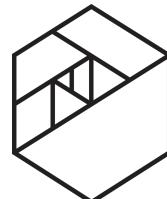


- Furniture



- Technology





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Introduction (con't.)

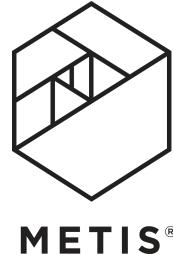
Is the current sales strategy optimally profitable?



?
⇒ \$\$\$

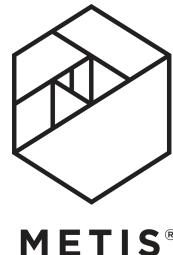
“Everything but the kitchen sink!”

Introduction (con't.)



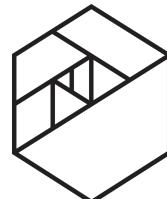
Is the current sales strategy optimally profitable?

- Or, do some products consistently lose money in some countries or with some customers?
- If profits are not optimal, why? (And what can be done to rectify this?)



Introduction (con't.)

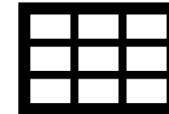
- Impact Hypothesis: “Identifying products, regions and/or customers, with consistent losses will enable the client to modify sales policies to maximize profits.”
- Risk: Modified policies could unintentionally drive customer loss and result in lower profits
- Assumption: **High-value/high-profit products, regions and customers** can be identified and shielded from such modified policies



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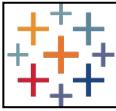
Methodology

- Primary Data: Global Superstore Dataset (from Kaggle)
 - 17,531 rows, 24 columns, all of calendar year 2014
 - Each row is part of an order
- Supplemental Data: Projected GDP by country (2015)
 - From Organisation for Economic Co-operation & Development (OECD)
 - (Did not end up using in final analysis)

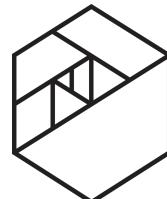


Methodology (con't.)

Methods & Tools

- Data cleaning, aggregation & summarization (Microsoft Excel) 
- Data aggregation & visualization (Tableau) 
- Iterative Approach: Insights found by moving between Excel and Tableau



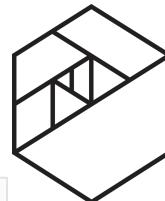


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Results – Excel “Manager’s Dashboard”

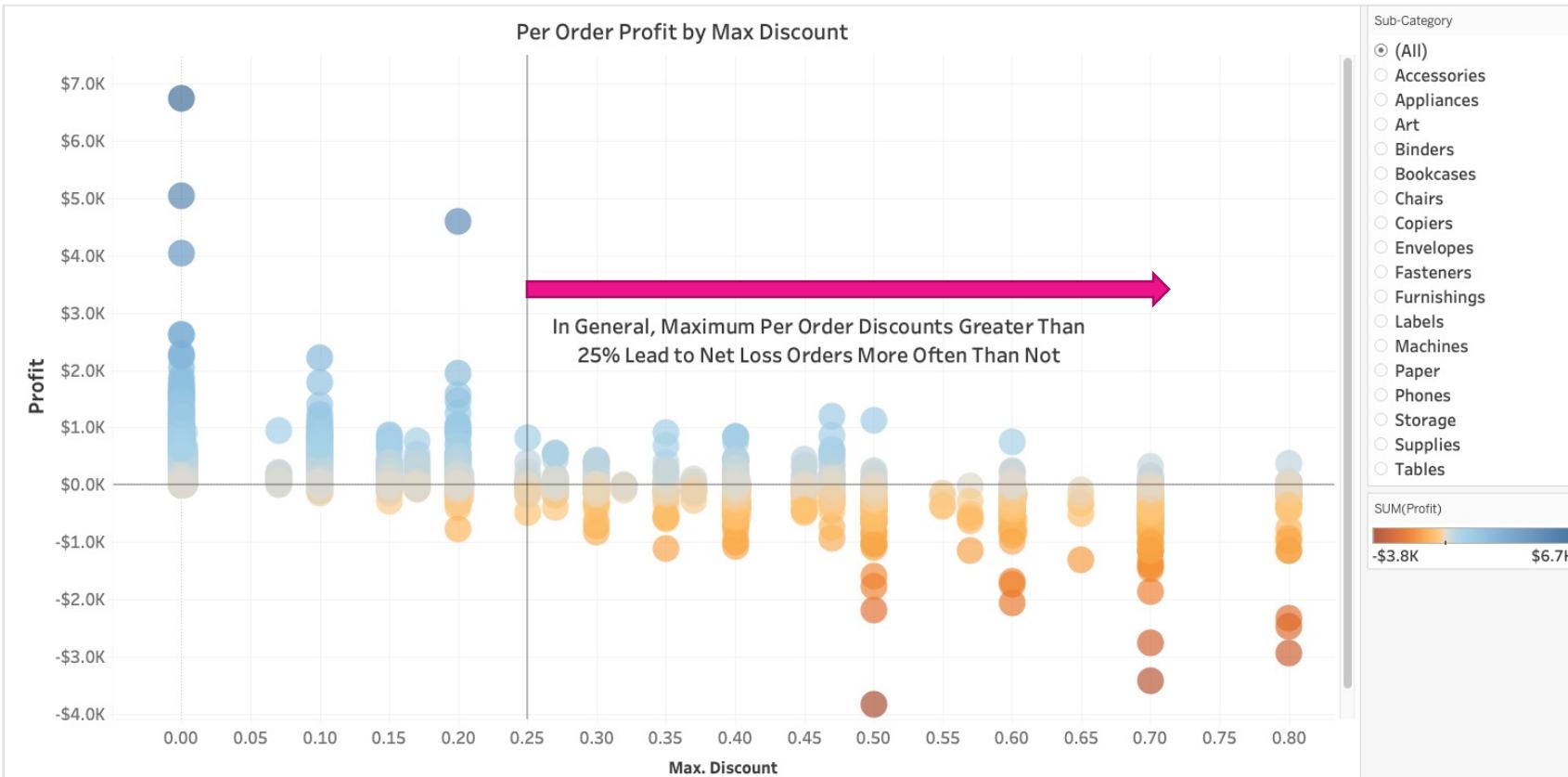
FILTERS	
Product Category:	ALL
Product Subcategory:	Furniture Office Supplies Technology
Ship Mode:	ALL
Segment:	ALL
Country:	ALL
Market:	ALL
Region:	ALL
Order Priority:	ALL
Discount Less Than or Equal to:	0.250
<-- (must be in between 0 and 1)	
Profit:	\$ 778,006.75

Discovery: Total Profit is significantly affected by Maximum Discount allowed



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Results – Tableau

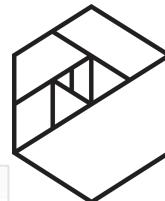




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Results – Tableau (con't.)

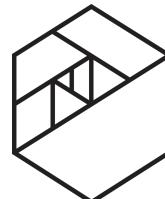




Results – Tableau (con't.)

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Conclusions

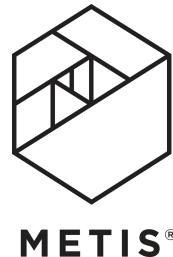
Recommendations

- Implement **A/B Testing** to optimize discount policy
- Take a Customer-Segmented Approach:
 - 1) Top M (most) Profitable Customers: Same discount policies as before
 - 2) Bottom N (least) Profitable Customers: Absolutely no discounts above 25%
 - 3) All Others (including new customers): A/B testing where a random half get same discounts as before, half get at most a 25% discount
- Monitor resulting profitability in $\{3, 6, 9, 12\}$ months

Conclusions (con't.)

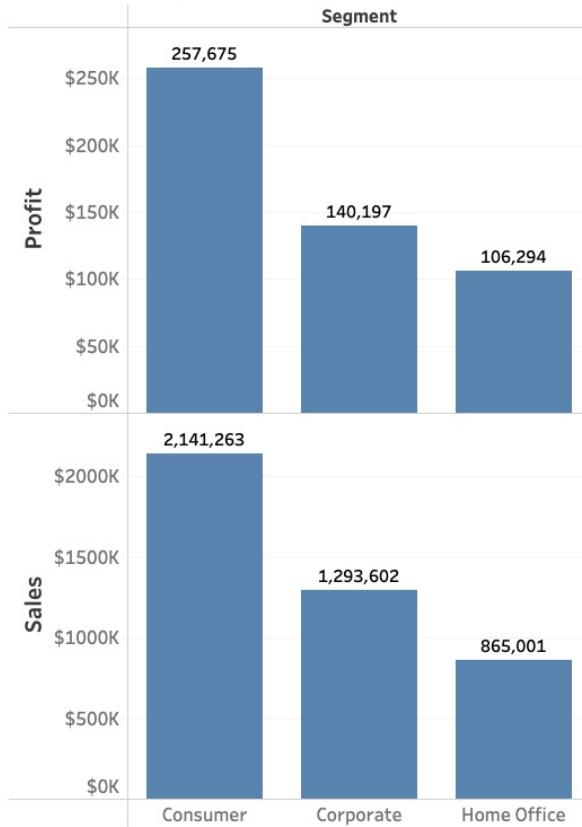
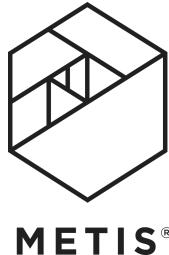
Future Work

- Use clustering to group customers based on annual profit as a function of maximum allowable discount
- Explore the impact of discontinuing some products in certain countries
 - Example: Tables in the US



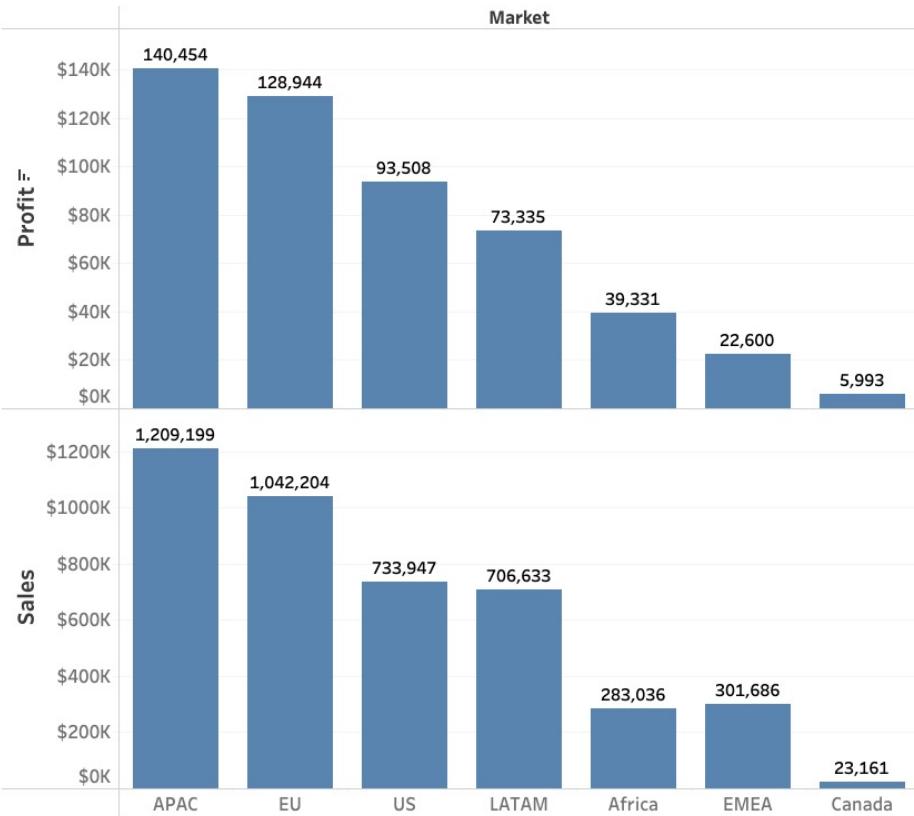
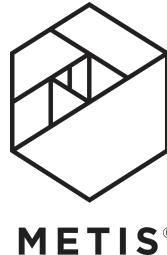
Appendix

Sales and Profit by Customer Segment



- Surprisingly, the combined Consumer and Home Office segments account for most of the Sales & Profit
- So, the Corporate segment may offer significant untapped opportunities for future growth

Sales and Profit by Market Segment

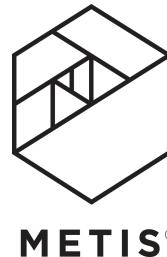


- Is Canada a potential growth market?
 - Population is $0.11 \times$ US Population
 - But Sales are only $0.032 \times$ US Sales
- Asian Pacific, European and Latin American markets are significant
- US (domestic) market also significant

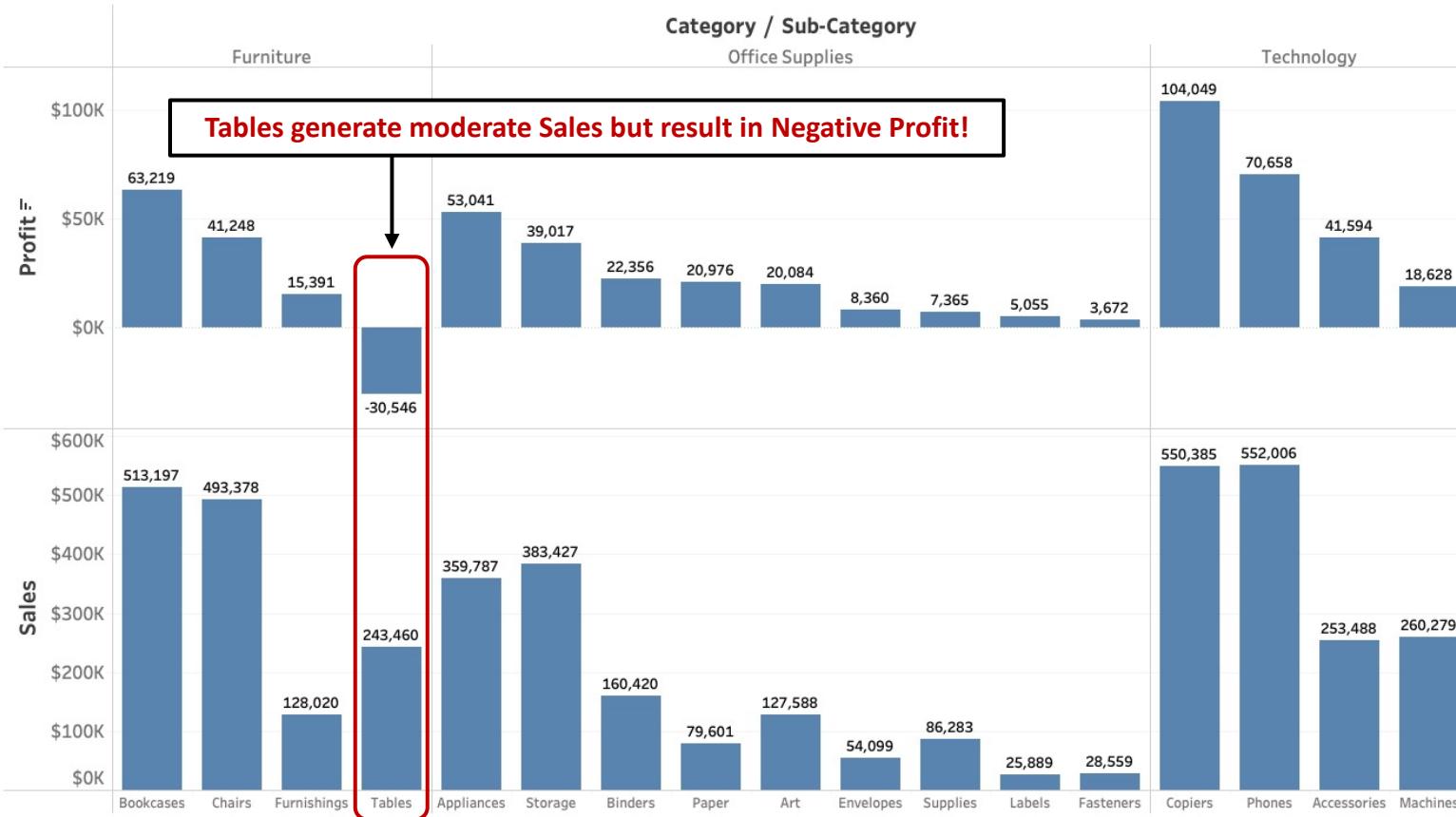
Sales and Profit by Product Category



- Technology accounts for the most Sales and Profit
- Furniture Sales have the lowest Profitability
- Office Supplies have reasonably high Sales and Profitability



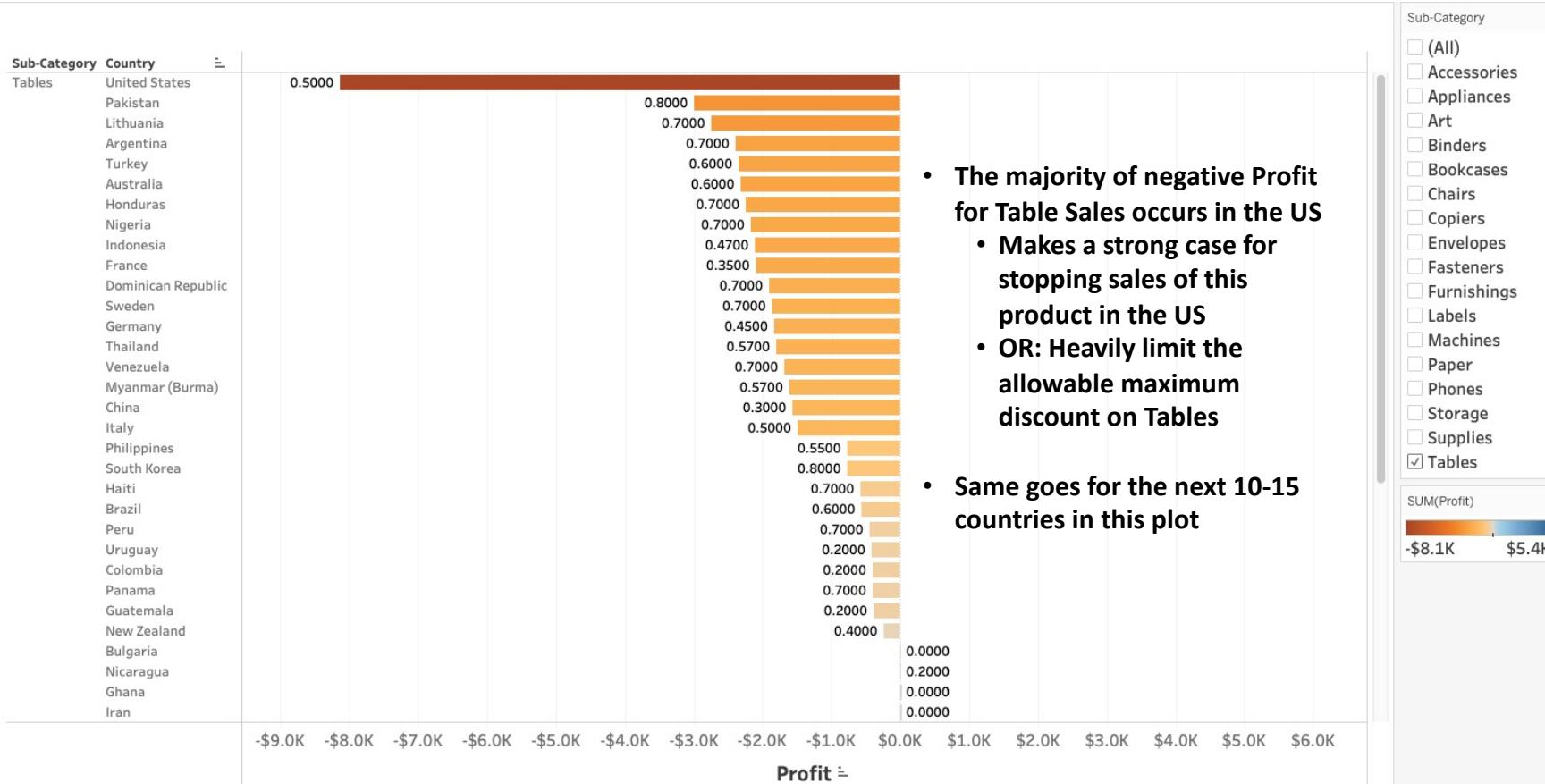
Sales and Profit by Category & Subcategory

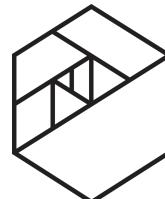




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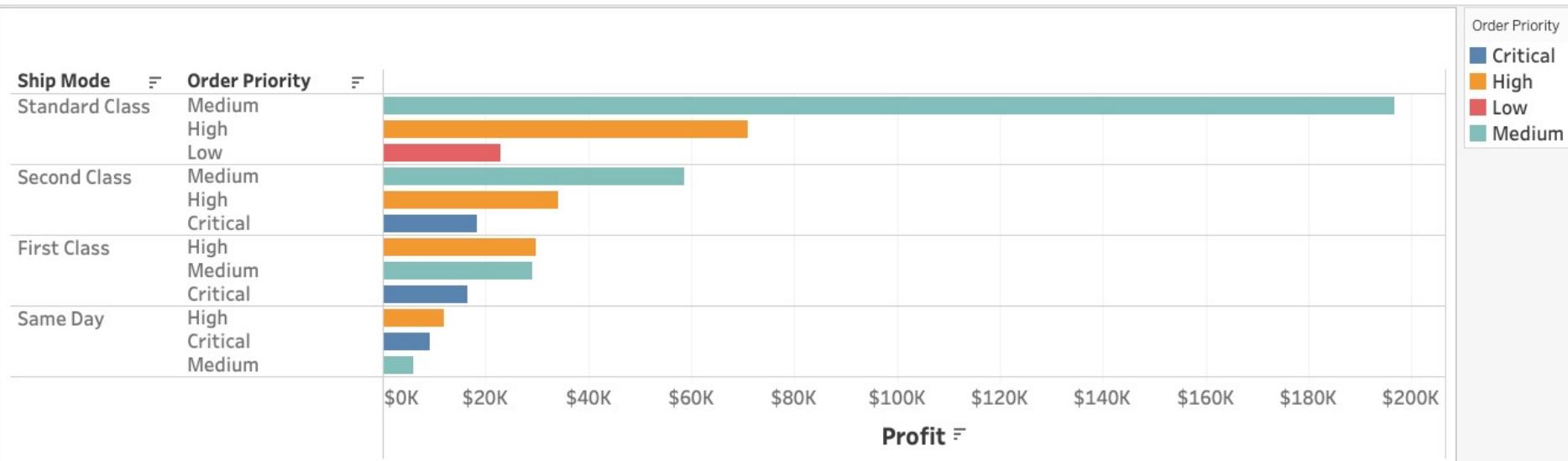
Profit by Subcategory & Country

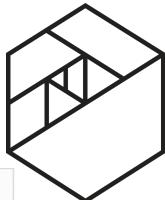




Profit by Shipping Mode & Order Priority

Ship Mode & Order Priority are never associated with negative Profits:





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Line Item Profit by Discount

