

BUSINESS INTELLIGENCE

GROUP 8: Product Category - Women's Apparel and Accessories
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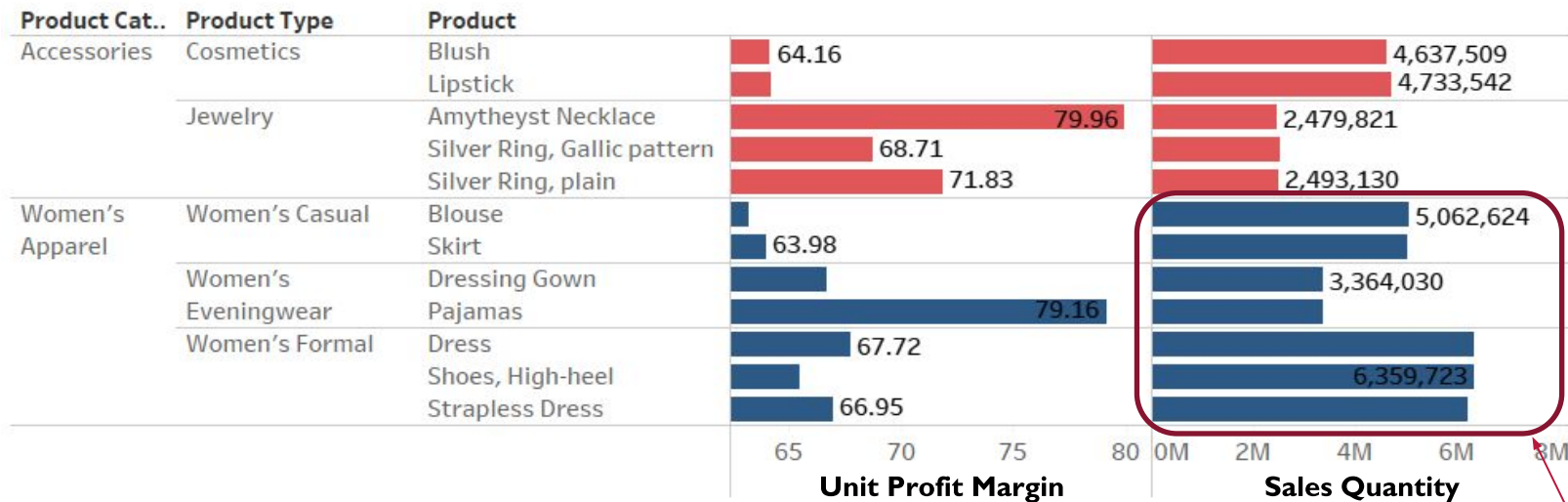
I: Marketing Strategies for Product Categories and their Detailed Types

Question : Recommend a marketing strategy for the overall Product Categories of Women's Apparel and Accessories, with details for Product Types.

- Which products / product types/ product category should be featured?
- What should be done in the next year to maximize the Product Category profits?
- How are they performing against target?
- Do you expect them to meet their 2014 target?

I: Which Products / Product Categories / Product Types should be featured?

Product Categories Profit Margin vs Sales



The graph on the left represents the Unit Profit Margin and Total Sales Quantity for each of the products.

Which are the highest selling products ?

- Dresses and Shoes (High Heel) are the highest selling products in Women's Apparel. They also have high Unit Profit Margins.
- In Accessories, Blush and Lipsticks have the highest sales but lowest profit margins.

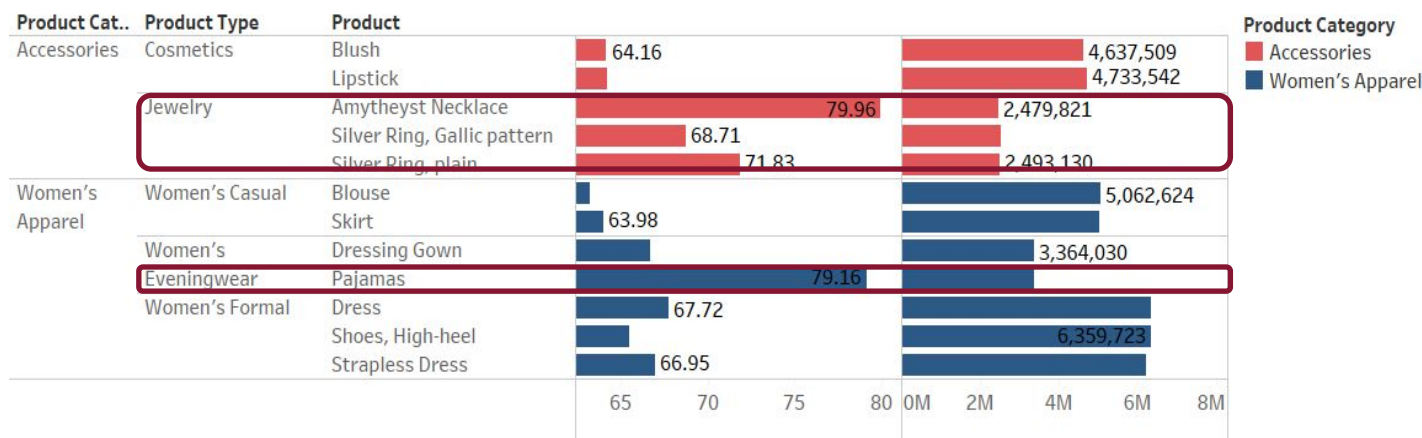
Which are the lowest selling products?

- In Women's Apparel, Dressing Gown and Pajamas have the lowest sales but relatively high profit margins.
- Similarly, in Accessories, Amethyst Necklace and Silver Rings have low Sales Quantity but some of the highest profit margins.

Overall, Women's Apparel > Accessories in terms of Sales Quantity

I: What should be done in the next year to maximize profits ?

Product Categories Profit Margin vs Sales



Average of Unit Profit Margin and sum of Sales Quantity for each Product broken down by Product Category and Product Type. Color shows details about Product Category. For pane Average of Unit Profit Margin: The marks are labeled by average of Unit Profit Margin. For pane Sum of Sales Quantity: The marks are labeled by sum of Sales Quantity. The data is filtered on Date Year, which keeps 2013 and 2014. The view is filtered on Product Category and Product Type. The Product Category filter keeps Accessories and Women's Apparel. The Product Type filter keeps 10 of 10 members.

Accessories :

Jewelry products, Amethyst Necklace and Silver Rings have the highest unit profit margin but lowest sales

Strategy : To maximize profits, the business should focus their marketing efforts on selling these products. Perhaps there can be joint marketing efforts for the two types of Silver Rings or can they can be sold as bundled packages to boost their sales.

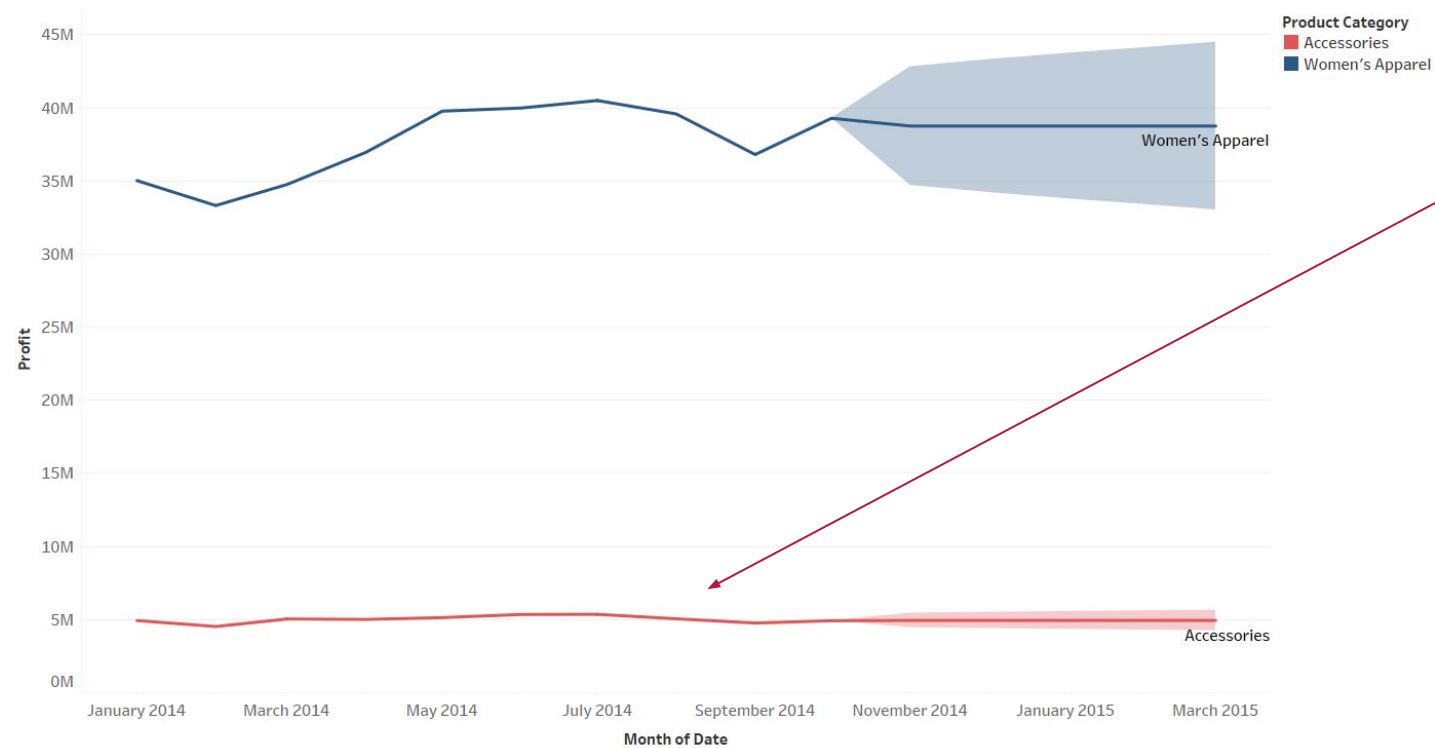
Women's Apparel :

In Evening wear, Pajamas have the highest unit profit margin but lowest sales. We notice that in general the sales are low for that Product type, Women's Evening wear.

Strategy: To maximize profits, the business needs to focus their efforts on increasing sales for Pajamas.

I: What should be done in the next year to maximize profits ?

Category-wise Profits



The Category-wise profits for Women's Apparel show a significant variation whereas Accessories have a more stable trajectory, all year around.

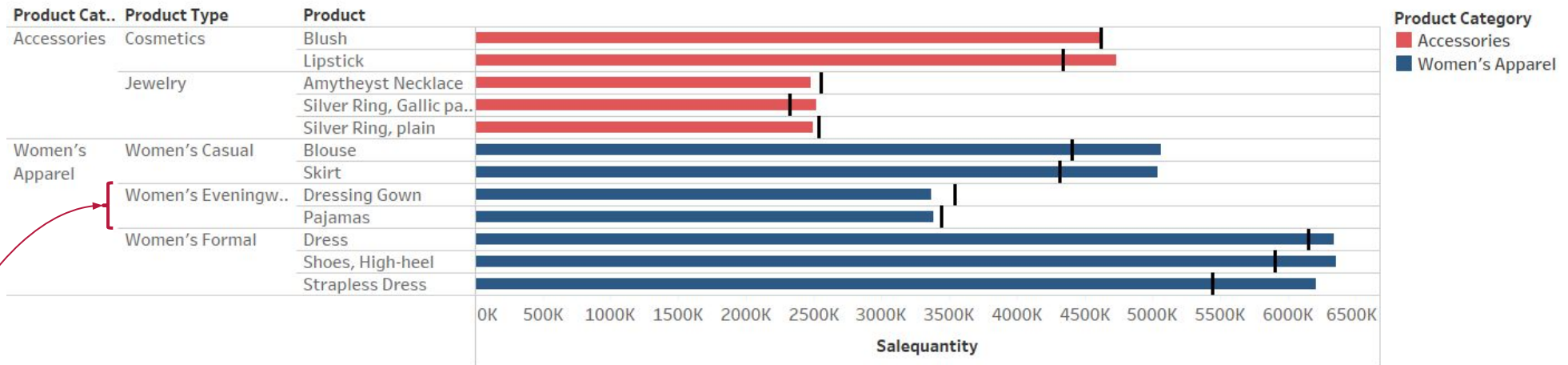
While focusing on marketing efforts for these high profit products, it might be helpful to strategically place the campaigns in those times of the year where typically sales for the products maybe high.

For example, the price of Jewelry products such as Amethyst Necklace and Silver Rings is around \$25 – \$50. Targeting marketing campaigns around holiday seasons such as Christmas and bundling up products has the potential of increasing sales and ultimately maximizing profits for these high profitability products.

The trend of sum of Profit (actual & forecast) for Date Month. Color shows details about Product Category. The marks are labeled by Product Category. The data is filtered on Date Year, Product Category (QA1+ (sayalirkDW)), Product Type (QA1+ (sayalirkDW)) and Action (Product Category,Product Type,Product). The Date Year filter keeps 2014. The Product Category (QA1+ (sayalirkDW)) filter keeps Accessories and Women's Apparel. The Product Type (QA1+ (sayalirkDW)) filter keeps 10 of 10 members. The Action (Product Category,Product Type,Product) filter keeps 24 members. The view is filtered on Product Category, which keeps Accessories, Children's Apparel, Men's Apparel and Women's Apparel.

I: How are they performing against target? Do you expect them to meet their 2014 target?

Sales Vs Targets

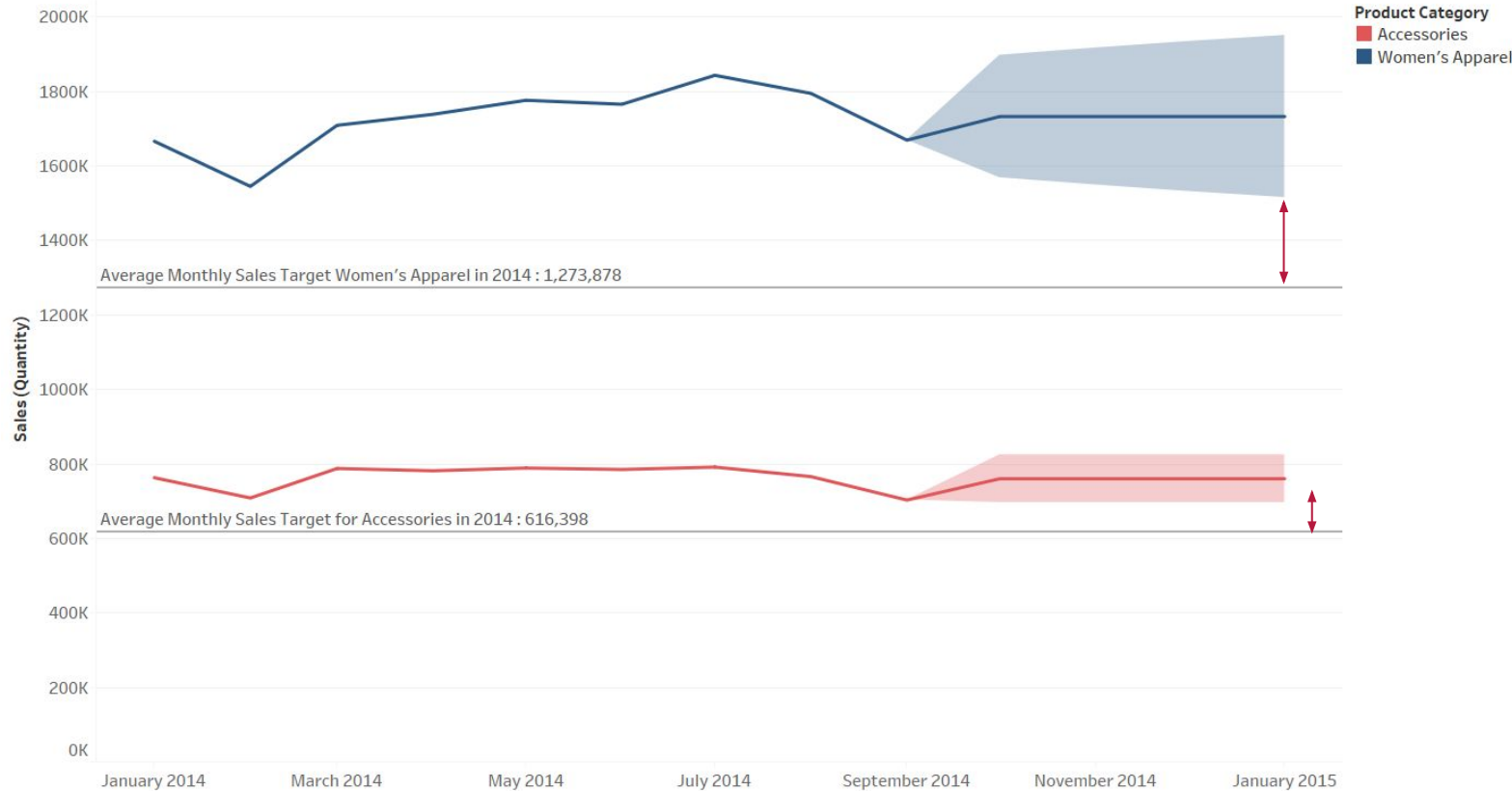


Sum of Salequantity for each Product broken down by Product Category and Product Type. Color shows details about Product Category. The data is filtered on Date Year, Product Category (QA1+ (sayalirkDW)), Date (QA1+ (sayalirkDW)) Year, Product Type (QA1+ (sayalirkDW)) and Action (Product Category,Product Type,Product). The Date Year filter keeps 2013 and 2014. The Product Category (QA1+ (sayalirkDW)) filter keeps Accessories and Women's Apparel. The Date (QA1+ (sayalirkDW)) Year filter keeps 2013 and 2014. The Product Type (QA1+ (sayalirkDW)) filter keeps 10 of 10 members. The Action (Product Category,Product Type,Product) filter keeps 24 members. The view is filtered on Product Category and Product Type. The Product Category filter keeps Accessories, Children's Apparel, Men's Apparel and Women's Apparel. The Product Type filter keeps 10 of 10 members.

- In general, over the period of 2013 and 2014, within Accessories, Amethyst Necklace and Silver Ring (plain) from the Jewelry Product Type do not meet their sales target.
- Similarly, within Women's Apparel, only Dressing Gown and Pajamas from the Women's Eveningwear Product Type did not meet their sales target.

I: How are they performing against target? Do you expect them to meet their 2014 target?

Product Categories Target 2014



2014 :

Since Sales Data was available only till the month of October, we built a forecasting model to predict the sales for the rest of 2014.

We observe that Women's Apparel and Accessories, as a whole, have been consistently exceeding their targets for 2014. Accessories has in fact very stable sales all year round. Thus, we expect them to meet their 2014 target.

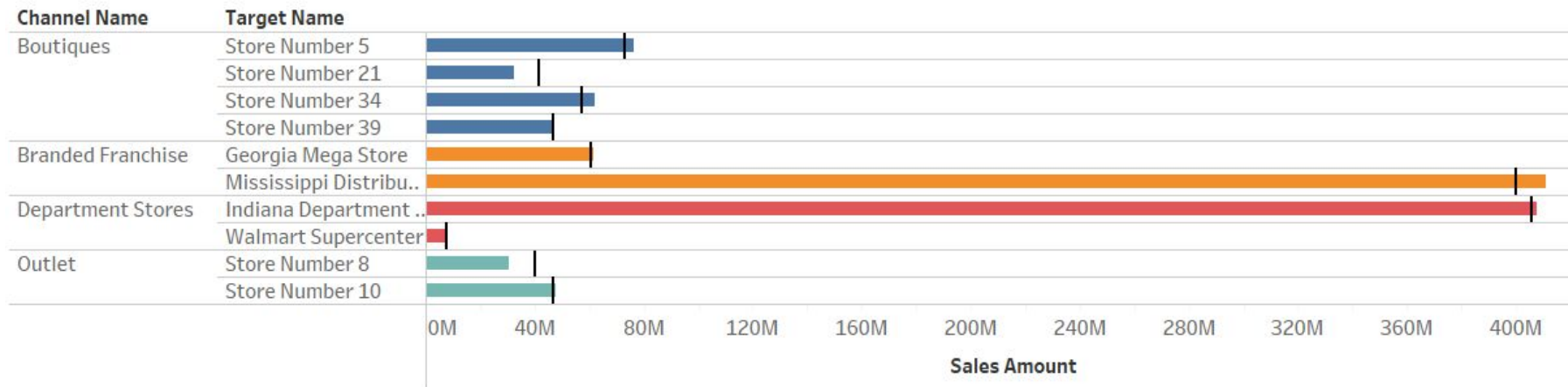
For the 2 Product Types of Women's Eveningwear and Jewelry, if the business focuses its marketing efforts, as discussed earlier, it would achieve the dual goal of maximizing profits for the business and meeting the individual targets for each of these products.

2: Bonus - Introduction

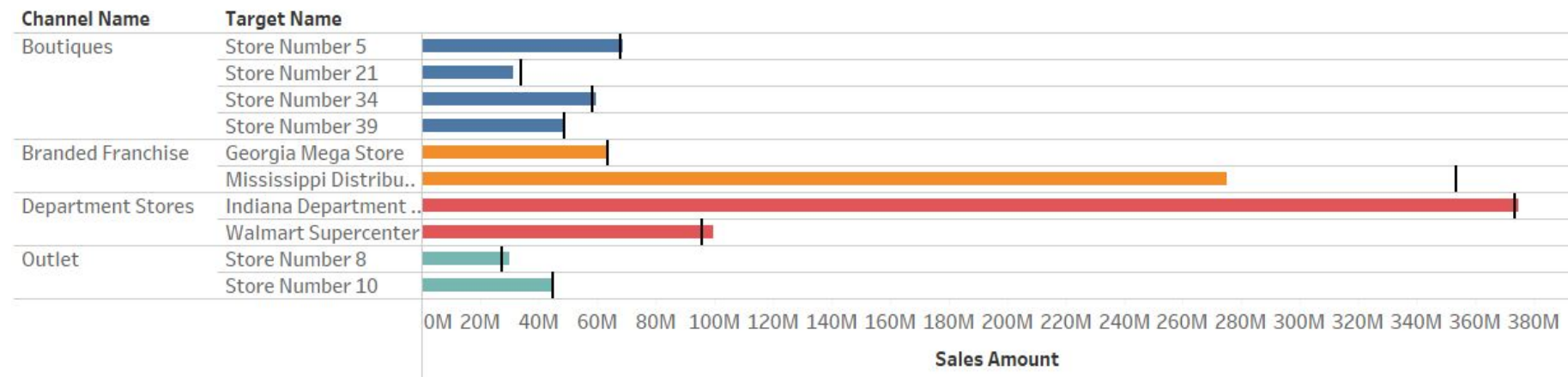
- Divide bonuses between 2013 and 2014 for the channel and reseller
- Increase positive outlook of the company
- Attract more resellers to sell the company's product
- Just like how Uber provides bonuses to its drivers
- We want our process to be:
 - Fair
 - Provide incentives to the most promising resellers and channels

2: Bonus - Evidence

Sales Vs Targets for Channel in 2013



Sales Vs Targets for Channel in 2014



- One of our most promising Reseller in 2013 Mississippi Distributors is not doing as well in 2014
- Our hypothesis is that given our data, it could be because of non-distribution of bonuses during that year and hence they may have shifted their resources to another company which has a reward model for the amount of target exceeded.
- Hence Universal Manufacturers should make up for this loss by giving out bonuses

2: Bonus - Process

- Fraction Exceeded (FE) = (Sales Amount - Sales Target) / Sales Target
- Calculate total fraction exceeded (TFE) for each Reseller, Store and Channel.
- For each Reseller, Store and Channel calculate the ratio of the individual FE with TFE and multiply it by the bonus allotted for that year.
- Formula:

$$(FE \div \sum FE) * Bonus_{year}$$

2: Bonus - Results

Bonus for 2013

Channel Name	Target Name	Sales Amount	Target Sales Amo..	Difference	Bonus %	Bonus Amount (\$)
Boutiques	Store Number 5	76,448,438	72,827,000	3,621,438	24.00	242,381
	Store Number 21	32,546,862	41,528,000	-8,981,138	0.00	
	Store Number 34	62,245,946	57,305,000	4,940,946	42.00	420,270
	Store Number 39	46,123,021	46,847,000	-723,979	0.00	
Branded	Georgia Mega Store	61,433,024	60,500,000	933,024	8.00	75,171
Franchise	Mississippi Distributors	410,915,216	400,000,000	10,915,216	13.00	133,010
Department	Indiana Department Store	407,735,647	405,500,000	2,235,647	3.00	26,873
Stores	Walmart Supercenter	6,955,048	7,500,000	-544,952	0.00	
Outlet	Store Number 8	30,664,139	40,262,000	-9,597,861	0.00	
	Store Number 10	47,916,947	46,932,000	984,947	10.00	102,295

Year

- ☐ (All)
☒ 2013
☐ 2014

Year

- ☐ (All)
☐ 2013
☒ 2014

Color_Difference



Bonus for 2014

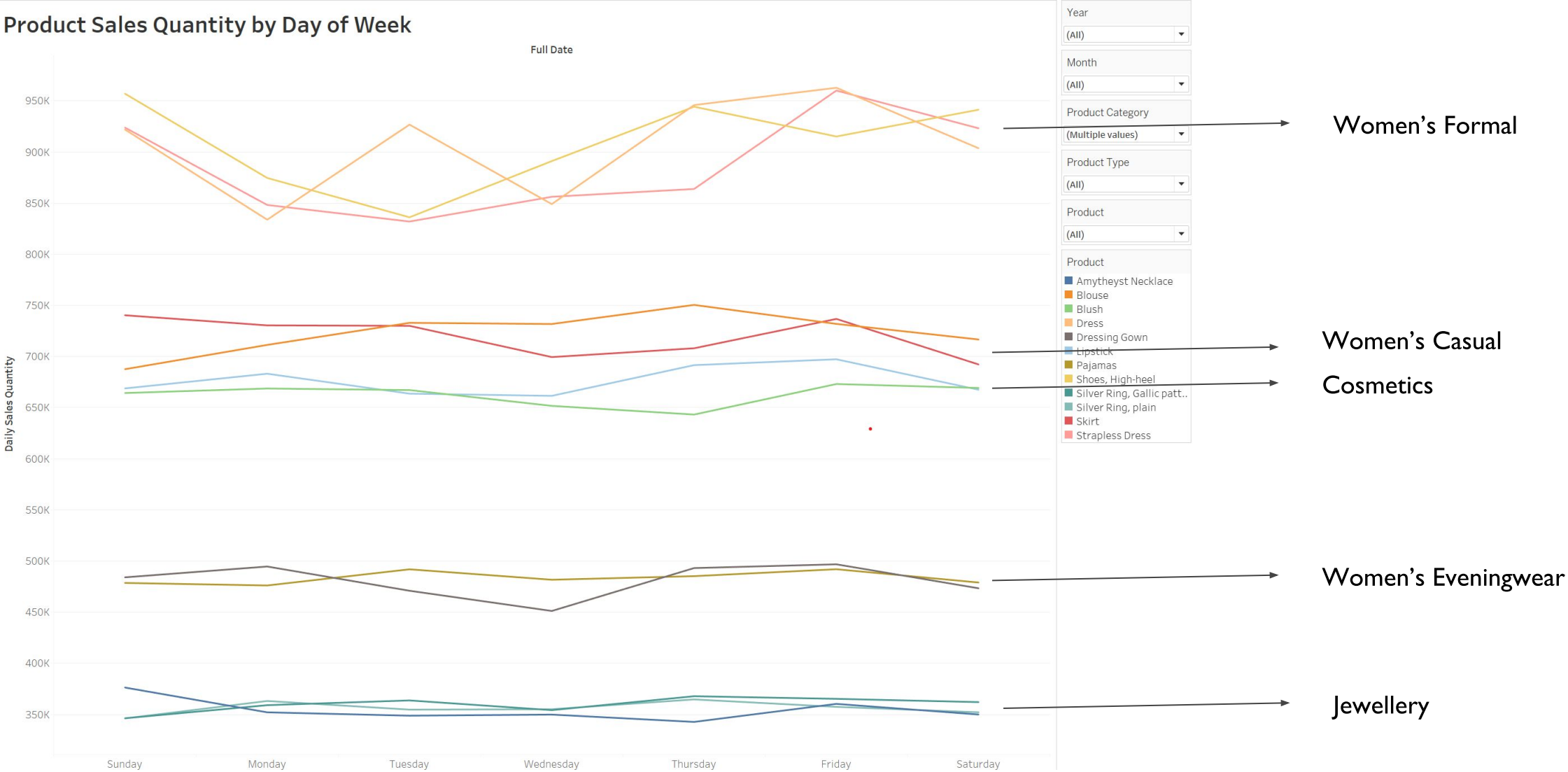
Channel Name	Target Name	Sales Amount	Target Sales Amo..	Difference	Bonus %	Bonus Amount (\$)
Boutiques	Store Number 5	68,719,159	68,071,233	647,926	6.00	123,614
	Store Number 21	31,256,024	34,036,032	-2,780,008	0.00	
	Store Number 34	59,692,914	58,524,658	1,168,256	13.00	259,241
	Store Number 39	48,251,213	48,703,307	-452,094	0.00	
Branded	Georgia Mega Store	63,307,492	63,505,479	-197,987	0.00	
Franchise	Mississippi Distributors	275,056,623	353,223,288	-78,166,665	0.00	
Department	Indiana Department Store	374,659,749	373,561,644	1,098,105	2.00	38,176
Stores	Walmart Supercenter	99,508,971	95,880,822	3,628,149	25.00	491,425
Outlet	Store Number 8	29,913,954	27,602,470	2,311,484	54.00	1,087,545
	Store Number 10	44,225,655	45,035,347	-809,691	0.00	

3: Product Sales' Trends

Question : Assess product sales by day of the week for the two Product Categories.

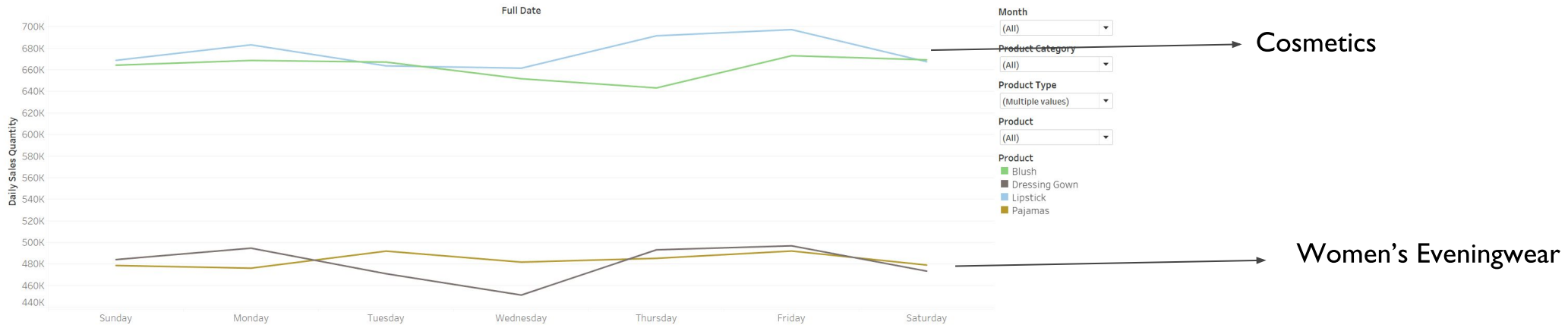
What can we learn about sales trends?

3: Product Hierarchy Sales' Trends by Day of Week

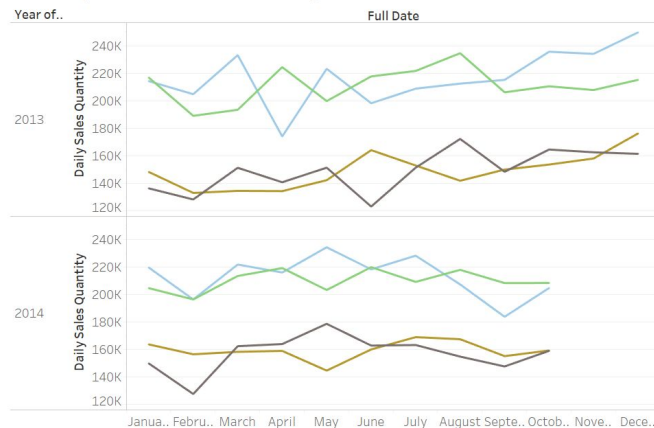


3: Product Hierarchy Sales' Trends for 2 Product Types

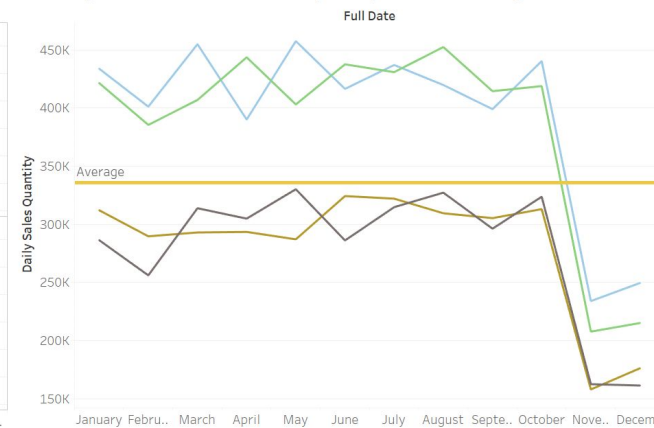
Product Sales Quantity by Day of Week



Monthly Product Sales Quantity

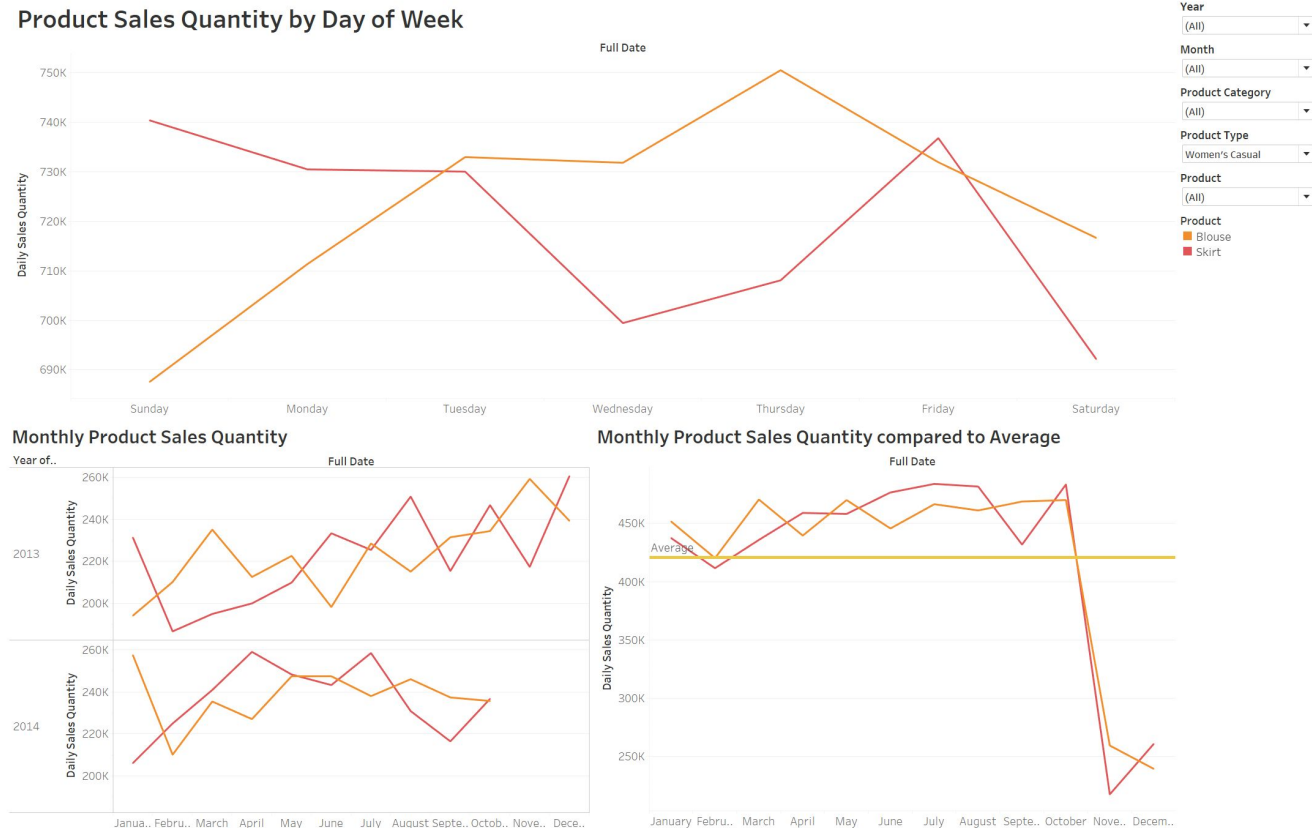


Monthly Product Sales Quantity compared to Average



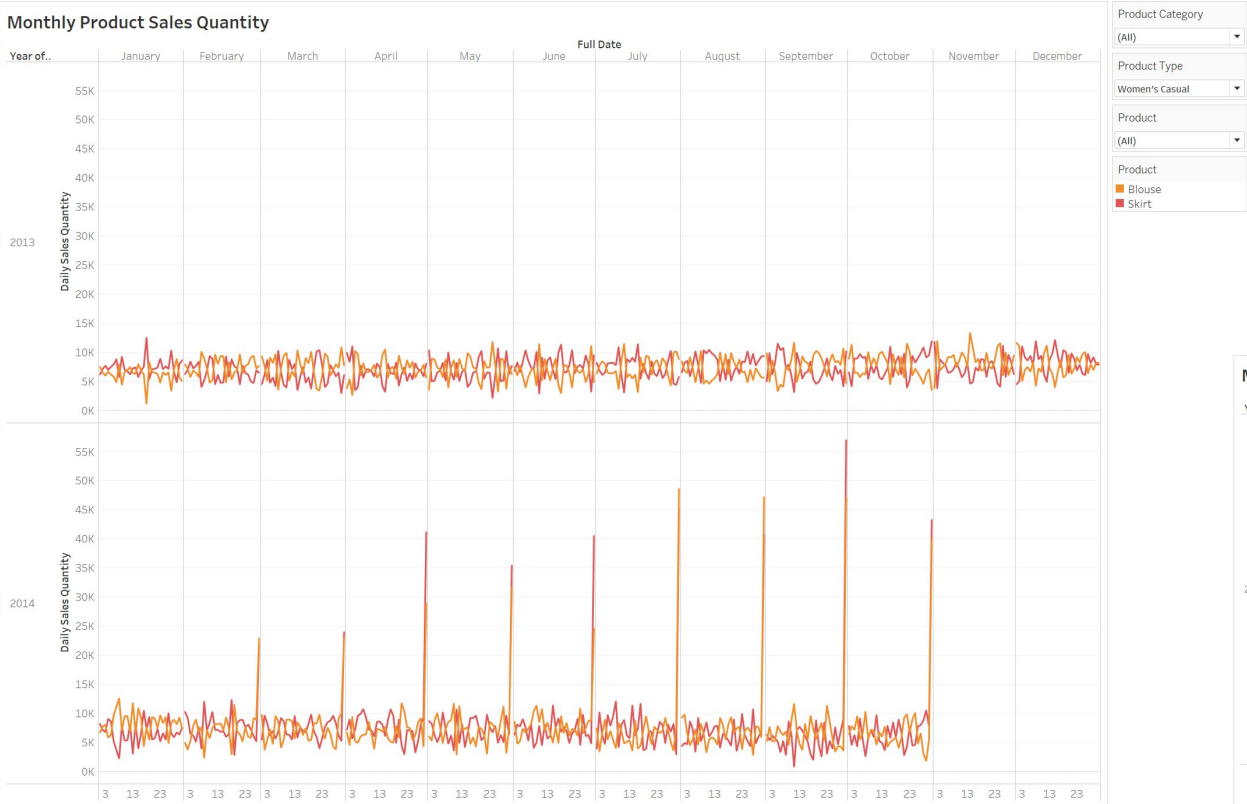
In general, within Product Types we see a contrasting trend, if the sales of one product rises on a particular day of the week, the sales of product in same type decreases on that day.

3: Product Hierarchy Sales' Trends for Women's Causal Type



For 2013, for Product blouse the trend looks like it is increasing overall. For 2014 it is not because we saw that in 2014, they may have a new strategy where near the end of the month, their sales increases drastically.

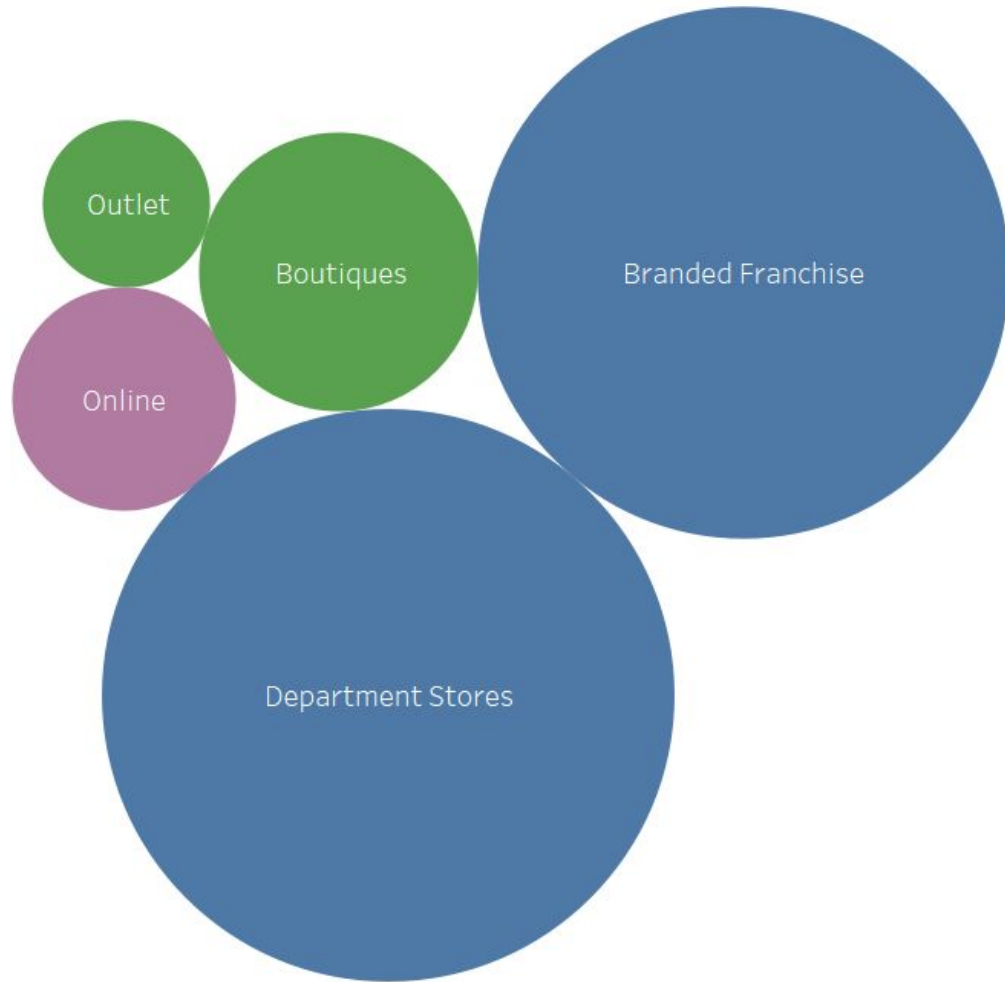
3: Daily and Monthly Product Hierarchy Sales' Trends



4: Marketing Strategies for Locations, Channels, Stores and Resellers to Maximize Sales

Question : Analyze patterns in product sales (for products in Product Categories of Women's Apparel and Accessories) by channel and location. What can you learn? If your goal was to maximize sales of Women's Apparel and Accessories which locations, channels, stores, resellers etc would you leverage the most?

4. Sales contribution by Channel



Reseller

The big fish:
~**80%** of the Total Sales Quantity

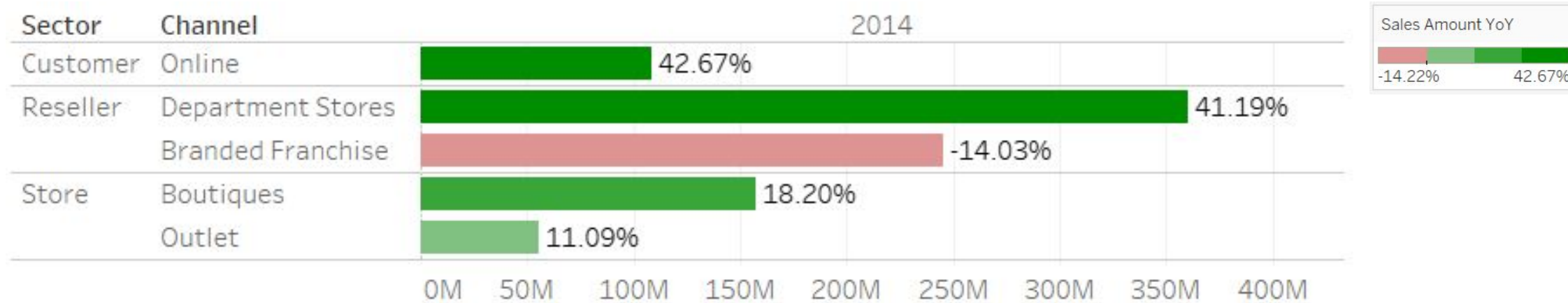
Stores

Second largest contributor:
~**15%** of the Total Sales Quantity

Online

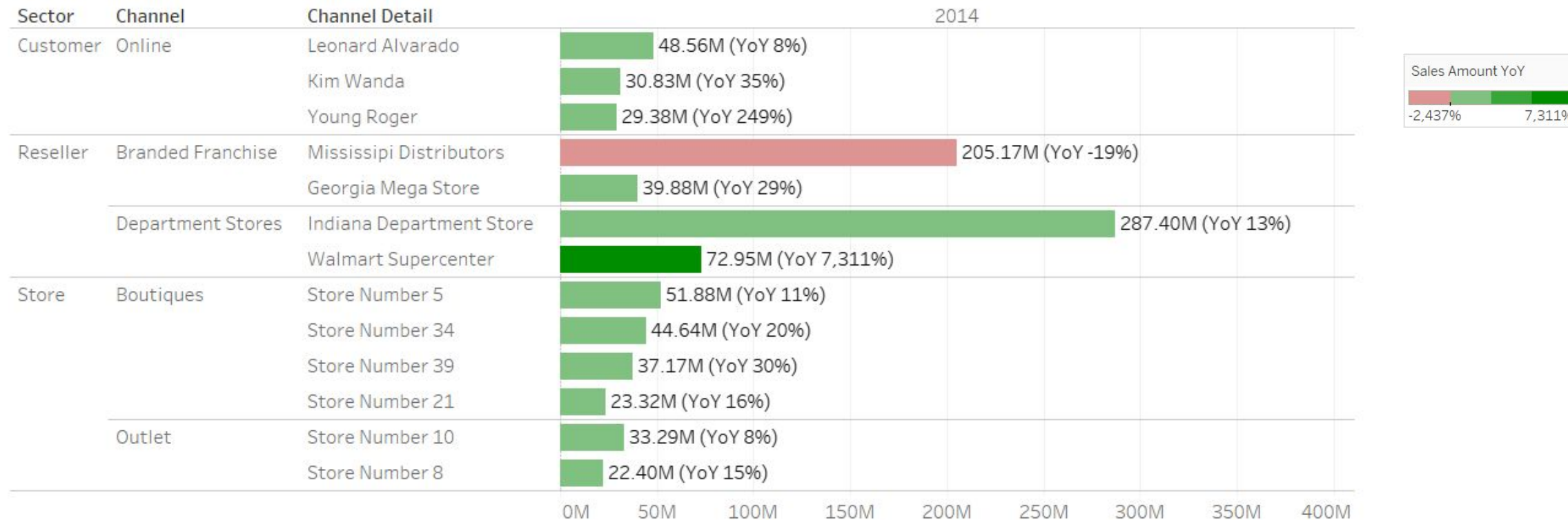
~**20000** customer sales transactions
(20% of total transactions)

4. Sales Yearly Growth Trends - Overview



- Customers: Highest YoY growth of 43% from 2013 to 2014.
- Resellers: Department Stores showed maximum growth with 41% YoY.
- Stores: Boutiques and Outlet showed similar growth patterns.

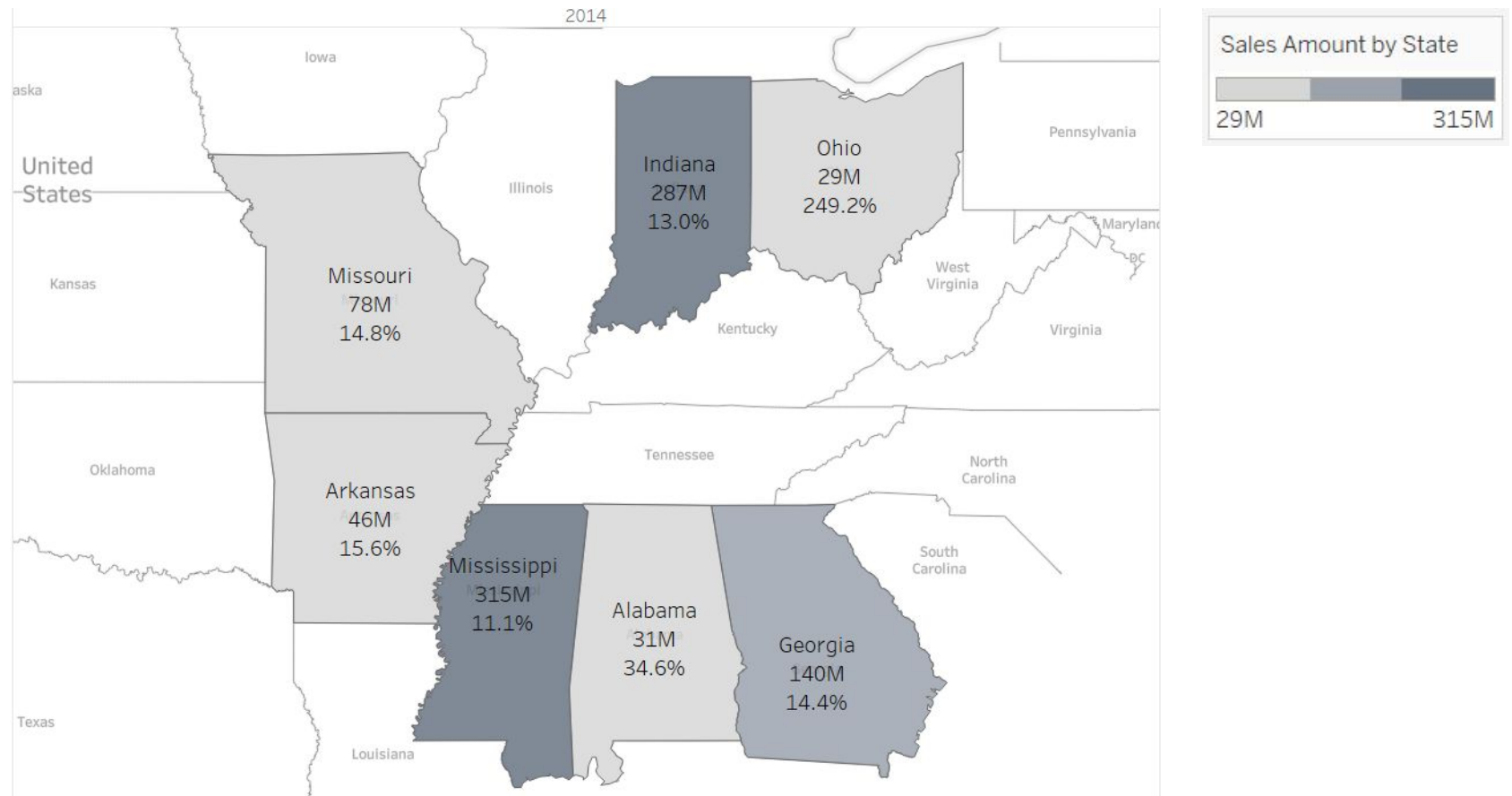
4. Sales Yearly Growth Trends - Detailed



- We find that the only Channel with negative growth rate is Mississippi Distributors.
- Possible case of cannibalization: Mississippi Distributors, Store 39 and Walmart Supercenter are all based in Mississippi.

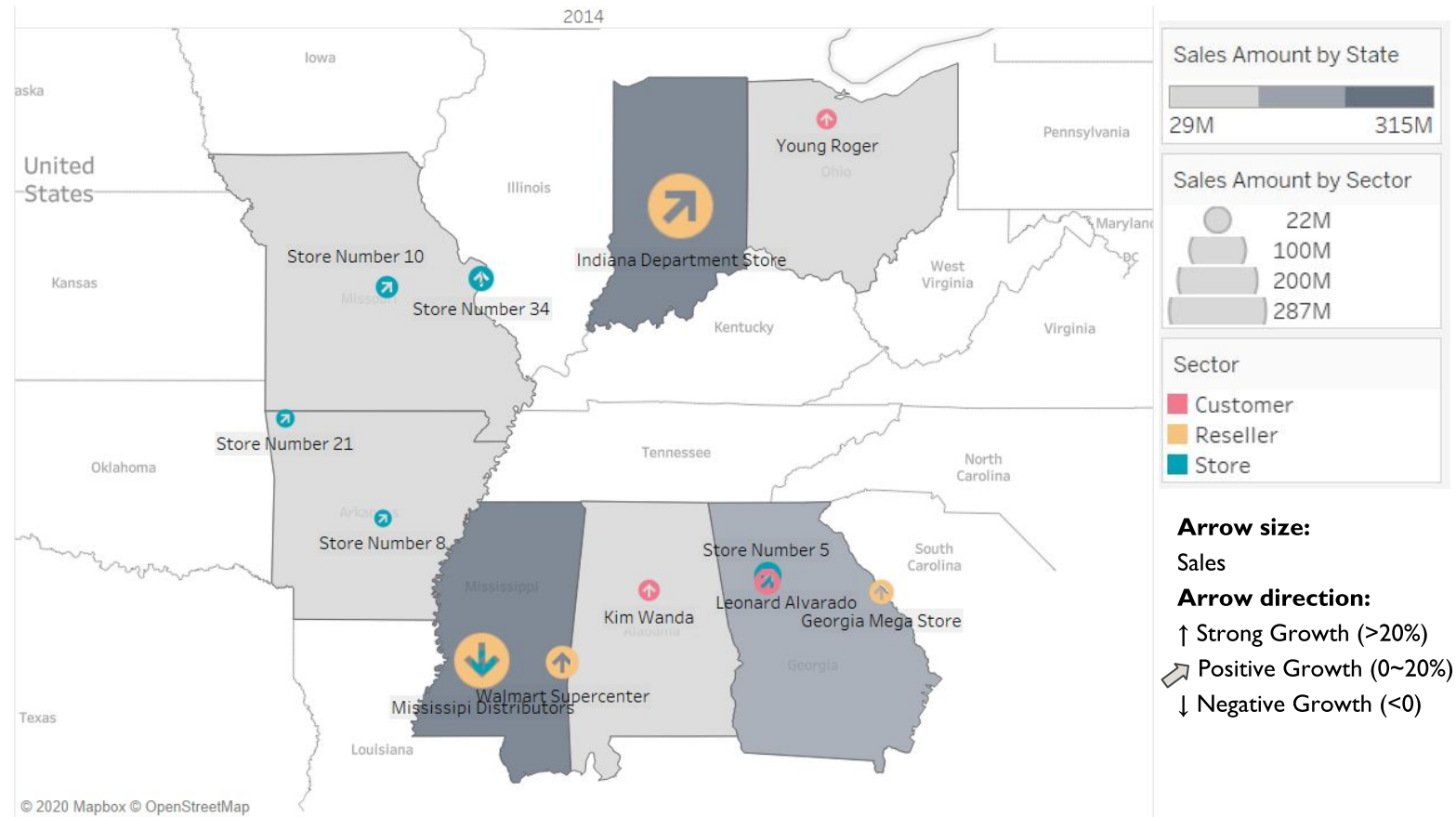
4. Sales by Location

- The biggest contributors to Sales by state are **Indiana** and **Mississippi** (~600 million total)
- Highest growth is in Ohio, a reflection of a single customer's growth rate (No stores and resellers)



4. Sales by Location and Channel

- **Strong Positive growth:**
Walmart Supercenter,
Georgia Mega Store,
Store #34,
Store #39
- **Positive growth:**
Indiana Department
Store



THANK YOU!

