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Global Superstore

Data Visualization & EDA Project | Tableau & Python

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- **Loaded and transformed superstore datasets into Pandas data frame.**
- **Cleaned the superstore datasets.**

The Superstore Dataset Distribution:

- 51290 transactions information for orders, shipping, returns, addresses in year 2011-2014
- 3636 unique cities, 1094 states, 147 countries and 13 market regions in world-wide market
- 17 categories of products in 7 domain markets
- 41296 missing data for Postal Code and replaced by NA

Files

- global_superstore_orders.xls
- global_superstore_returns.xls
- rfm_segments.csv
- rfm_table.csv
- rfm_analysis.py

check out the datasets, twb files, py scripts here:



https://github.com/yuqingzhang777/Global_superstore_dataviz_edu.git



Increase Revenue and Profit

● Products Sales and Profits

- Find out the top sales categories and products and Indicate the % of sales derived from top products
- Present 4 years seasonal and monthly profit performances with Daily KPI
- Compare profit to profit goal within each category of products

● Customer Cohort Analysis

- Segment customers based on recency, frequency and monetary behaviors and apply RFM analysis
- Analyze purchase frequency by customer cohort and create new customer acquisition model
- Analyze customer retention and find out the how the loyal customers contribute to total sales

● Geographical Strategy

- Dig out how much each country contribute to total sales by product

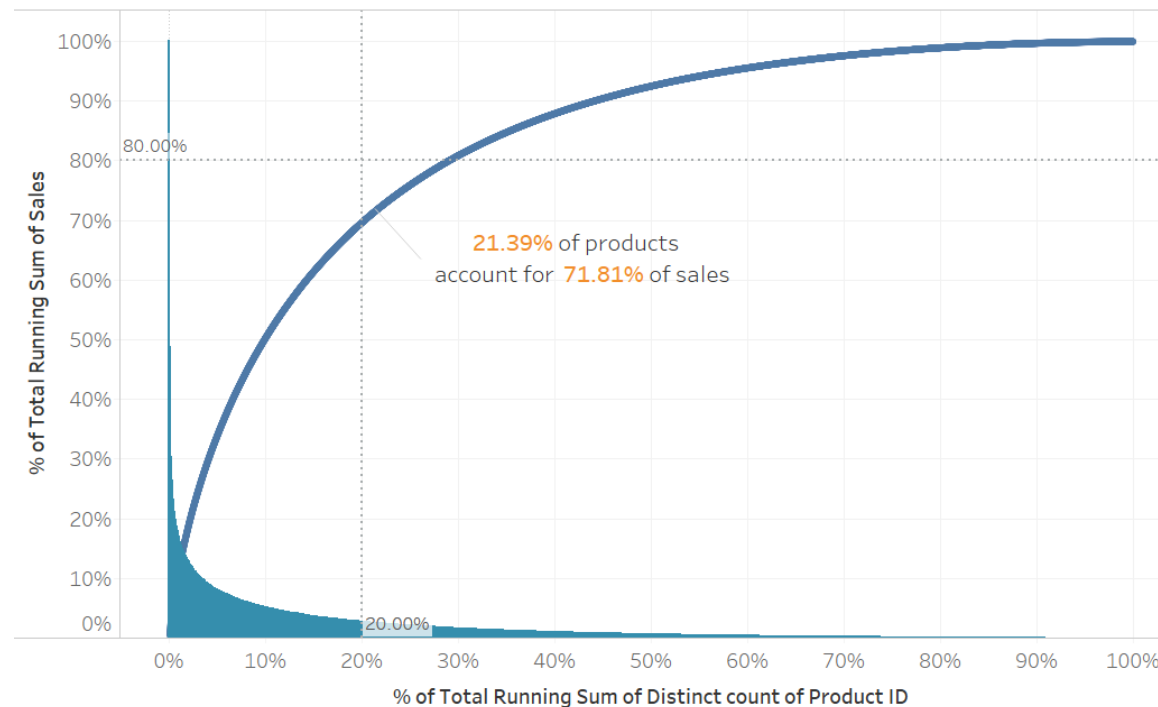
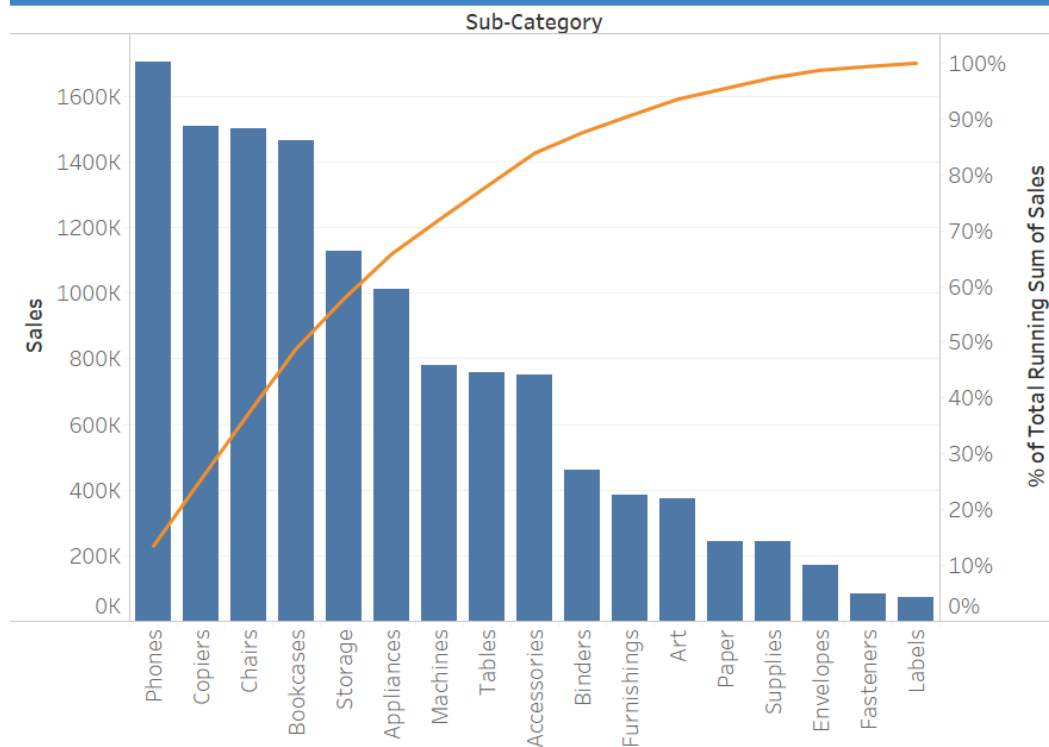


Products Sales and Profits

For Tableau Dashboard view click here



How many percentage of sales derived from the top products?

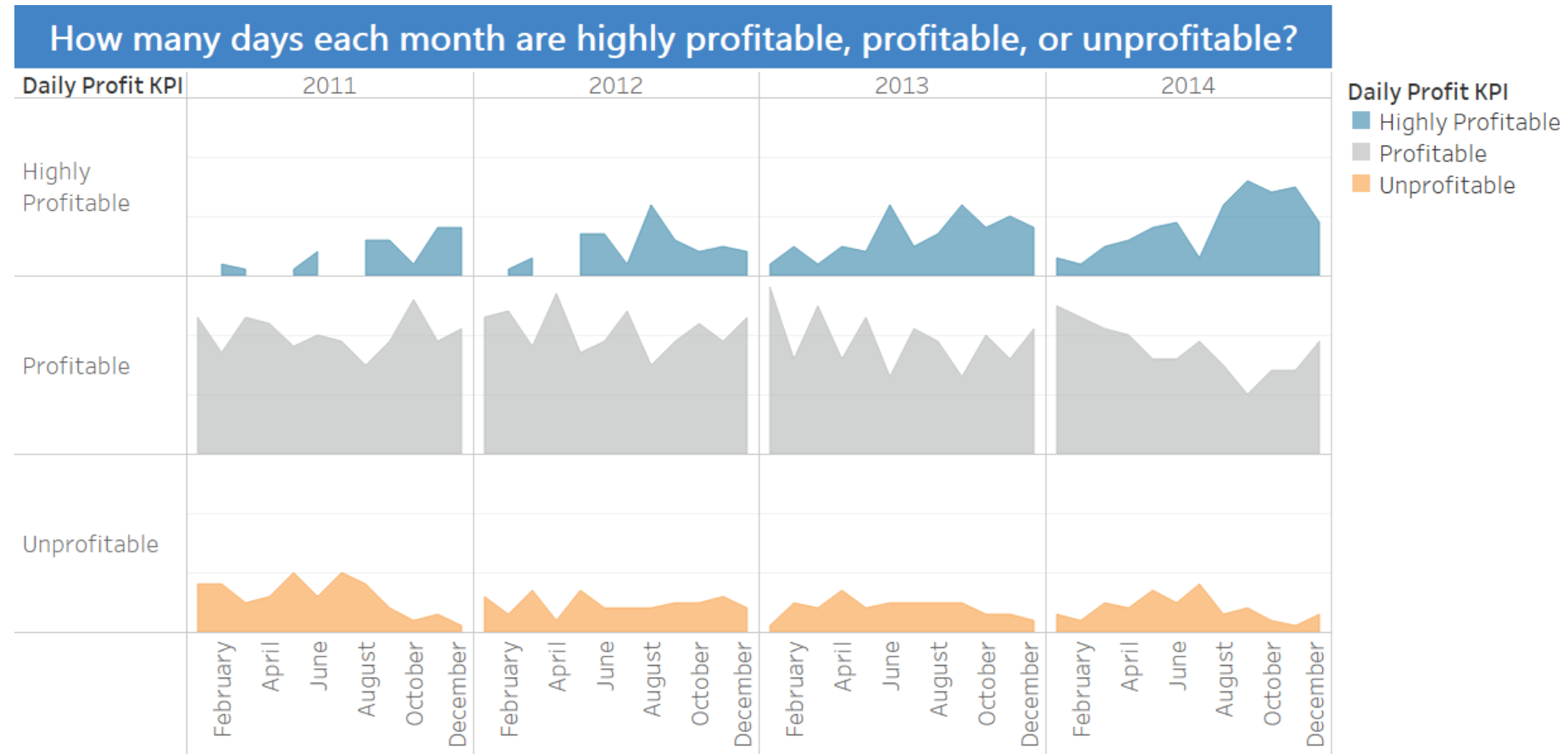


- Approximately 20% of products account for 70% sales
- Top Sales categories are phones, copiers, chairs, bookcases



Products Sales and Profits

For Tableau Dashboard view click here

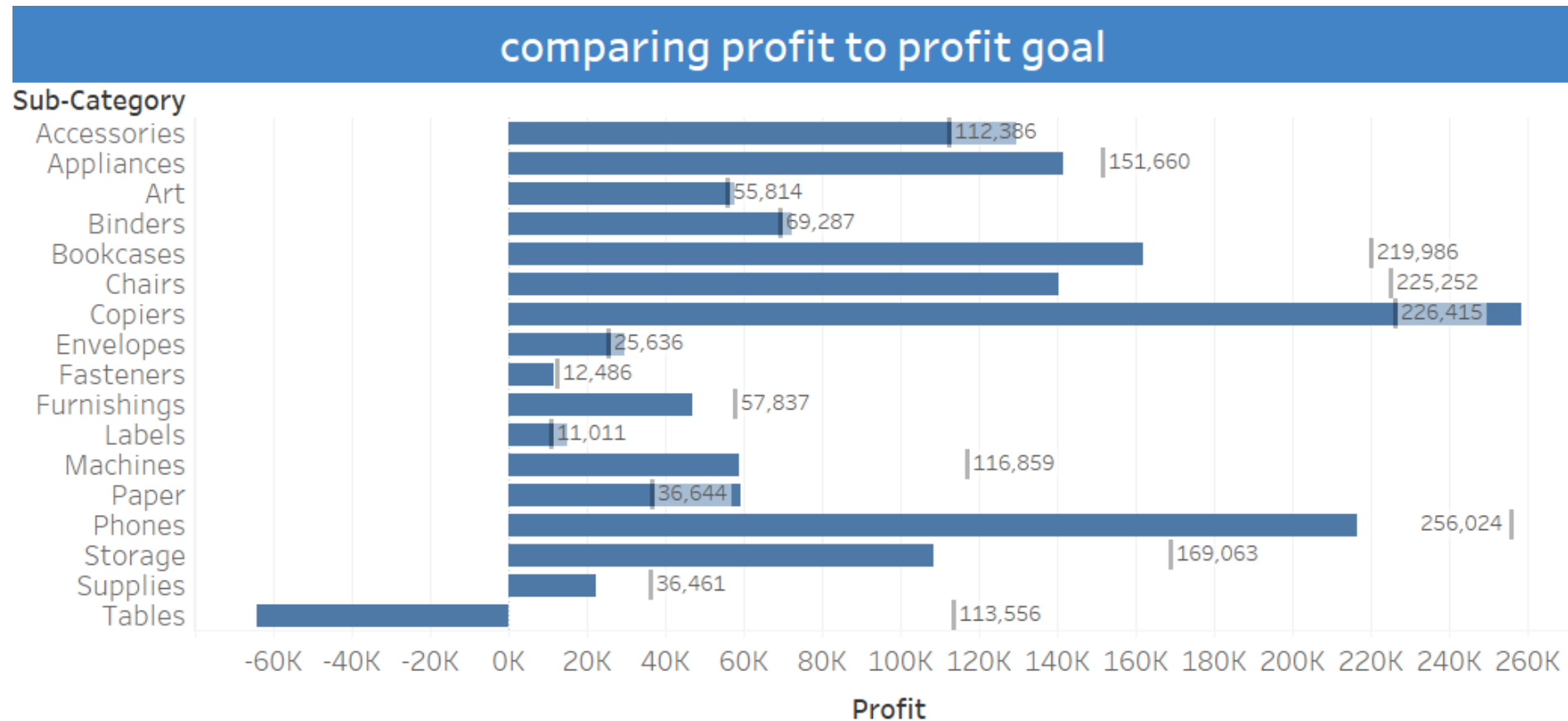


- Distinct count of Orders with profitable levels broken down by date, month and year
- September through November in years are more likely to hit the highly profitable KPI



Products Sales and Profits

For Tableau Dashboard view click here

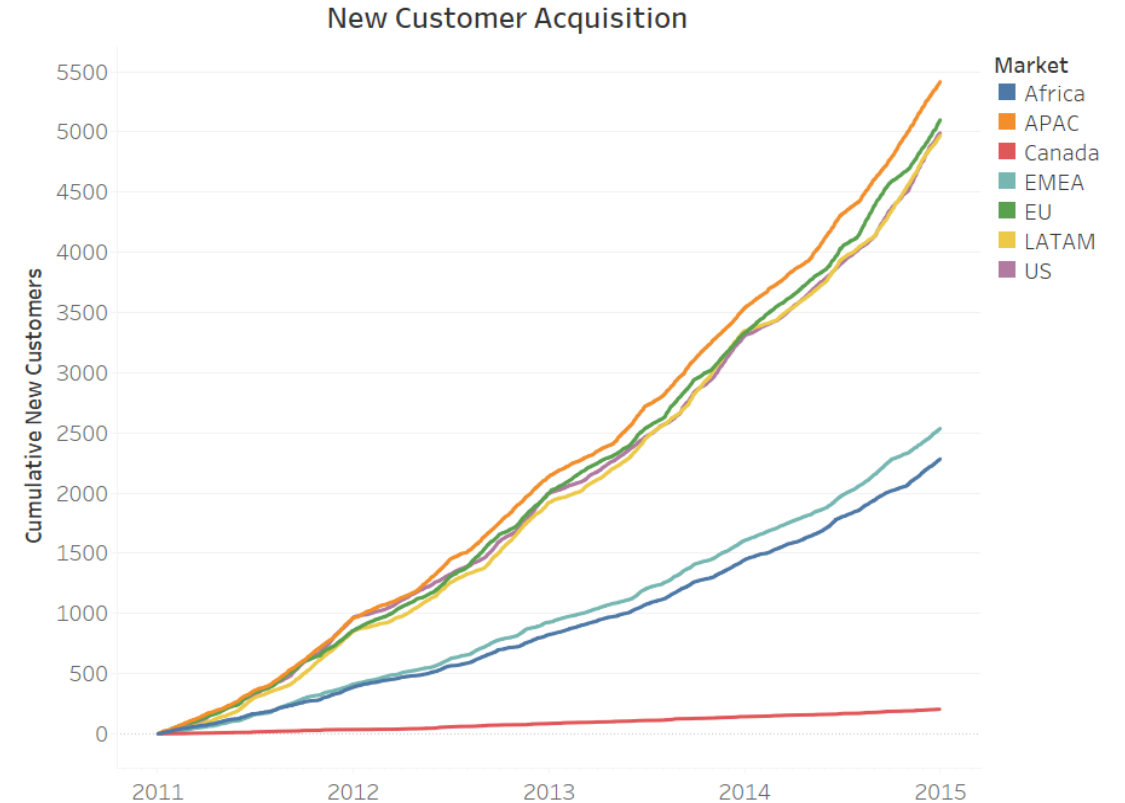
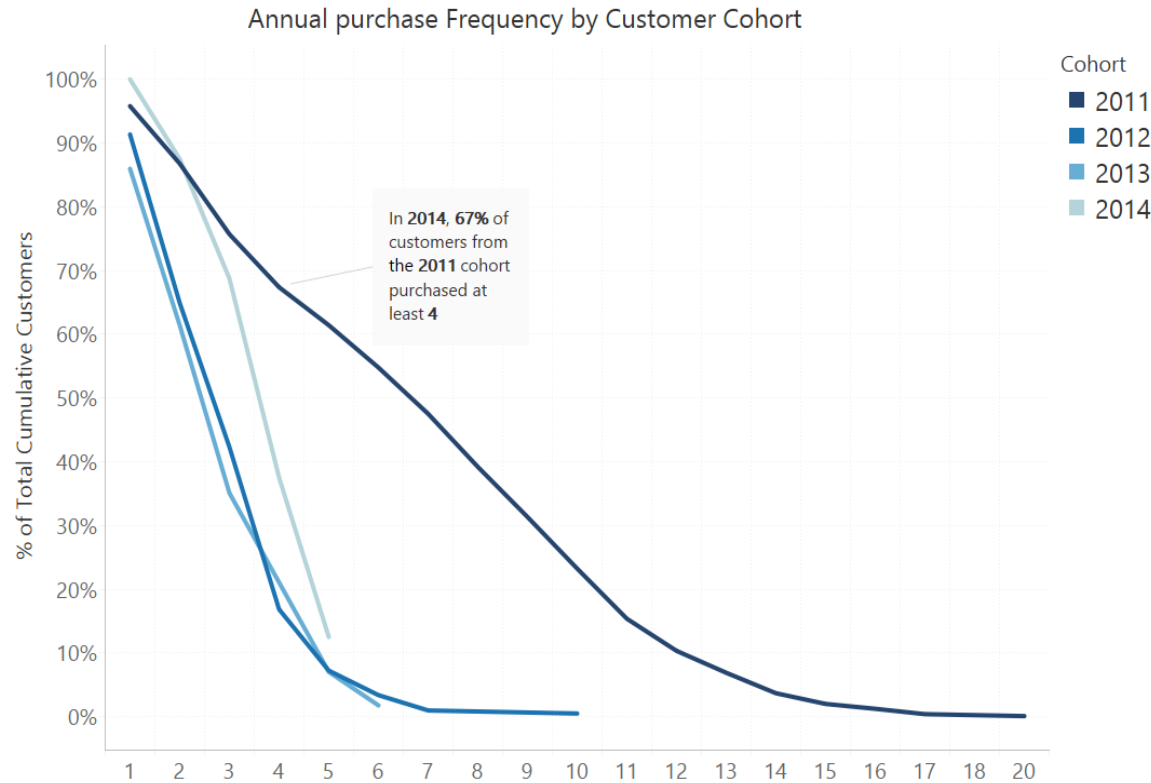


- Bullet chart indicating whether each sub-category products reaches the profit goal



Customer Cohort Analysis

For Tableau Dashboard view click here

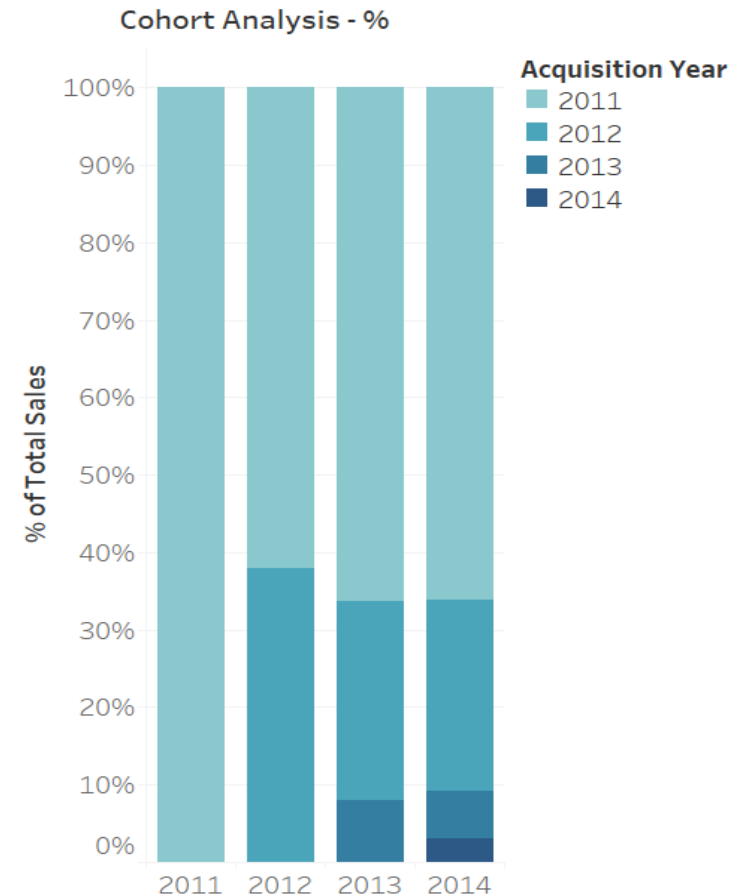
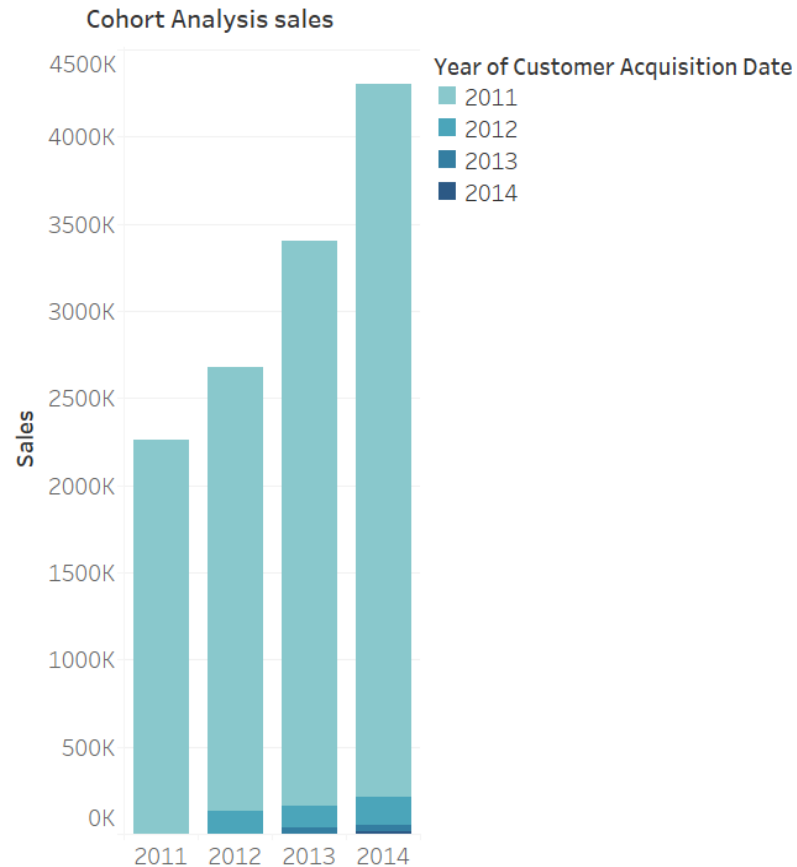


- Generally, the 2011 cohort customers purchased more items than other cohorts in 2014
- APAC, EU, LATAM and US markets generates faster new customers acquisition rates



Customer Cohort Analysis

For Tableau Dashboard view click here



- 2011 cohort customers which are the loyal customers generates most sales % of total for each year



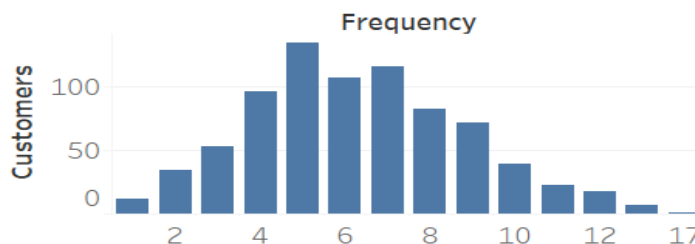
Customer Cohort Analysis

For Tableau Dashboard view click here



Customer RFM Analysis

Number of Customers (y) by number of Orders (x)



Recency X Frequency
(% of Customers)

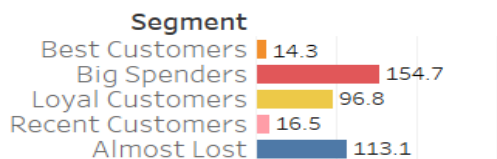
F..	R Quartile			
	1	2	3	4
1	7%	6%	5%	2%
2	8%	7%	7%	2%
3	3%	3%	4%	3%
4	7%	8%	9%	17%

of Customers in each Segment

Best Customers
Big Spenders
Loyal Customers
Recent Customers
Almost Lost
Lost Customers

Average Recency (days)

(days since last purchase)



Customer Segment Searching Box

Search	All	RFM	All	All	All
Custo..	Segment	RFM	Orders	Recen	
Aaron ..	Lost Cheap Custo..	444	3	415	
Aaron ..	Recent Customers	123	7	12	
Aaron ..	Others	322	7	88	
Adam ..	Big Spenders	221	8	54	
Adam ..	Loyal Customers	212	10	34	
Adam S..	Recent Customers	112	9	28	
Adrian ..	Loyal Customers	211	10	41	
Adrian ..	Others	223	7	60	
Adrian ..	Others	244	2	41	
Aimee ..	Others	244	5	41	
Alan B..	Recent Customers	124	8	25	
Alan D..	Recent Customers	121	8	29	
Alan H..	Others	243	4	55	
Alan H..	Best Customers	111	9	6	
Alan Sc..	Recent Customers	141	5	22	
Alan Sh..	Others	424	7	192	
Alejan..	Loyal Customers	314	9	166	
Alejan..	Others	442	5	278	
Alejan..	Recent Customers	132	6	19	
Aleksa..	Others	344	4	118	

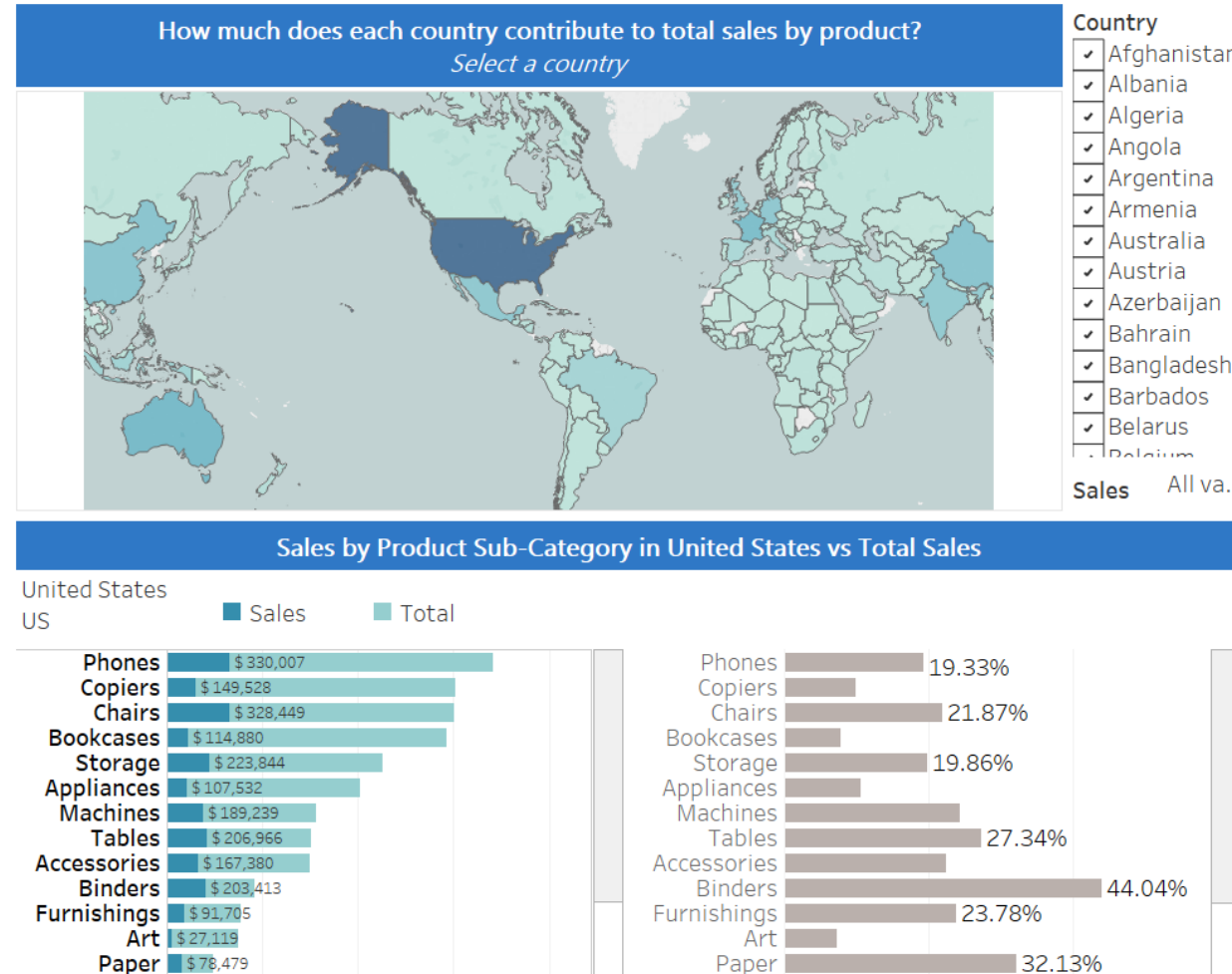
Segme.. All

- loyal customers, best customers, big spenders make up for 9.71%, 3.78%, 11.85% of total customers.
- Search the customer name to check out the RFM class



Geographical Strategy

For Tableau Dashboard view click here



- US, China, Australia account for the greatest sales % of total sales



Recommendations

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- **Focusing more on the most profitable and sales products such as Copiers, Phones, Bookcases and Appliances.**
- **Take your email marketing to a new level with RFM segmentation**
 - Best Customers: No price incentives, New products and loyalty programs
 - Loyal Customers: Use R and M to further segment.
 - Big Spenders: Market your most expensive products.
 - Almost Lost: Aggressive price incentives
- **Consider starting new campaigns attracting new customers in Canada, Africa and Emea.**



Thank you!

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Github: <https://github.com/yuqingzhang777>

Tableau Public: <https://public.tableau.com/profile/yuqing.zhang#!/>