

MARKET AND RETAILING ANALYTICS

The data set provided has the data of a Café Chain for one of its restaurants. Here the requirement is to do thorough analysis of the data and come up with the following analysis:

- Exploratory Analysis
- Menu Analysis

```
> summary(mradata)
```

Date	Bill.Number	Item.Desc
Length:145830	Length:145830	Length:145830
Class :character	Class :character	Class :character
Mode :character	Mode :character	Mode :character

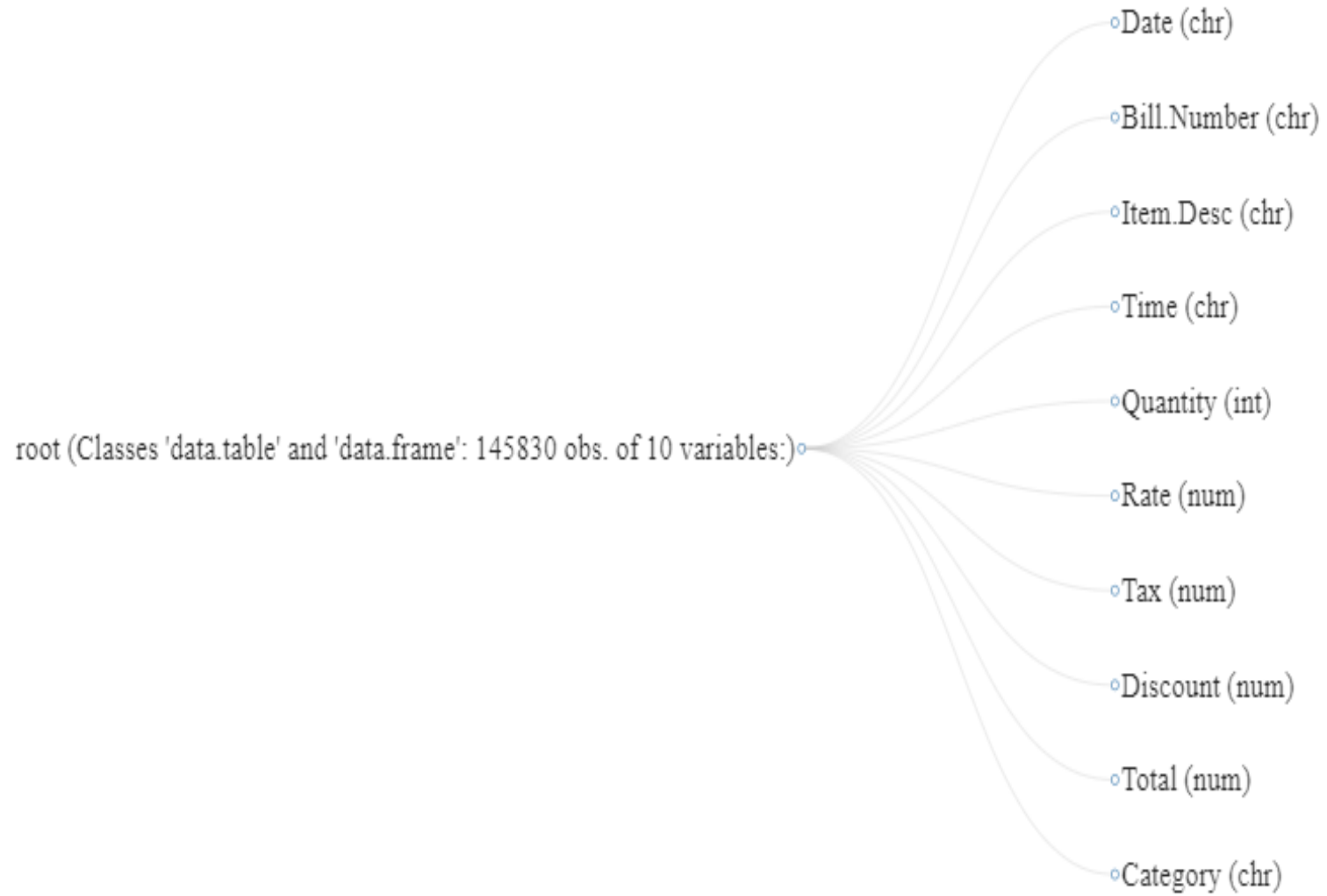
Time	Quantity	Rate	Tax
Length:145830	Min. : 1.0	Min. : 0	Min. : 0
Class :character	1st Qu.: 1.0	1st Qu.: 95	1st Qu.: 23
Mode :character	Median : 1.0	Median : 125	Median : 32
	Mean : 1.1	Mean : 162	Mean : 49
	3rd Qu.: 1.0	3rd Qu.: 225	3rd Qu.: 72
	Max. : 30.0	Max. : 2100	Max. : 2731

Discount	Total	Category	X
Min. : 0	Min. : 0	Length:145830	Mode:logical
1st Qu.: 0	1st Qu.: 118	Class :character	NA's:145830
Median : 0	Median : 167	Mode :character	
Mean : 0	Mean : 225		
3rd Qu.: 0	3rd Qu.: 315		
Max. : 825	Max. : 14231		

OVERALL SUMMARY OF THE DATA

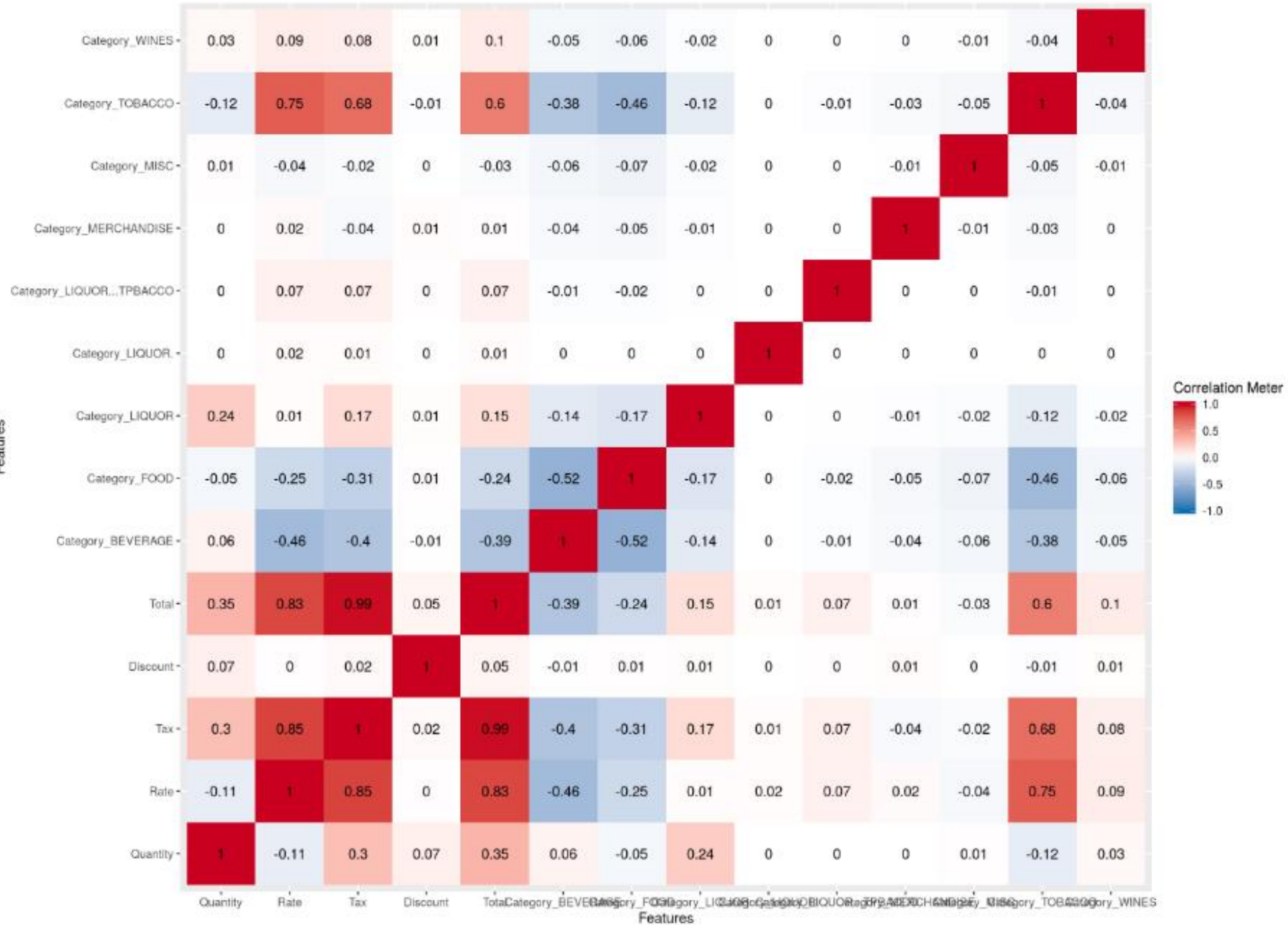
Name	Value
Rows	145,830
Columns	10
Discrete columns	5
Continuous columns	5
All missing columns	0
Missing observations	0
Complete Rows	145,830
Total observations	1,458,300

OVERALL SUMMARY OF THE DATA



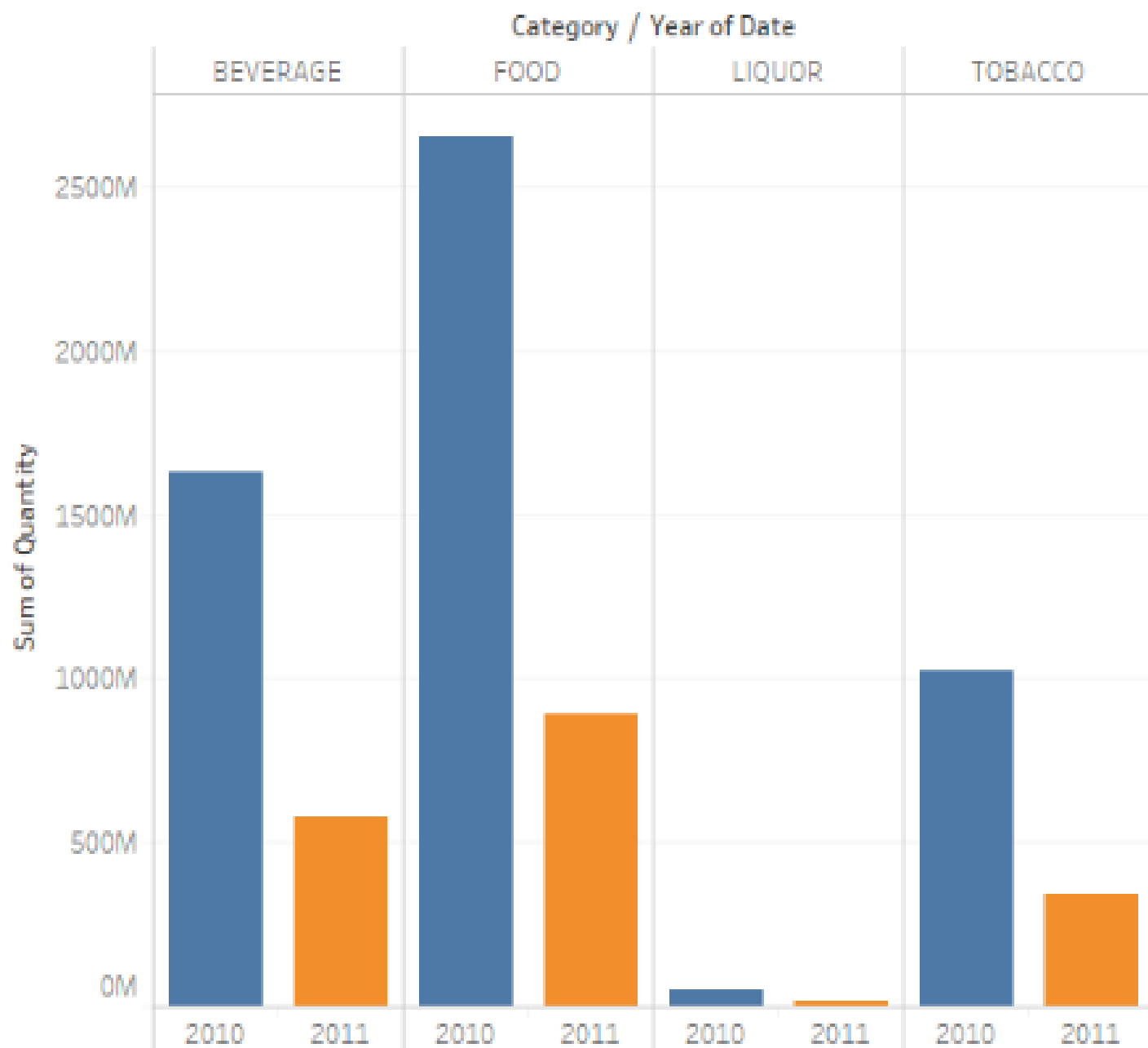
DIFFERENT FIELDS OF DATA

Features



CORRELATION MATRIX

Quantities of item sold by yearwise



Category

- ☐ (All)
- ☐ Null
- ☒ BEVERAGE
- ☒ FOOD
- ☒ LIQUOR
- ☐ LIQUOR & TPBACCO
- ☐ MERCHANDISE
- ☐ MISC
- ☒ TOBACCO
- ☐ WINES

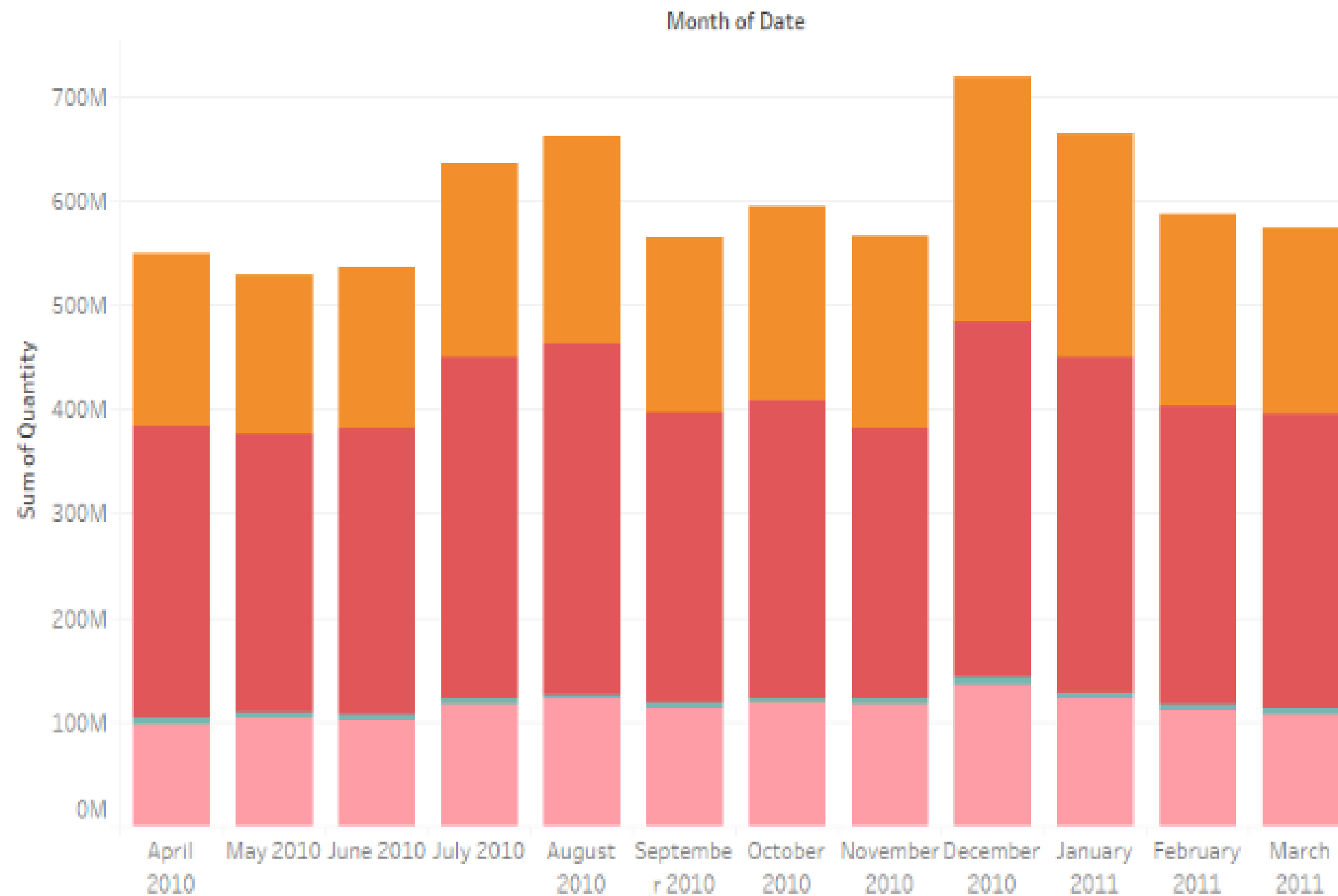
Highlight Category

Highlight Category

YEAR(Date)

- ☒ 2010
- ☒ 2011

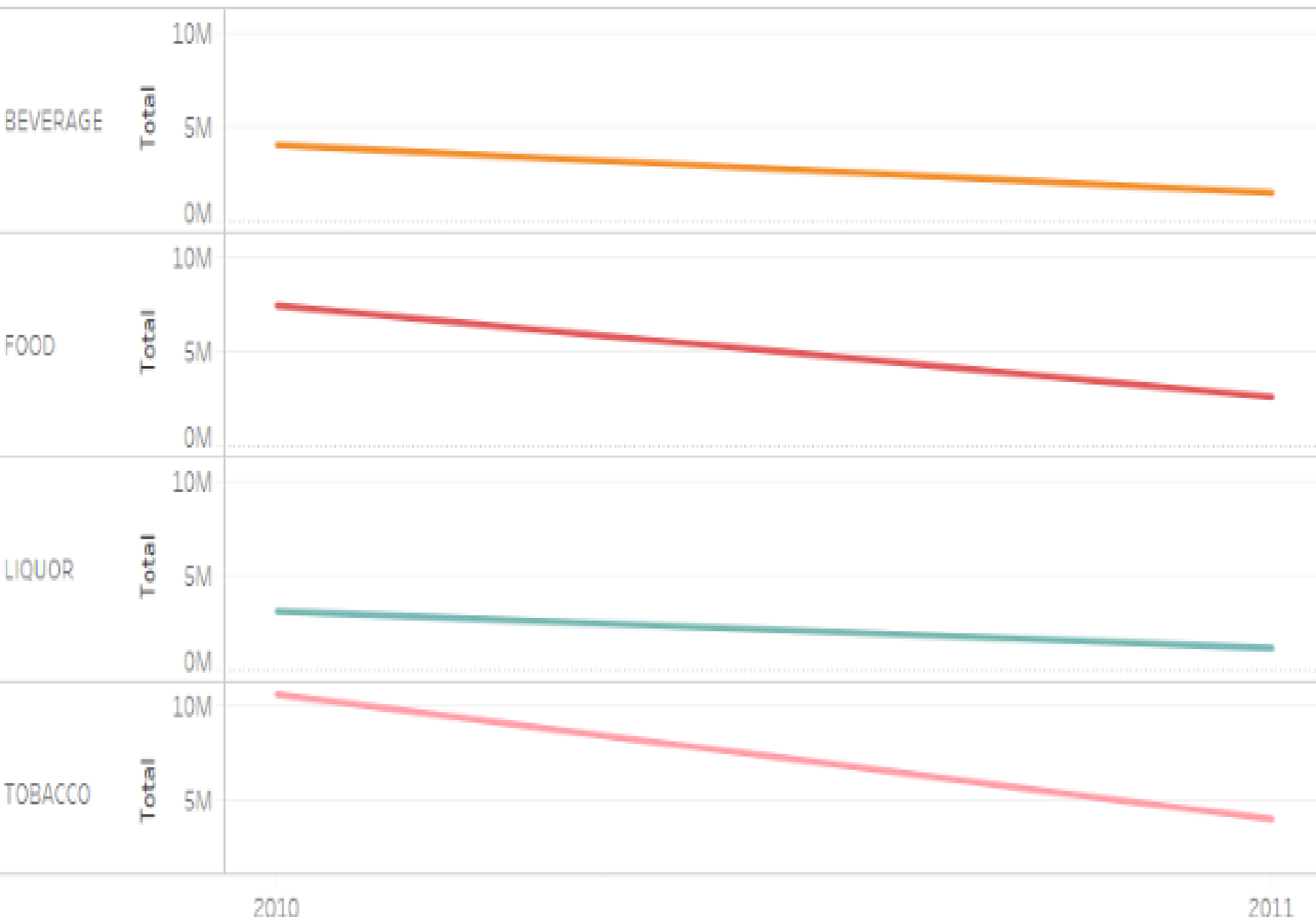
Quantities of item sold by monthwise



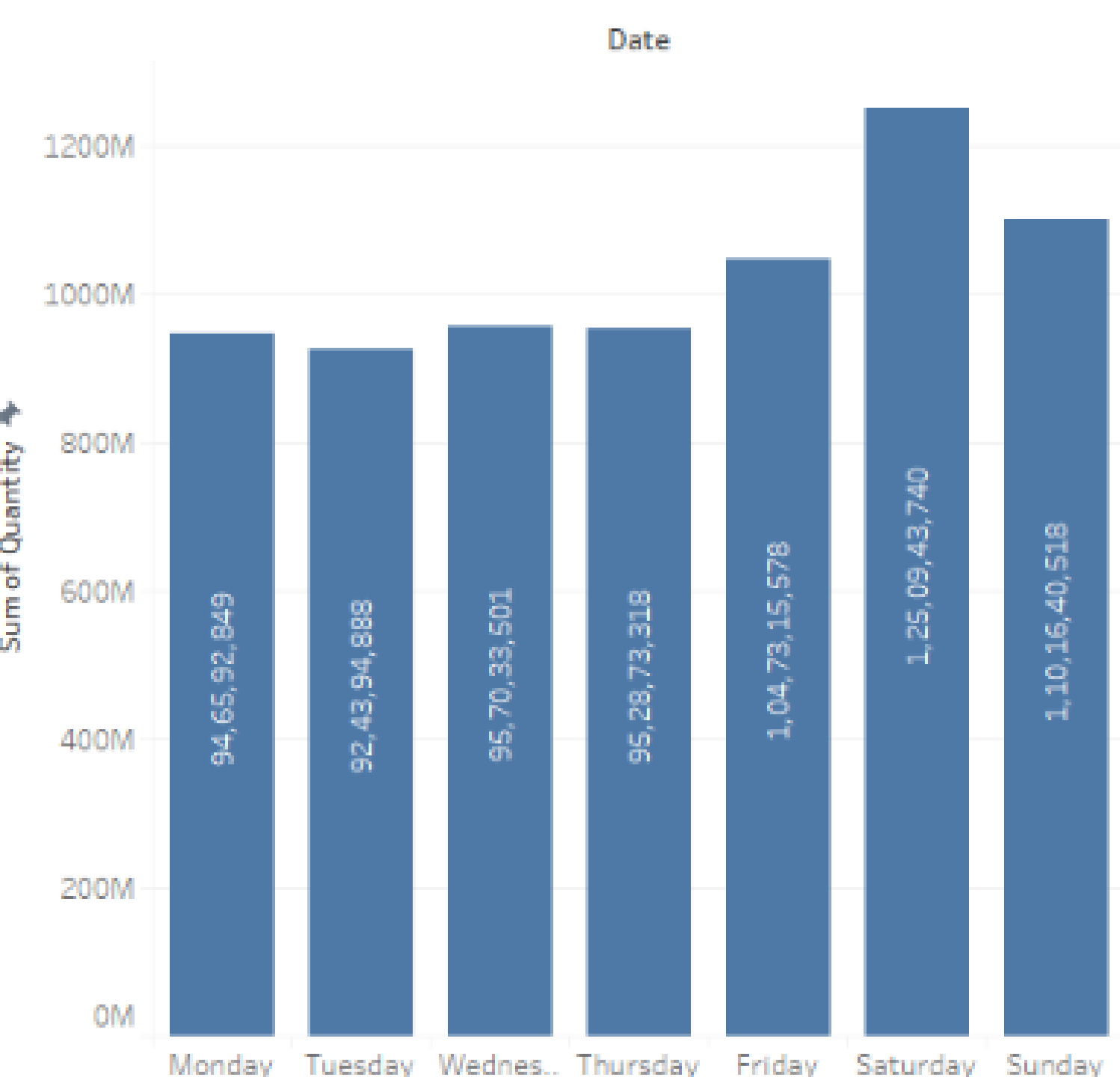
- Category
- ☐ (All)
 - ☐ Null
 - ☒ BEVERAGE
 - ☒ FOOD
 - ☒ LIQUOR
 - ☐ LIQUOR & TPBACCO
 - ☐ MERCHANDISE
 - ☐ MISC
 - ☒ TOBACCO
 - ☐ WINES

- Category
- BEVERAGE
 - FOOD
 - LIQUOR
 - TOBACCO

Row Labels

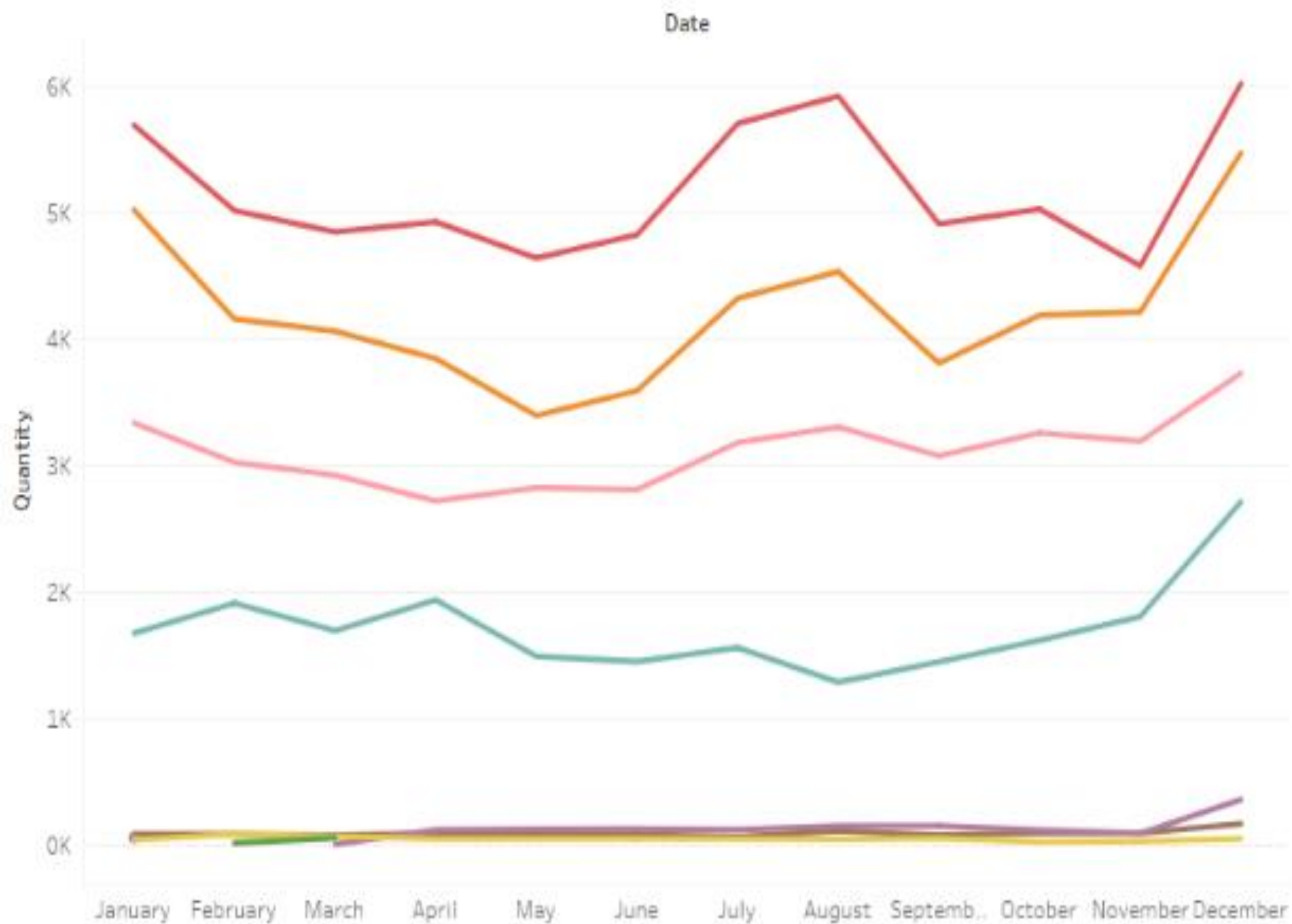


TOTAL QUANTITIES
SOLD IN 2010 AND
2011

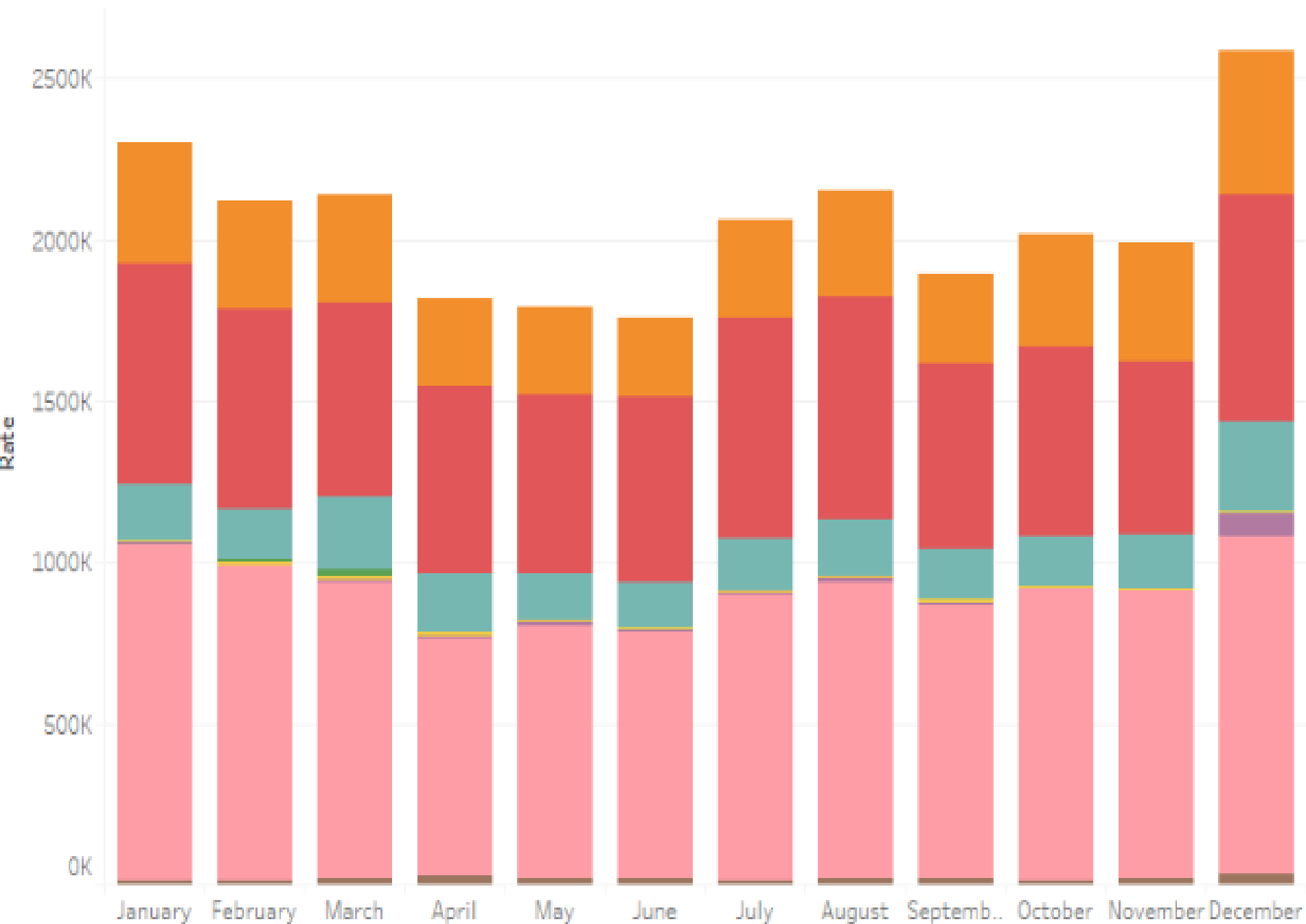


DAY -WISE REPORT OF QUANTITIES SOLD

MONTH-WISE REPORT

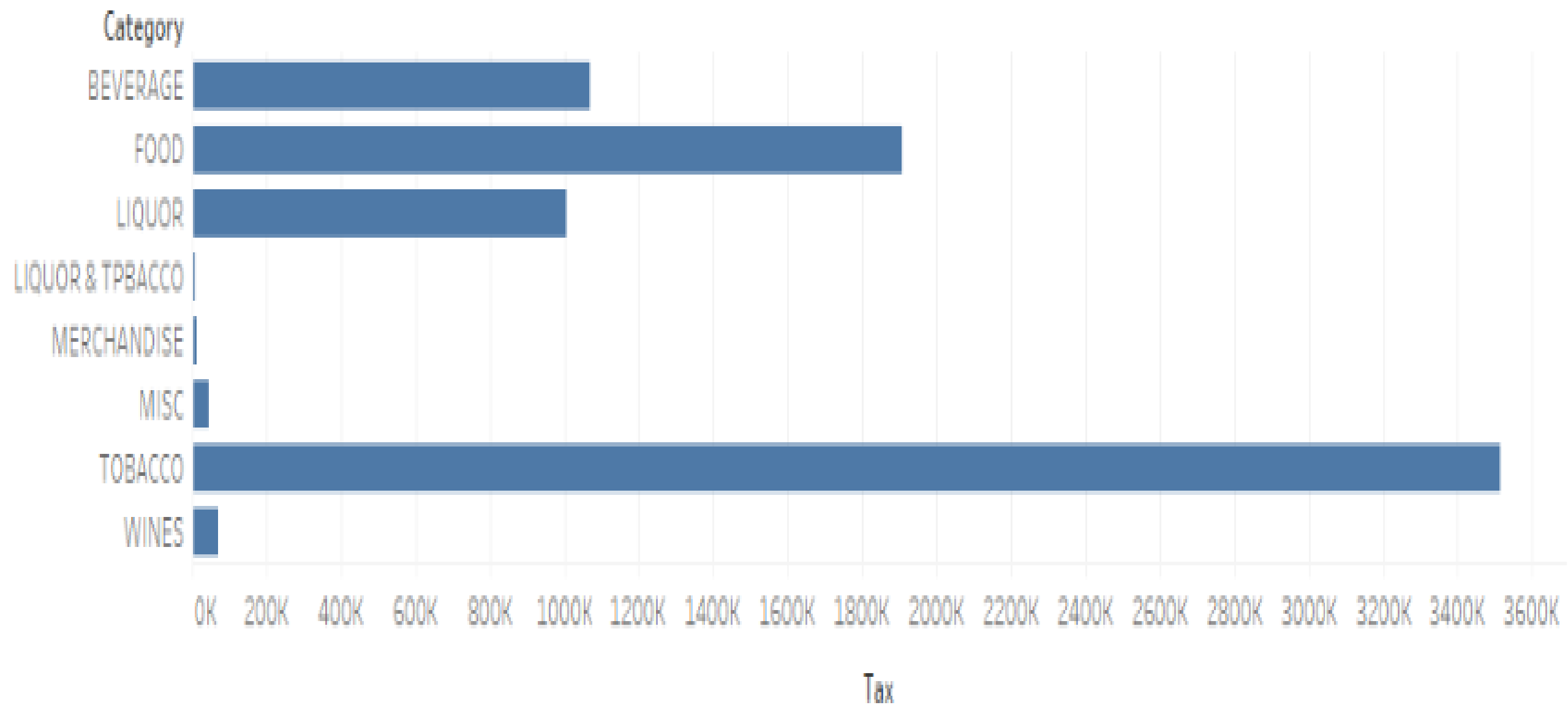


Date

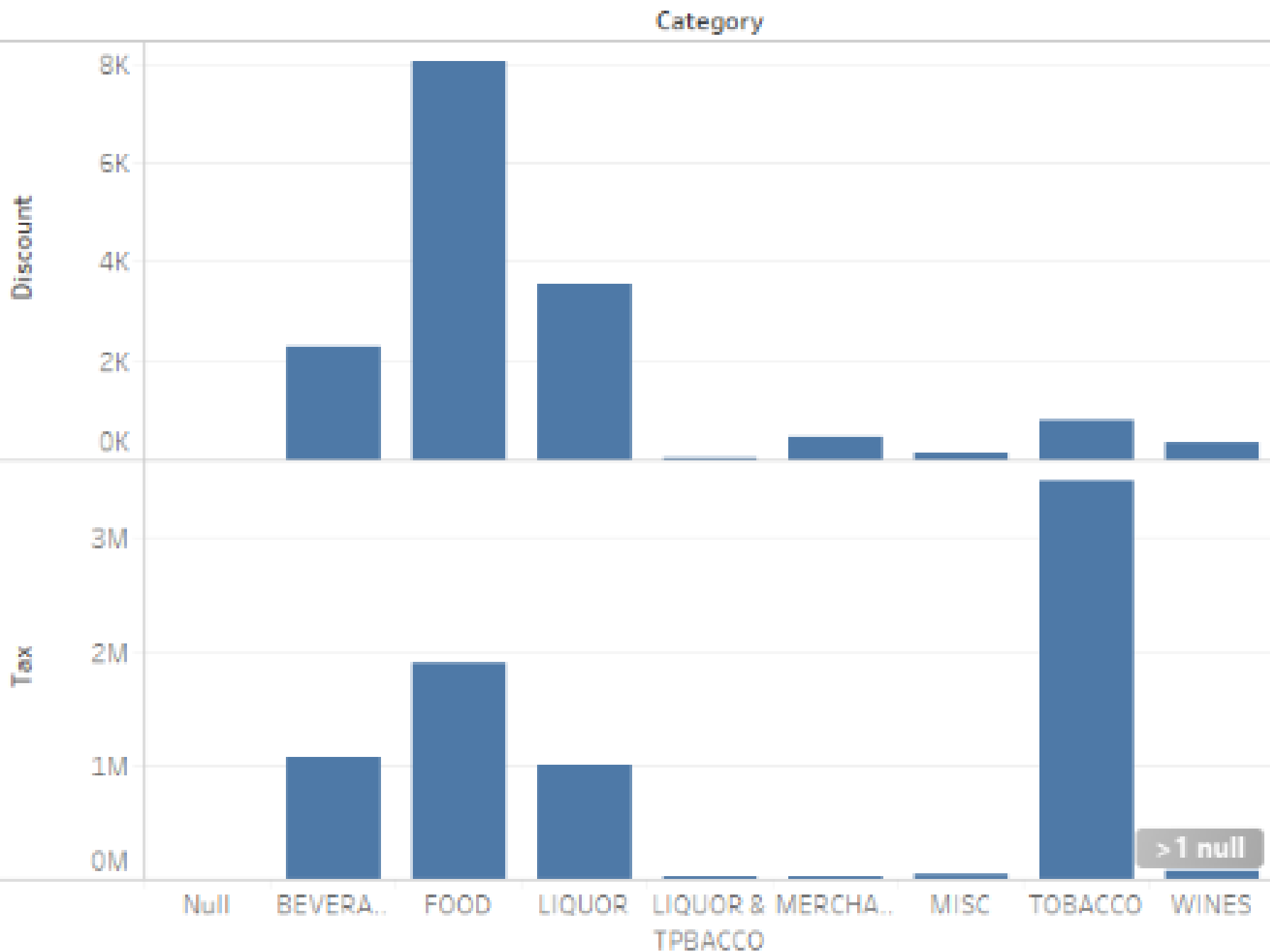


MONTH-WISE REVENUE REPORT

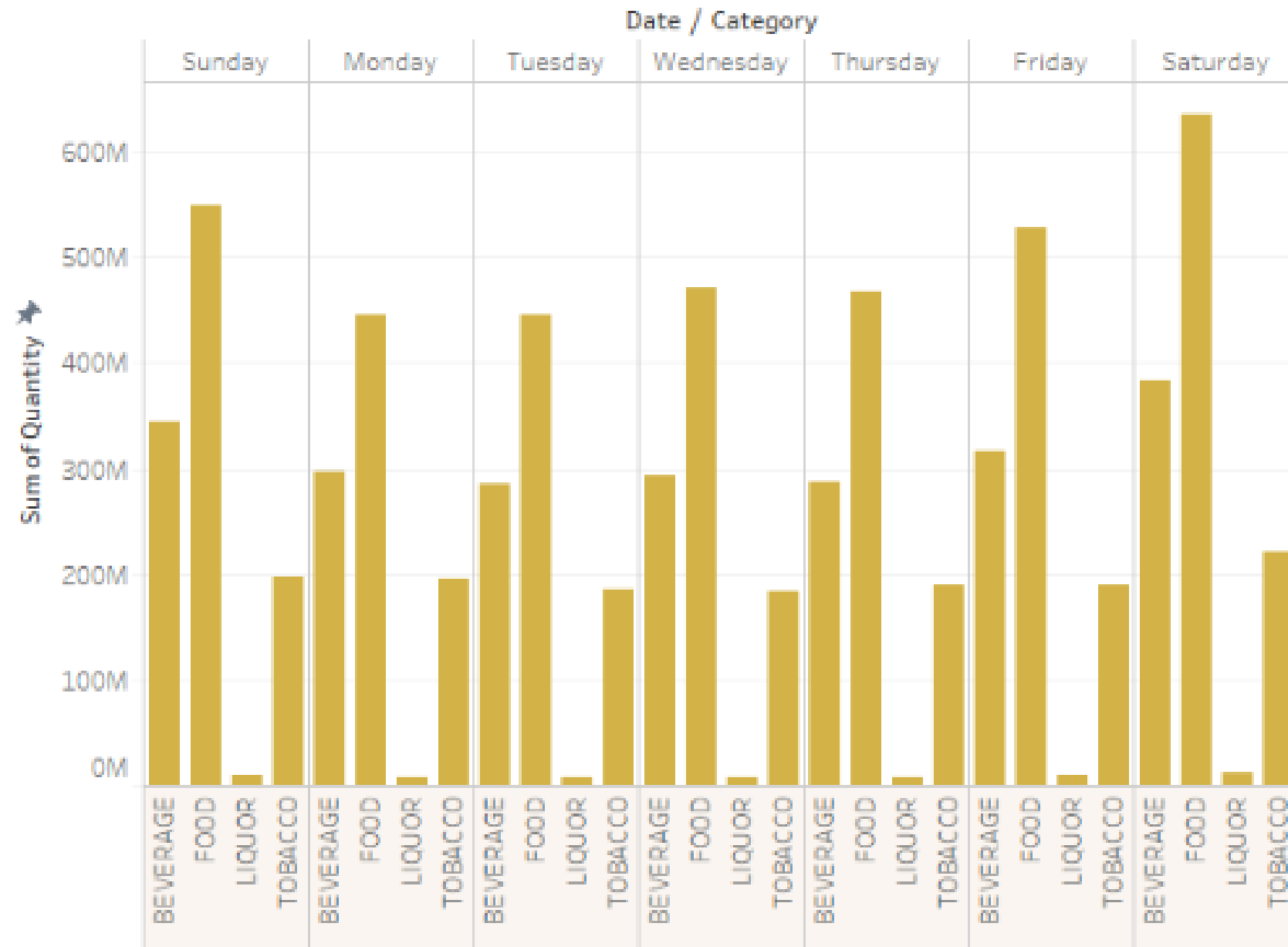
Category Vs Tax



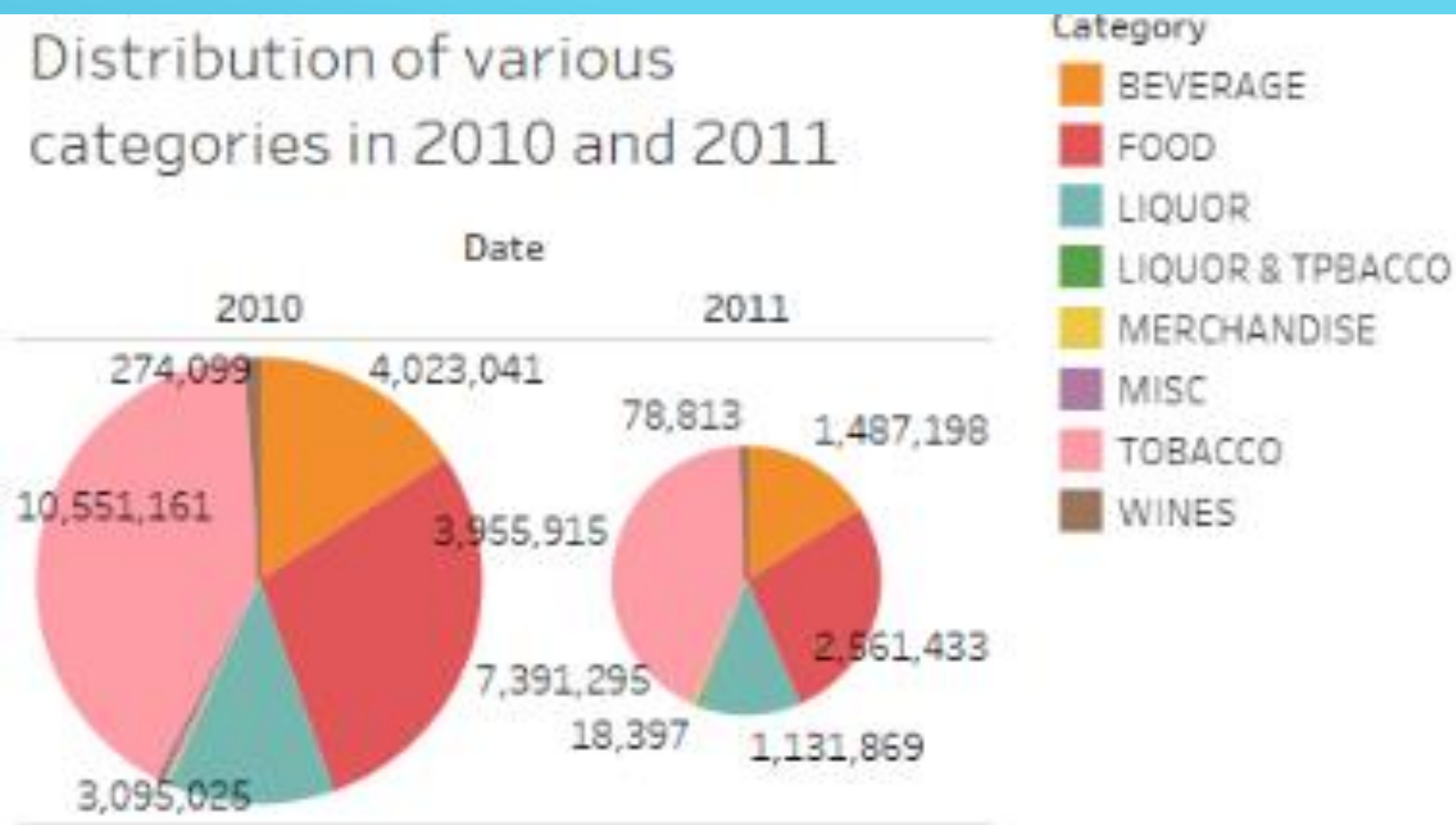
DISCOUNT VS TAX ON VARIOUS CATEGORIES



DAY-WISE REPORT ON CUSTOMER PREFERENCE



Distribution of various categories in 2010 and 2011



10 TOP FREQUENT ITEMS BOUGHT

rules	support	confidence	lift	count
{GREAT LAKES FLOATS W CHOC }=>{CAPPUCCINO }	0.001077	0.3	4.591484	6
{ADD HAZELNUT FLAVOUR }=>{CAFFE LATTE }	0.002334	0.764706	31.32483	13
{COOKIE MONSTER }=>{GREAT LAKES SHAKE }	0.001077	0.214286	3.108817	6
{MEZE PLATTER }=>{NIRVANA HOOKAH SINGLE }	0.001077	0.193548	1.967624	6
{DOPPIO }=>{GREAT LAKES SHAKE }	0.001257	0.179487	2.603966	7
{BLACK FOREST SHAKE }=>{POUTINE WITH FRIES }	0.001077	0.171429	3.820114	6
{BLACK CURRANT ICED TEA }=>{LEMON ICED TEA }	0.001257	0.241379	7.268779	7
{BUN MASKA & CHAI }=>{B.M.T. PANINI }	0.001077	0.171429	4.775143	6
{BUN MASKA & CHAI }=>{NIRVANA HOOKAH SINGLE }	0.001077	0.171429	1.742753	6

RECOMMENDATIONS BASED ON THE ANALYSIS

- Top selling Category of the product for the Café is Tobacco, Food, Beverage, Liquor.
- Sales of most products starts increasing on Friday and reaches a peak on Saturday .
- Sales show steady progress from 1100 hours onwards. Restaurant makes max sales in the evenings between 1900-2300 hours. Peak time is 1900-2000 hours.
- Merchandise, Miscellaneous and Liquor and tobacco are the categories of product sold mostly in night. •Tobacco and Wine are sold throughout the day but increases up in night.
- Sales of products increases from June and peak up in Dec month.