



NOSO CAPSTONE PROJECT - EDA REVIEW

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OVERVIEW

Purpose of Today:

- Share our initial findings/ EDA
- Finalize research objectives and data engineering
- Set expectation and deadlines

Agenda:

- USJH EDA
- UNO EDA
- Modeling Progress

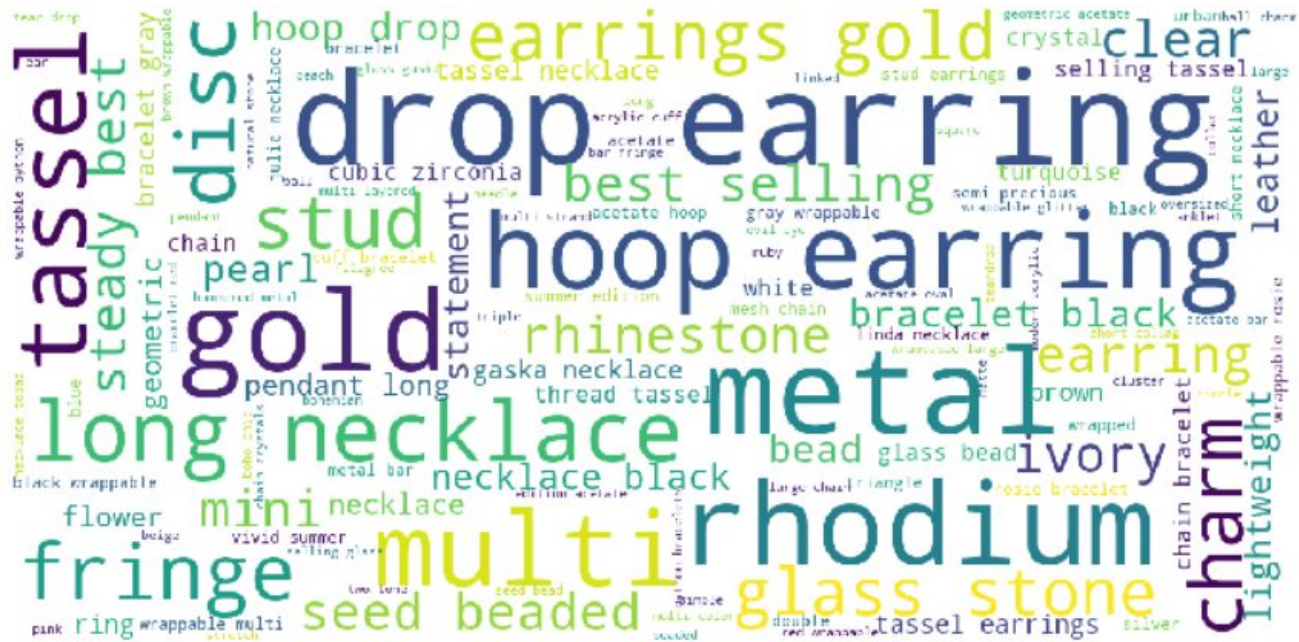
1.

USJH EDA

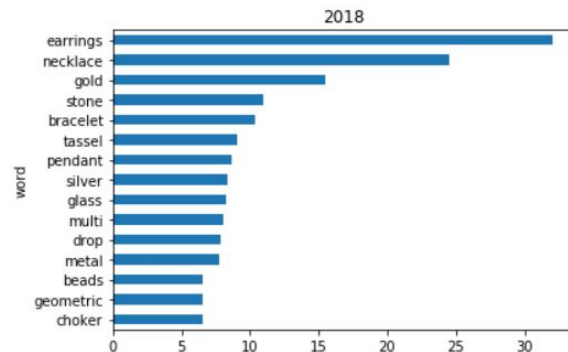
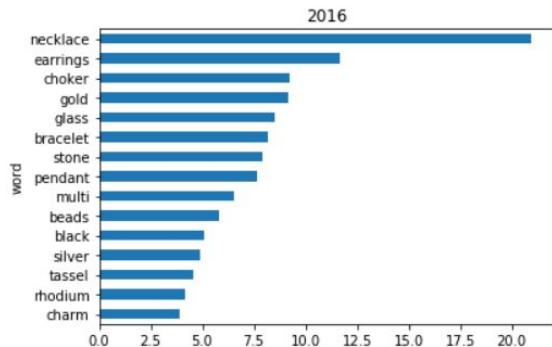
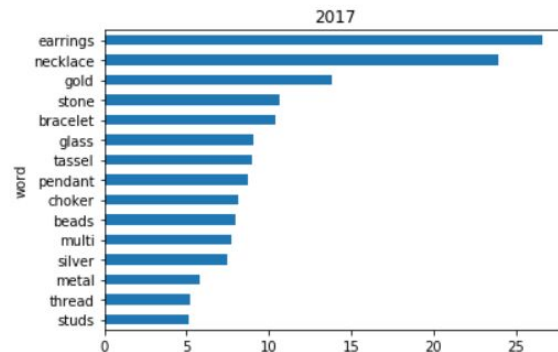
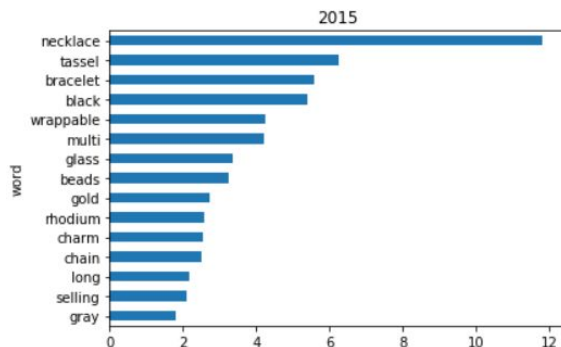


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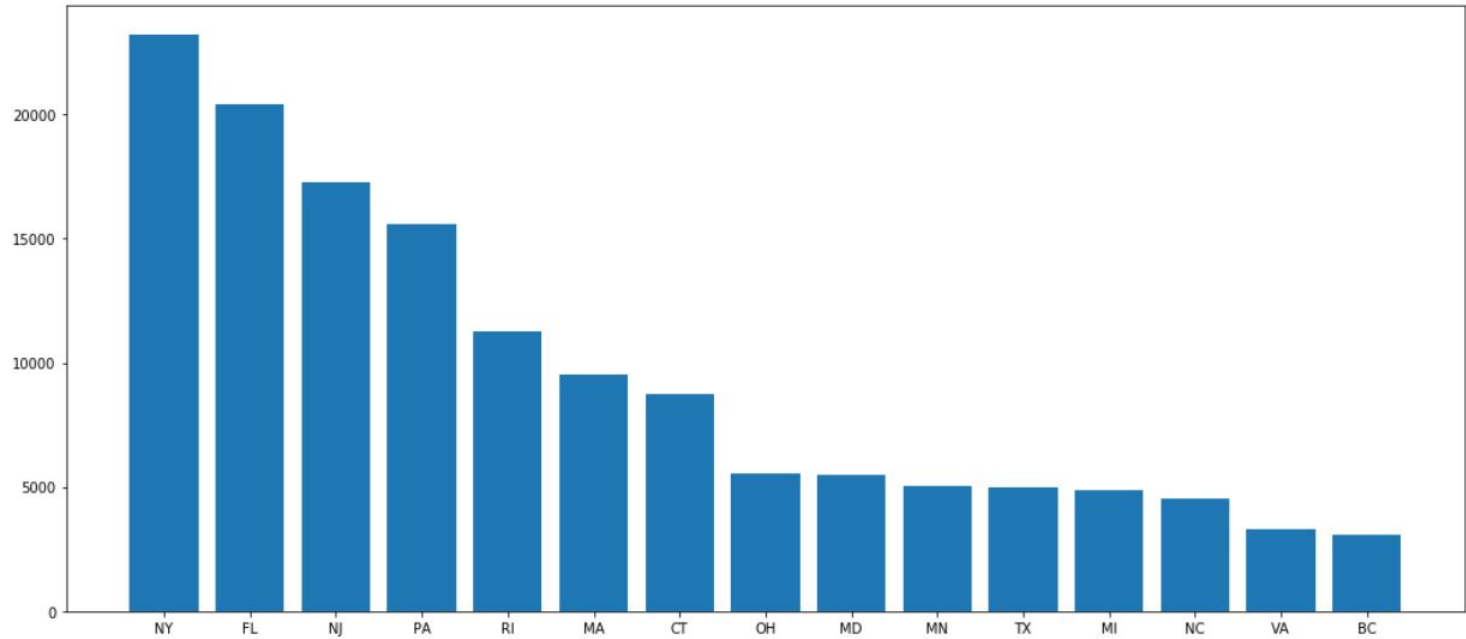
WORD CLOUD ON LINE ITEM



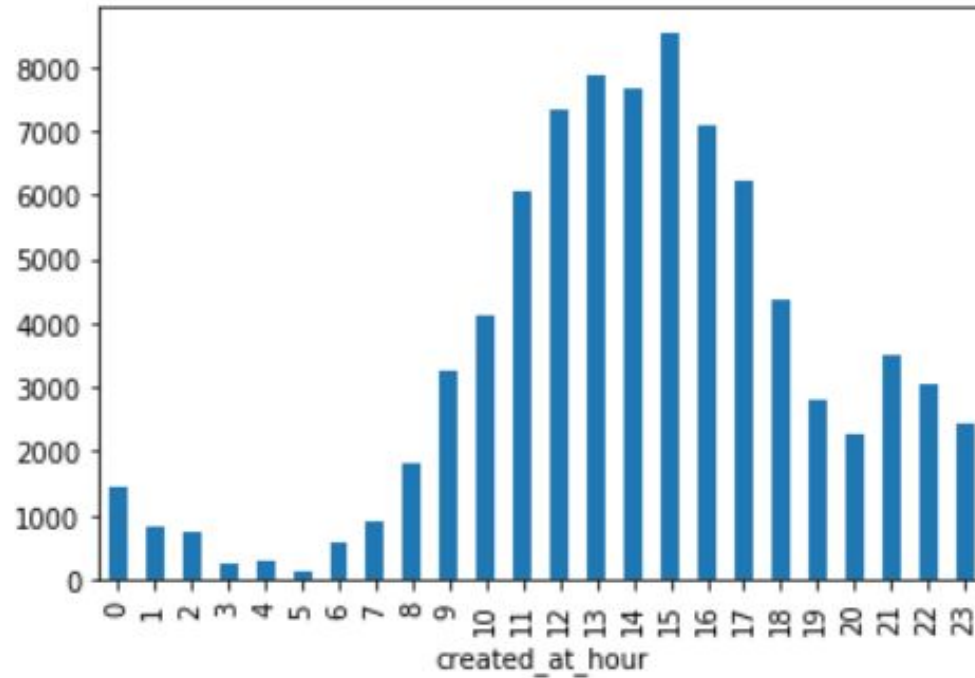
STANDARDIZED WORD FREQUENCY BY YEAR



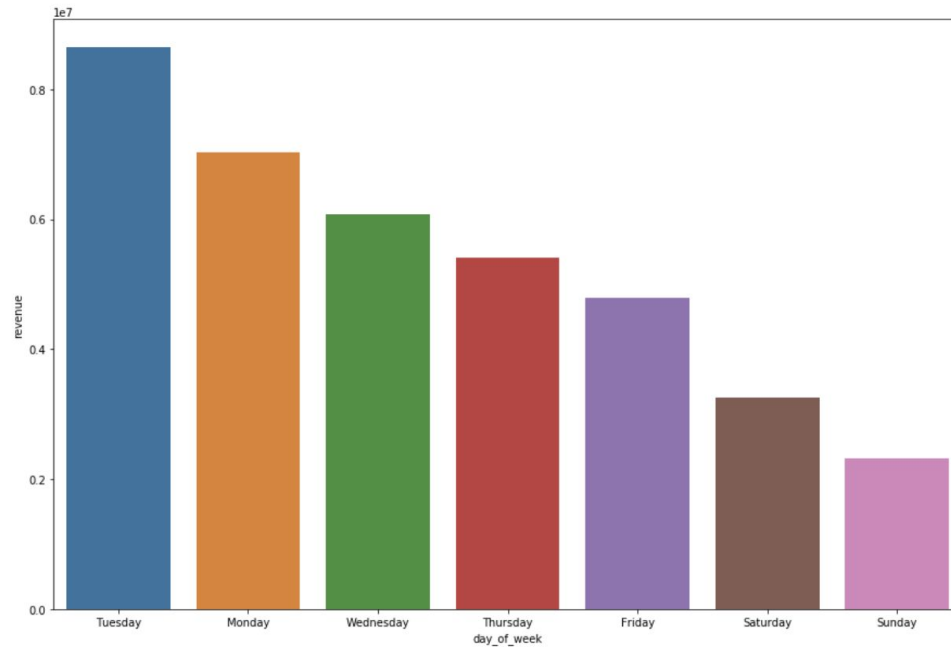
TOTAL ITEM SOLD QUANTITY PER STATE



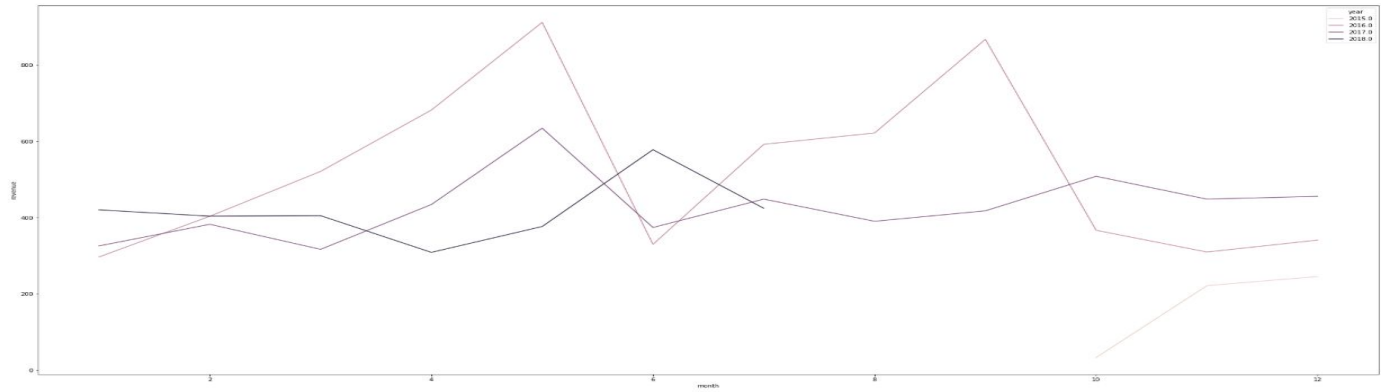
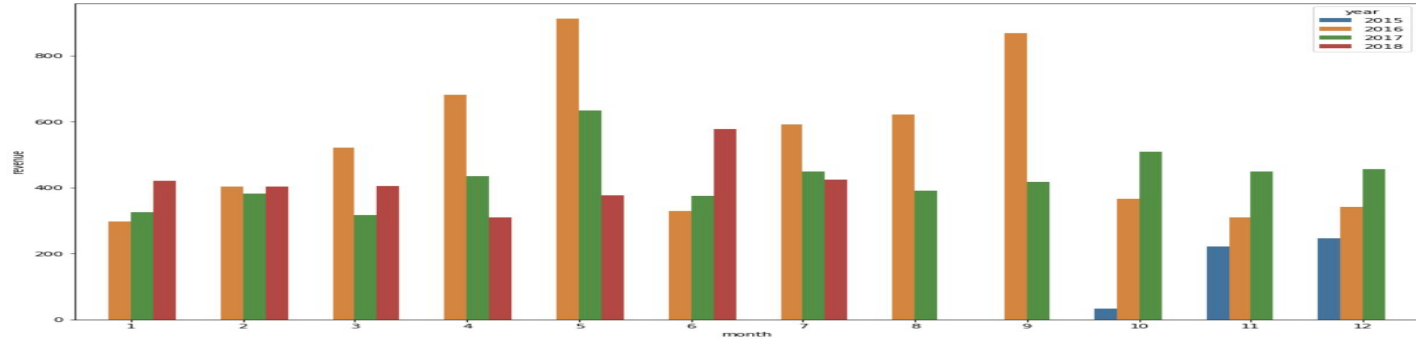
TIME OF ORDER VS TOTAL SALE QUANTITY



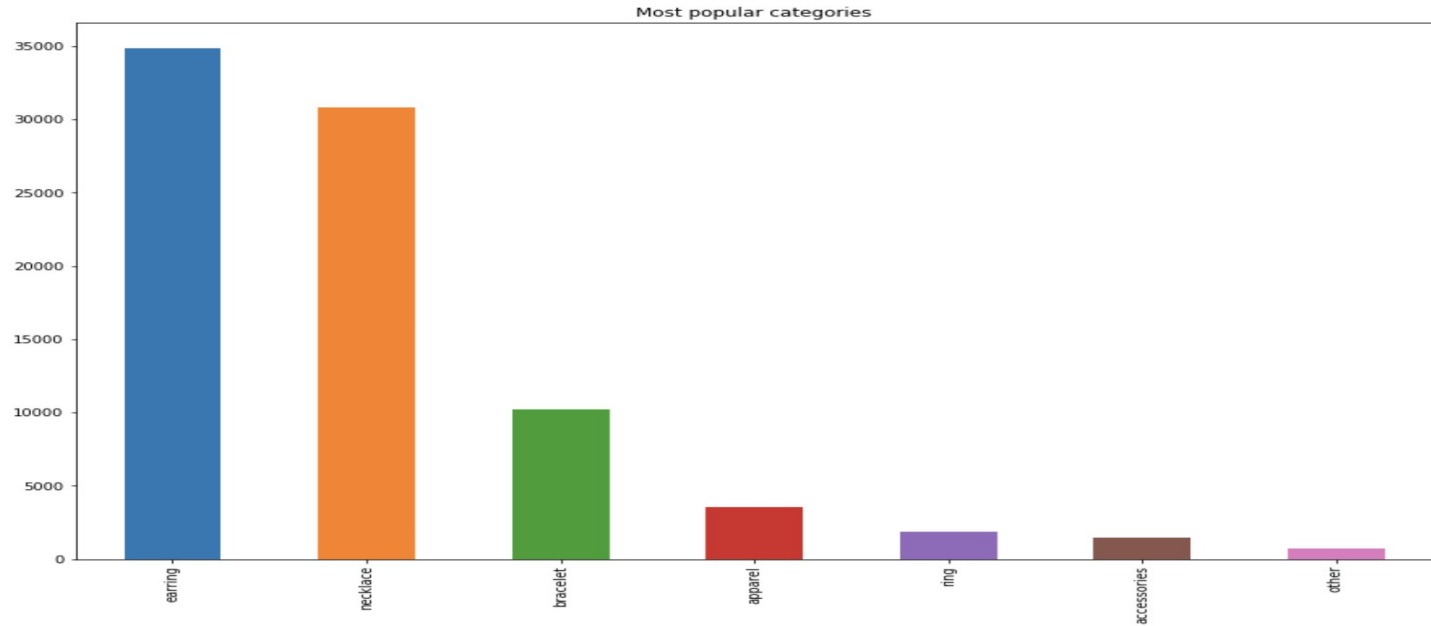
DAY OF WEEK AND REVENUE



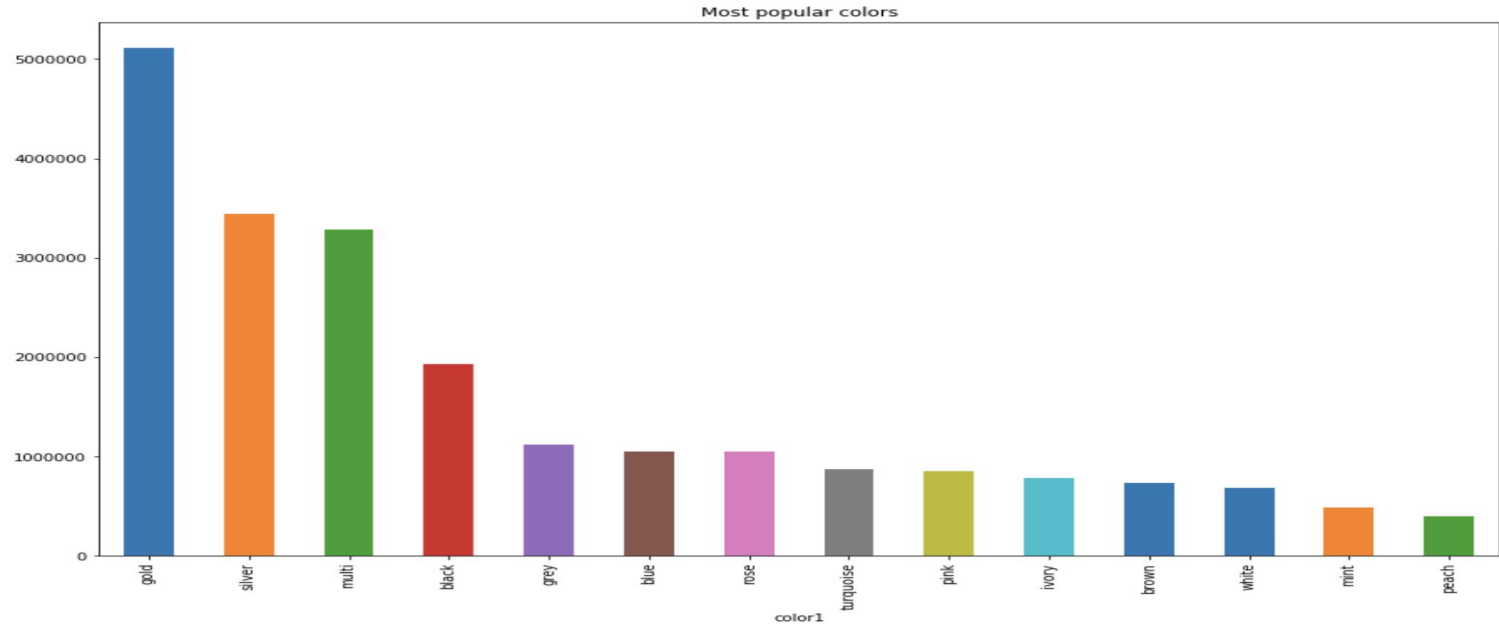
REVENUE BY MONTH



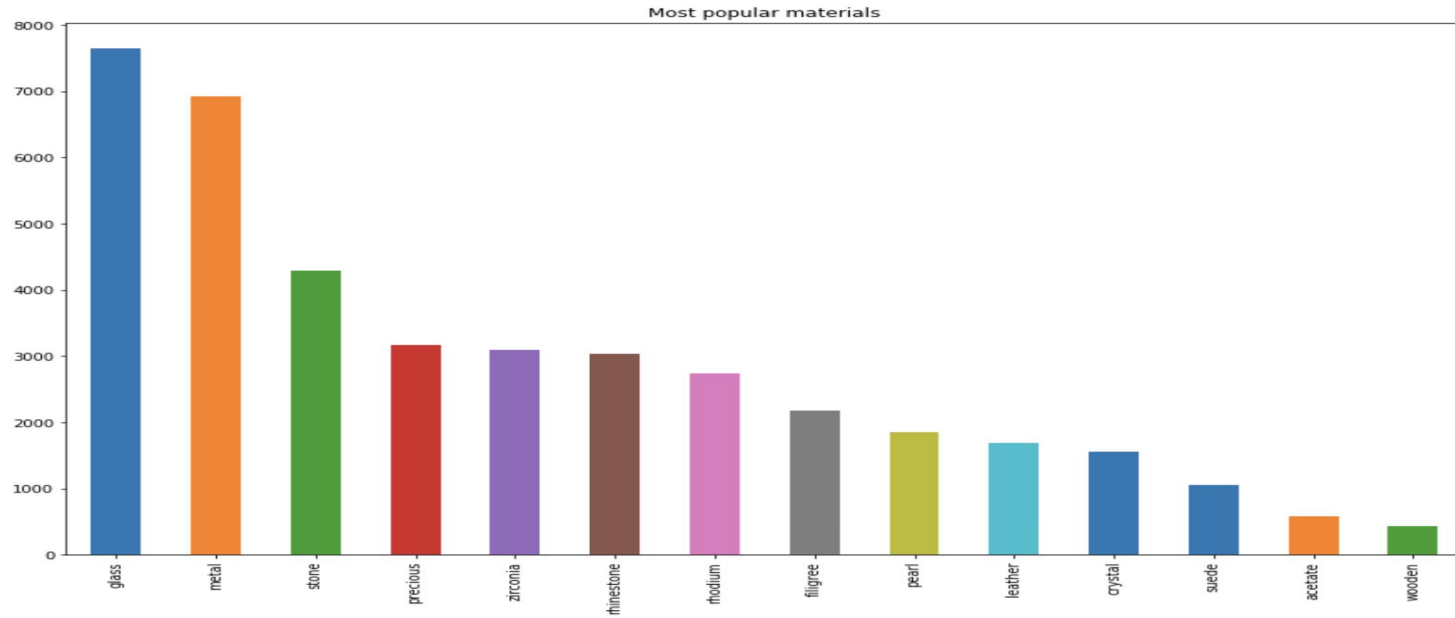
MOST POPULAR CATEGORY



MOST POPULAR COLOR



MOST POPULAR MATERIAL



2.

UNO EDA

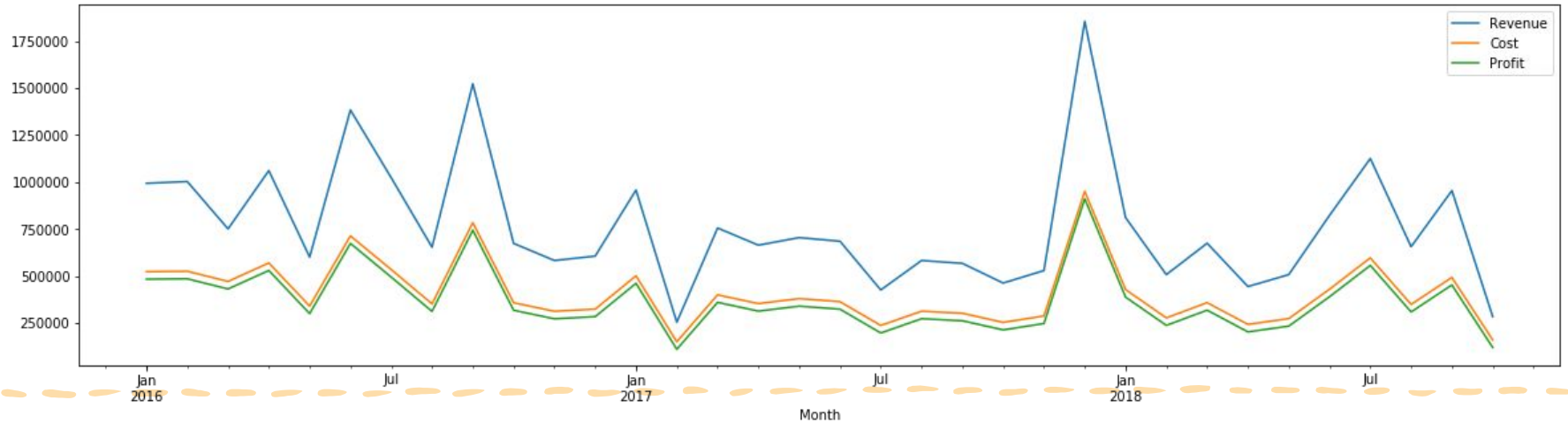
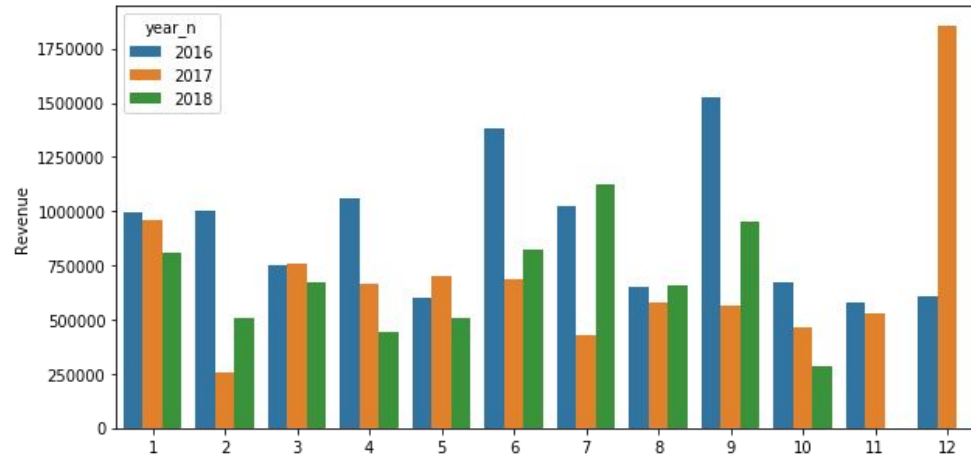


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BRIEF OVERVIEW OF UNO PERFORMANCE- ANNUALLY

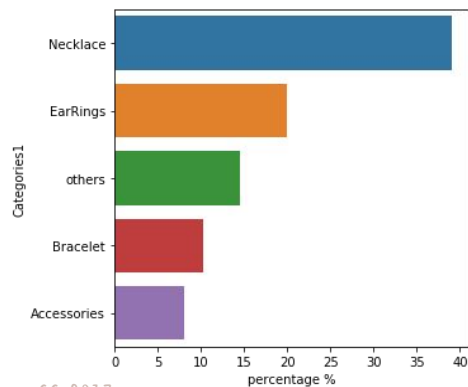
	2016	2017	2018(in progress)
Revenue	5,195,152.64	(-28.5%) 3,715,589.11	2,672,320.95
COGS	2,597,578.32	1,857,795.56	1,336,160.48
Gross Profit	2,597,578.32	1,857,795.56	1,336,160.48
Operating Expense	240,000.00	240,000.00	240,000.00
Net Income	2,357,576.32	1,617,794.56	1,096,160.46

REVENUE BY MONTH

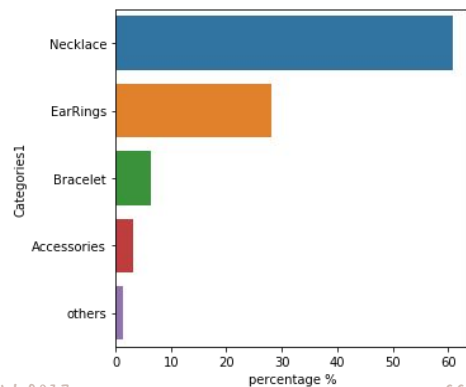


POPULAR CATEGORY (BY TOTAL REVENUE) BY SEASON

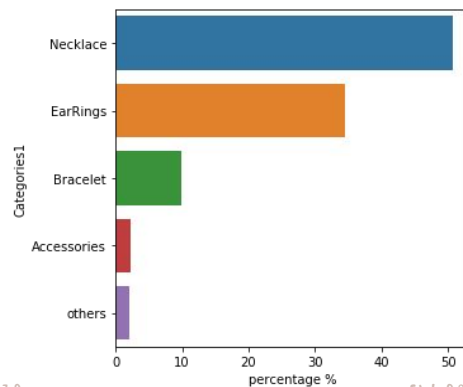
BEFORE 2016



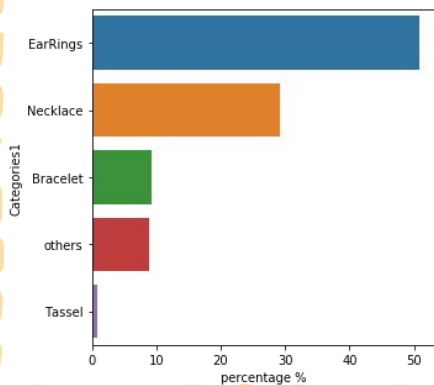
SS 2016



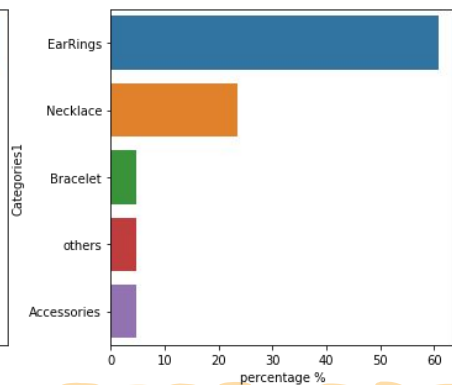
FW 2016



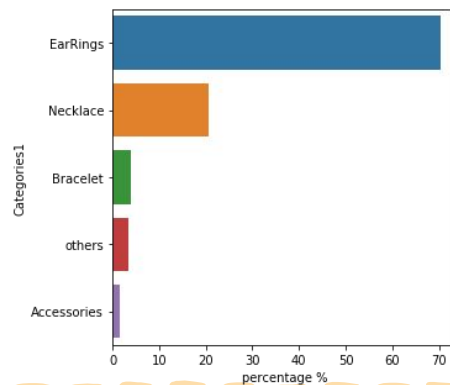
SS 2017



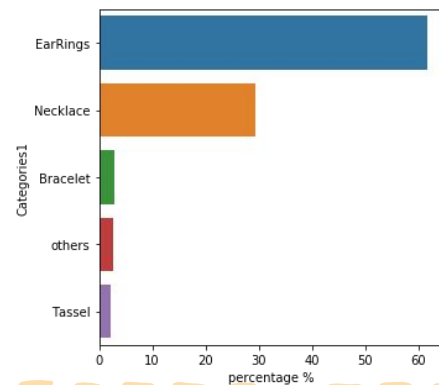
FW 2017



SS 2018



FW 2018

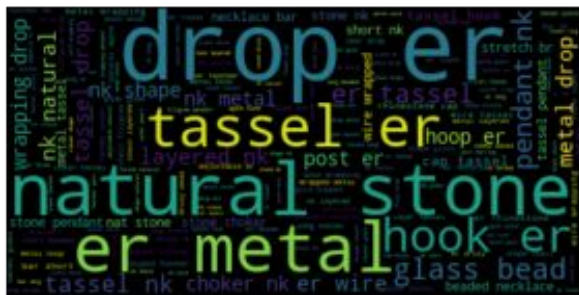


POPULAR KEYWORDS BY YEAR

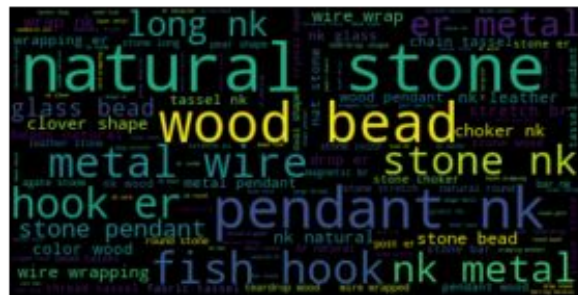
BEFORE 2016



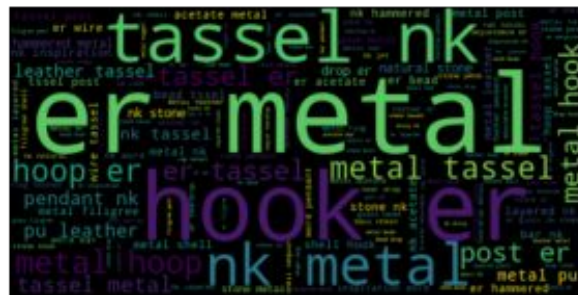
2017



2016



2018



GEOLOCATION ANALYSIS

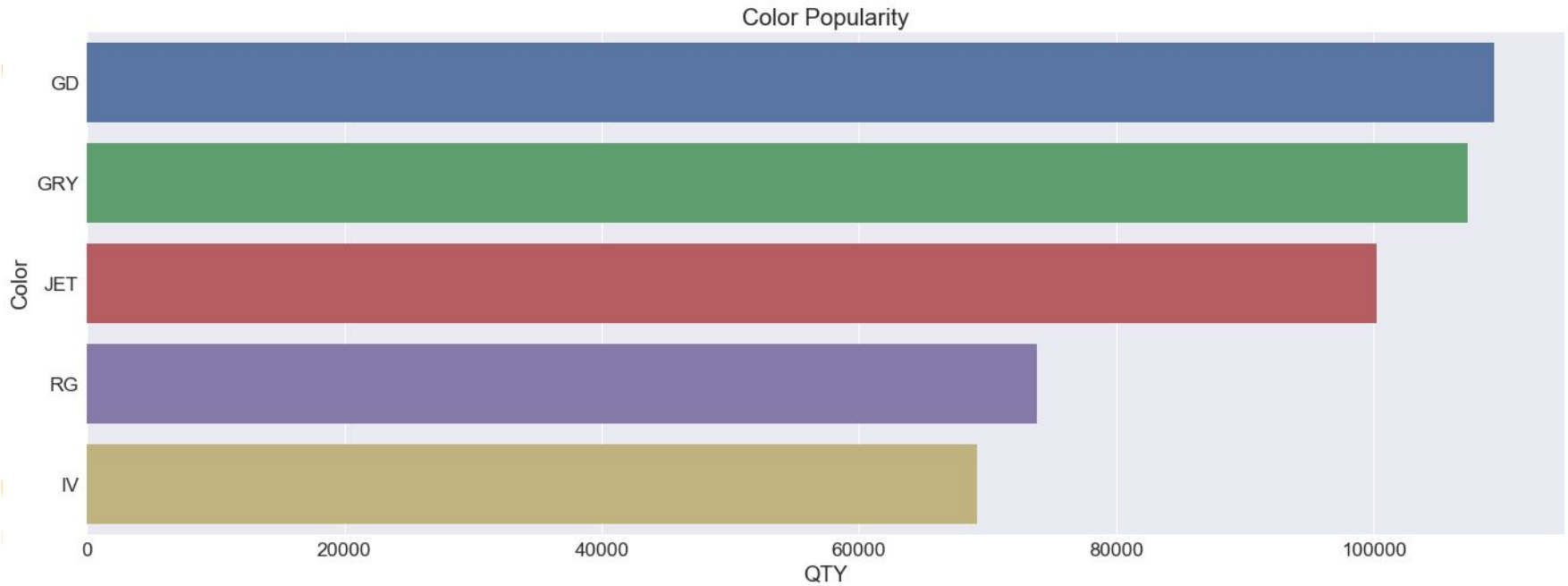
TOP 5 STATE WITH HIGHEST REVENUE

	TOTAL REVENUE	PERC RETURNED
TX	6470095.68	1.38%
CA	4772996.48	0.64%
LA	4448091.75	0.15%
GA	2869453.43	1.60%
NY	1449097.51	0.89%

TOP 5 STATE WITH HIGHEST RETURN RATE

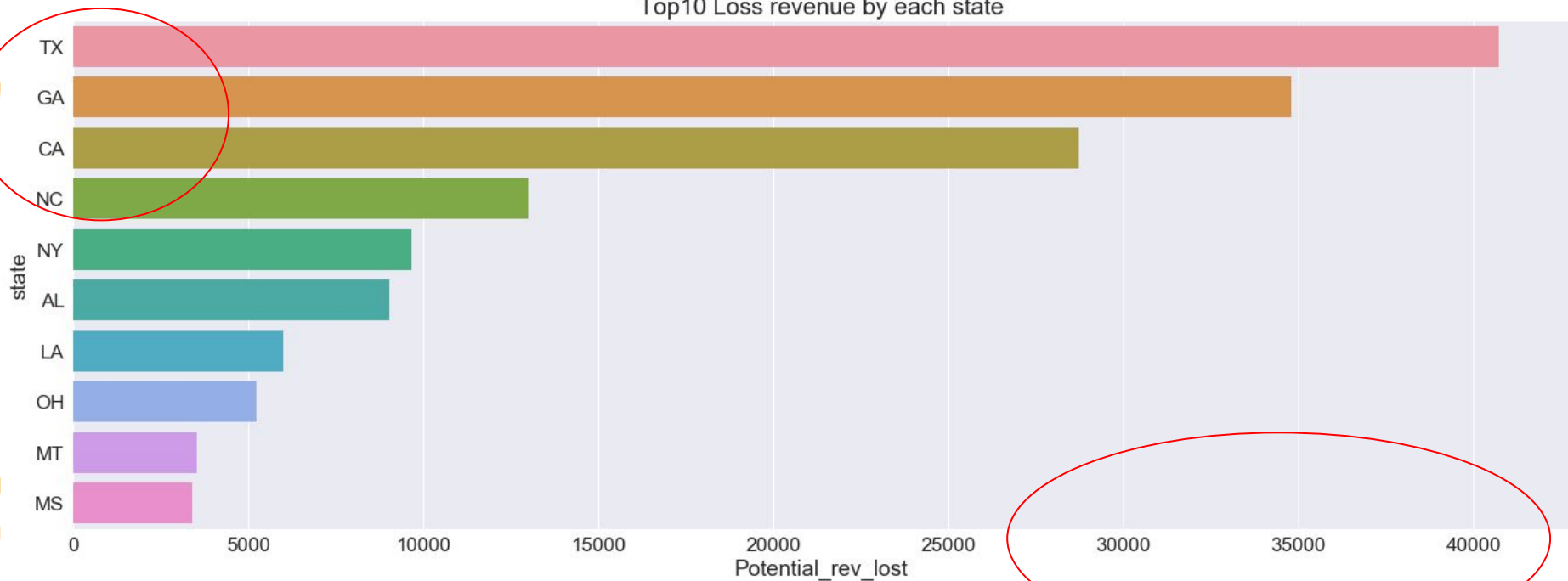
	REVENUE	PERC RETURNED
MT	28839.00	14.56%
UK	31482.25	3.73%
OH	175065.75	3.42%
AL	533863.00	1.97%
PA	22010.00	1.66%

COLOR POPULARITY - TOP FIVE COLOR



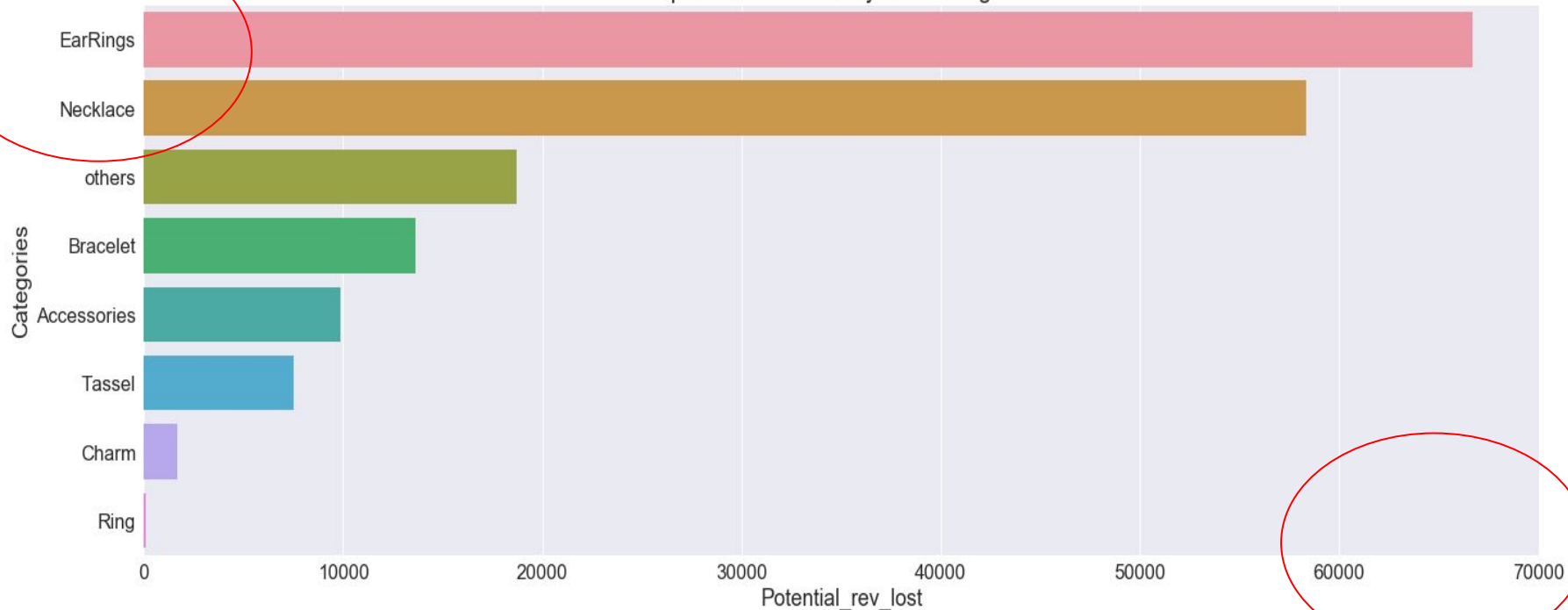
DEFECT RATE AND OPPORTUNITY COST BY STATE

Top10 Loss revenue by each state

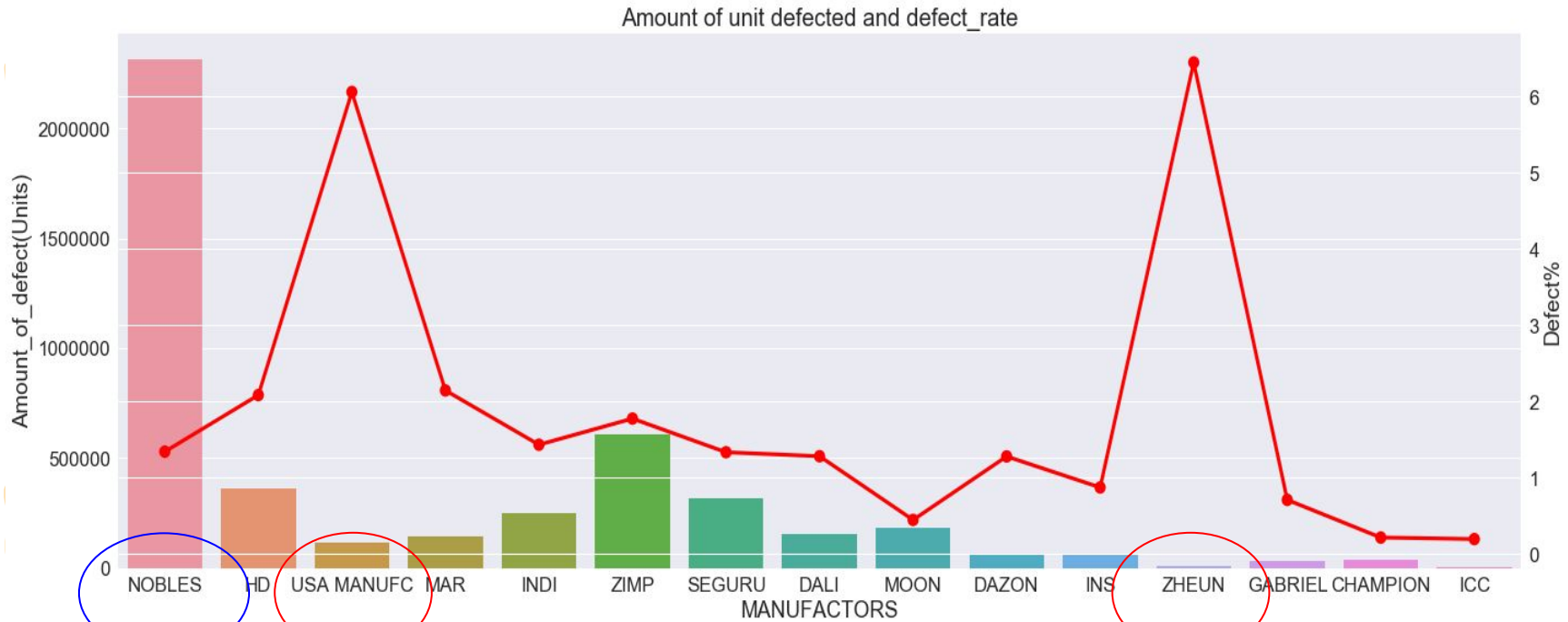


DEFECT RATE AND OPPORTUNITY COST BY CATEGORIES

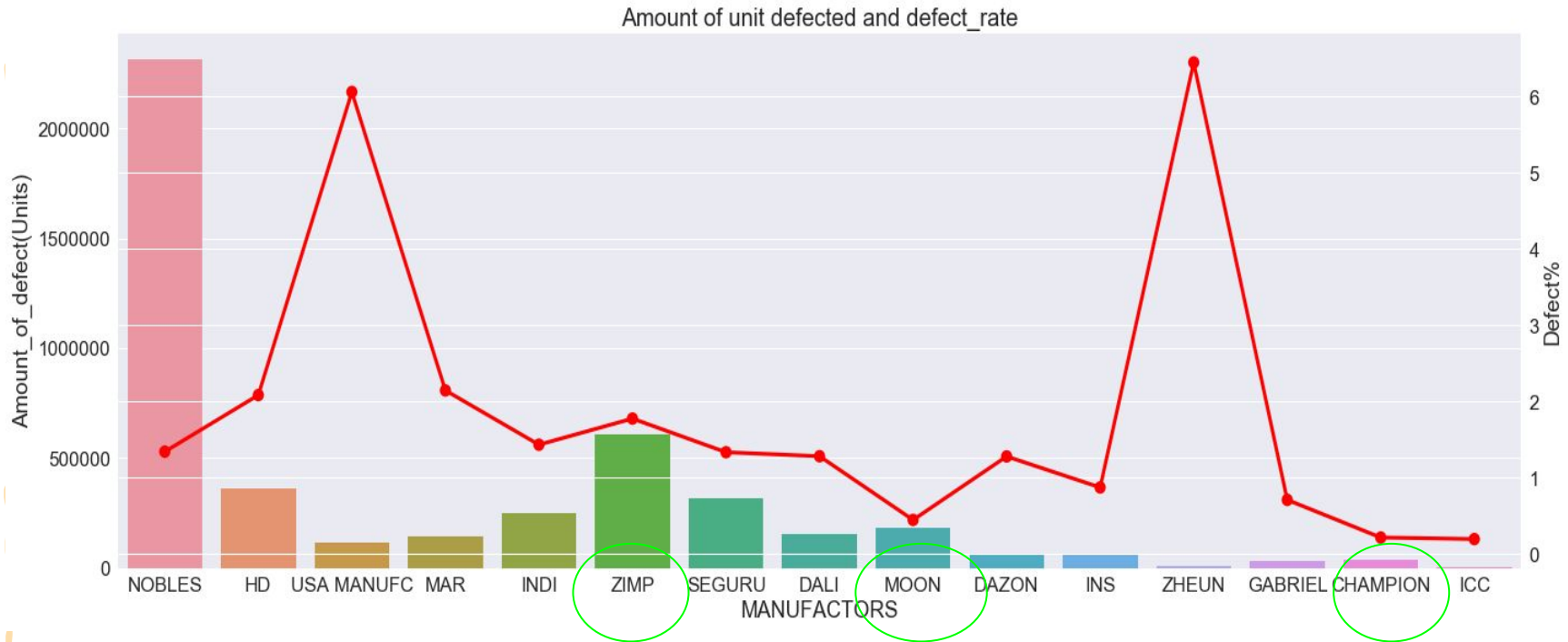
Top10 Loss revenue by each categories



SOURCE OF DEFECT → MANUFACTURERS WITH THE MOST DEFECT RATE AND QUANTITY



RECOMMENDED → MANUFACTURERS (INCREASE ORDERS FOR THESE MANUFACTURERS)



3.

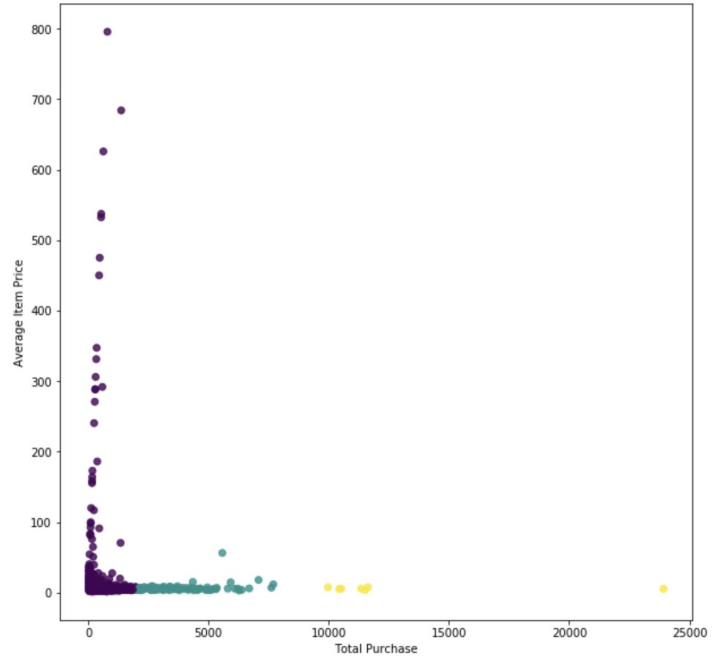
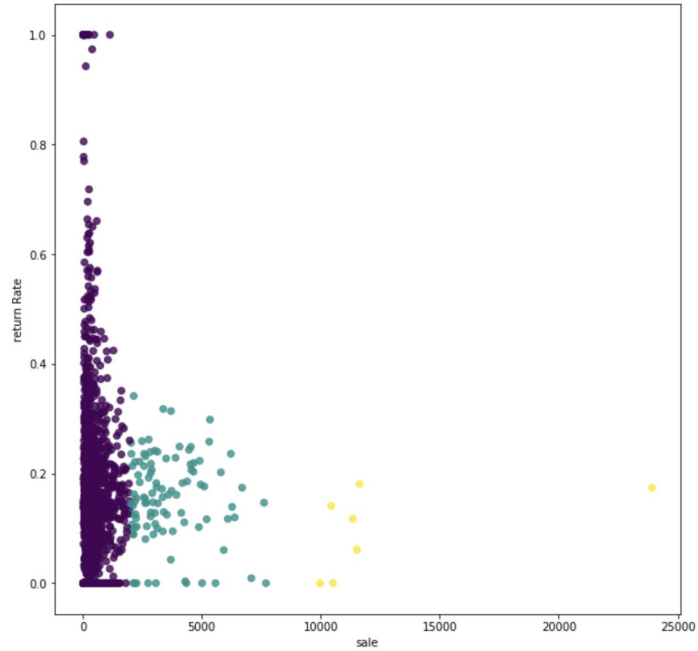
USJH & UNO MODELING - IN PROGRESS



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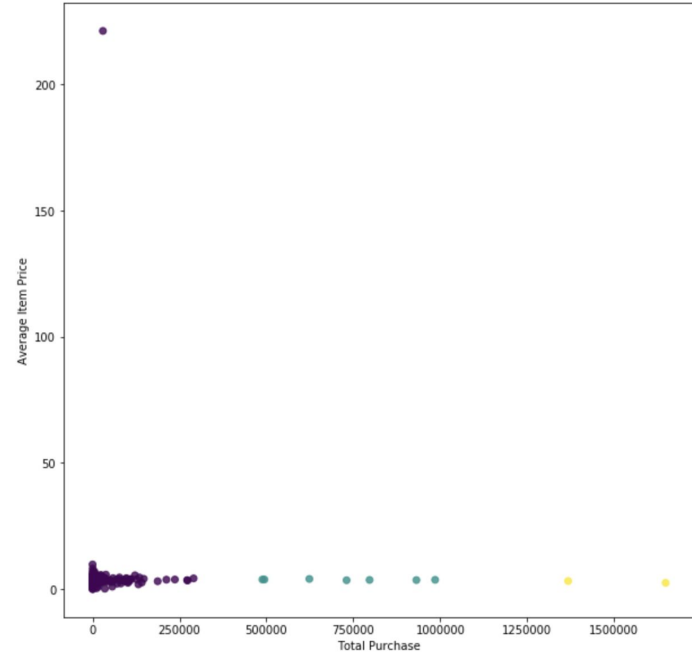
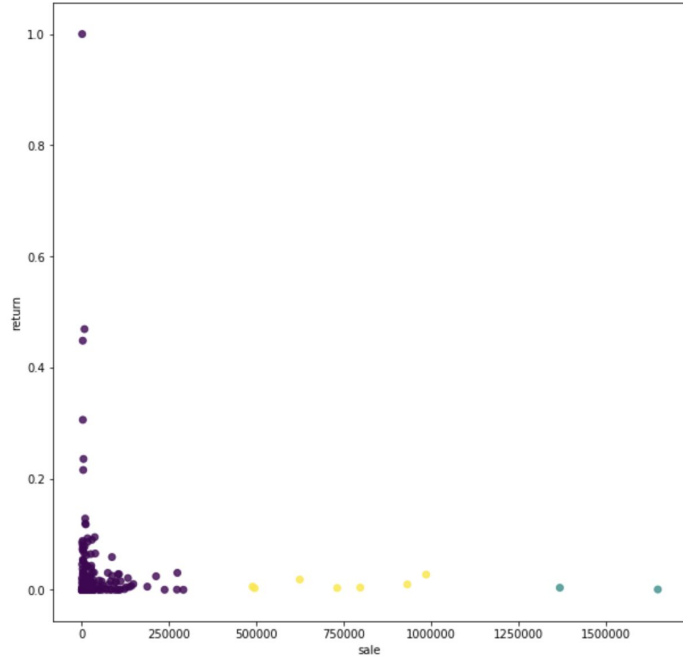
CUSTOMER SEGMENTATION (CLUSTERING)

USJH

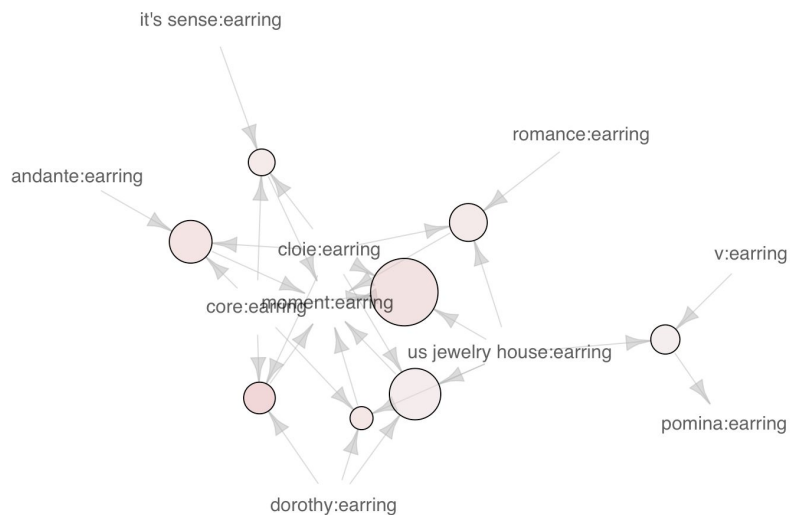
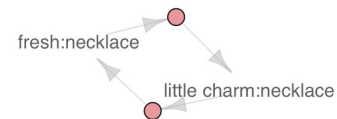
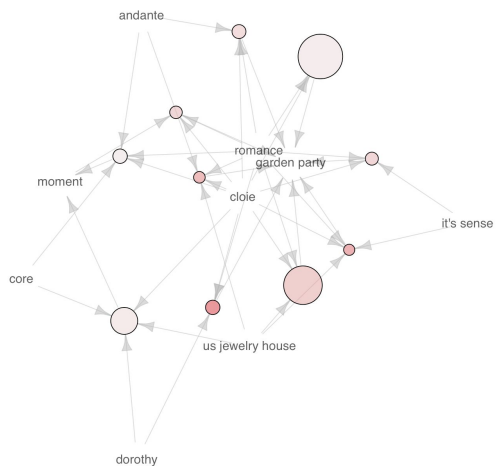
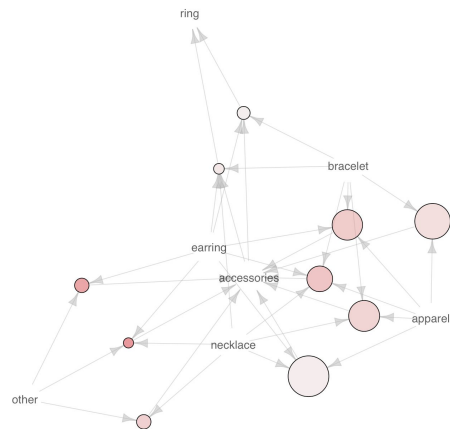


CUSTOMER SEGMENTATION (CLUSTERING)

UNO



ASSOCIATION RULES USJH ORDERS



Grouped Matrix for 1910 Rules

Size: support
Color: lift

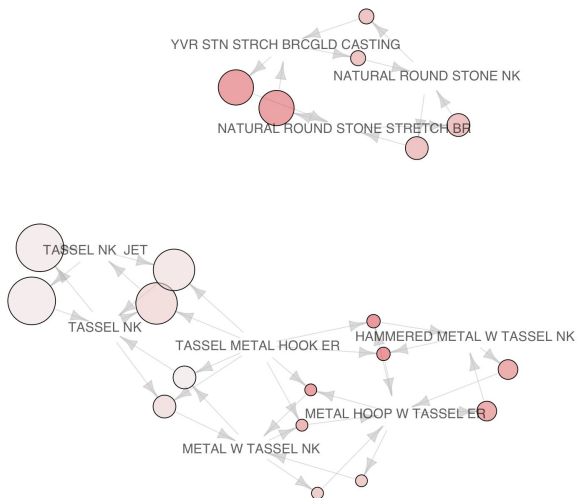


PRODUCT RECOMMENDATION (ASSOCIATION RULES)

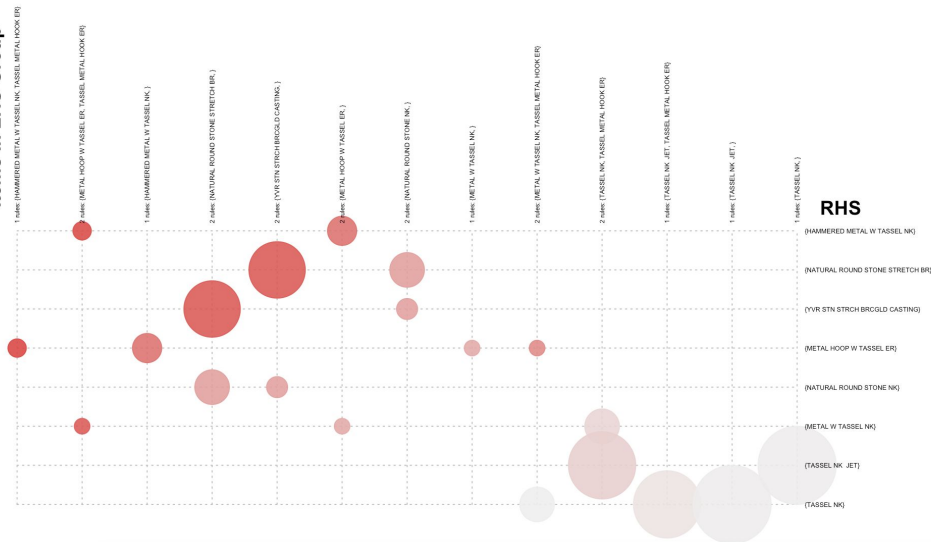
UNO SALE CUSTOMERS

Grouped Matrix for 20 Rules

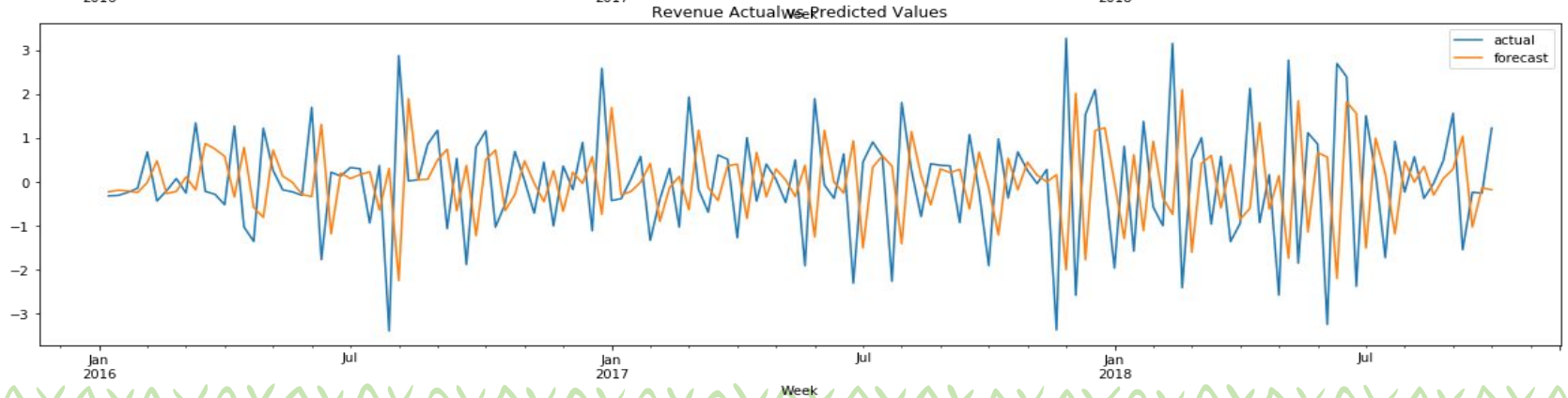
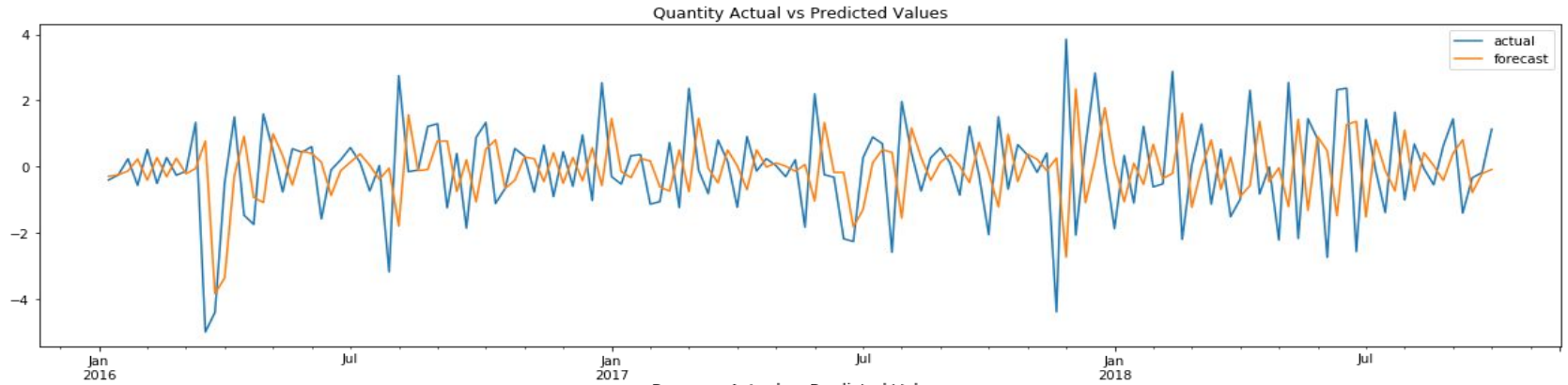
Size: support
Color: lift



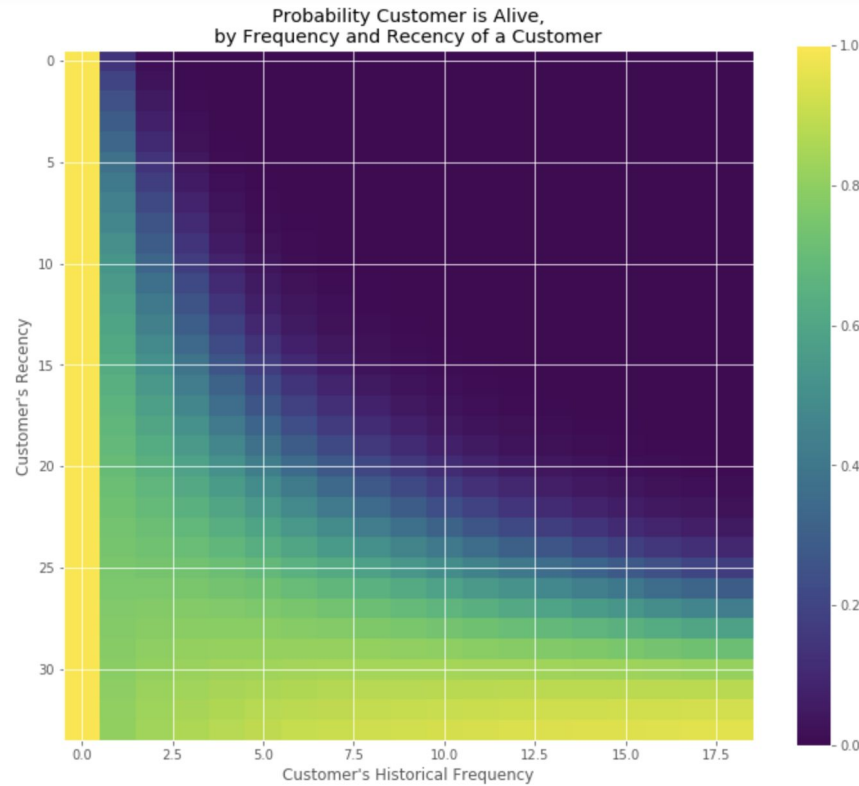
Items in LHS Group



UNO TIME SERIES MODEL FOR QUANTITY & REVENUE (& INVENTORY)

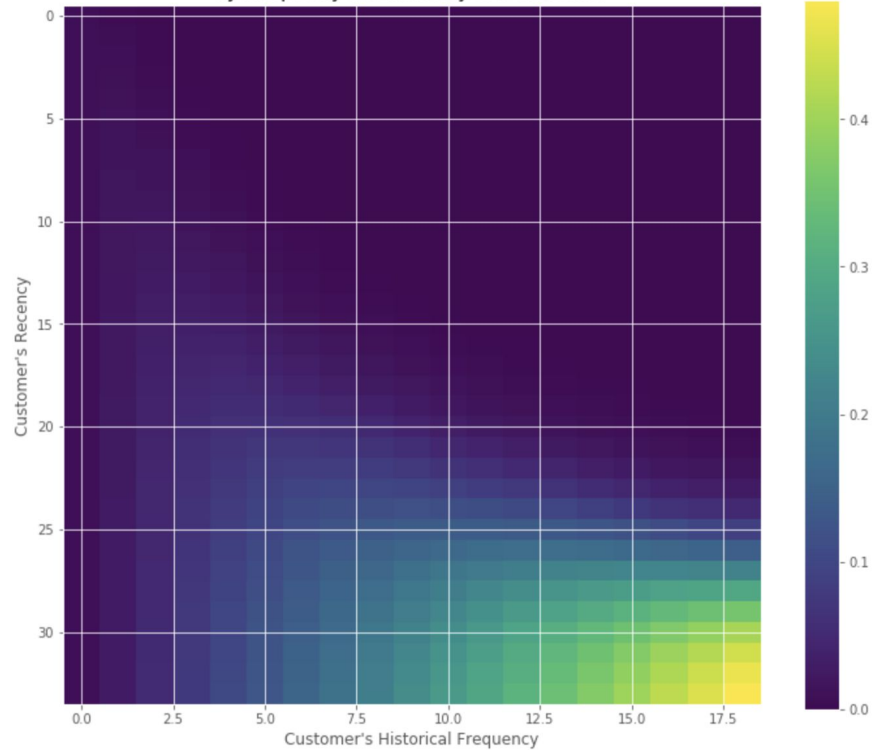


CLV ANALYSIS



CLV ANALYSIS

Expected Number of Future Purchases for 1 Unit of Time,
by Frequency and Recency of a Customer



CLV ANALYSIS





THANKS!

Any questions?