

Initial Analysis of Viva's Pricing and Inventory Strategy



MEET THE TEAM



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PROMISING PATTERNS



Price



Category



Campaign



Date



Gender

PRICE

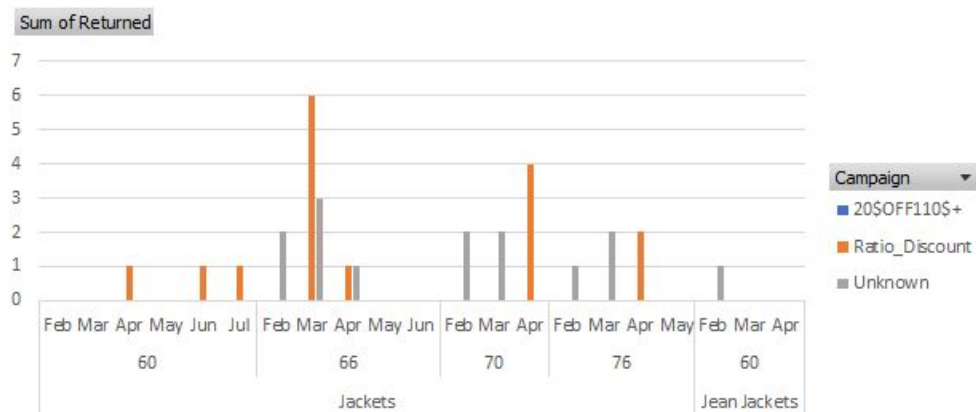
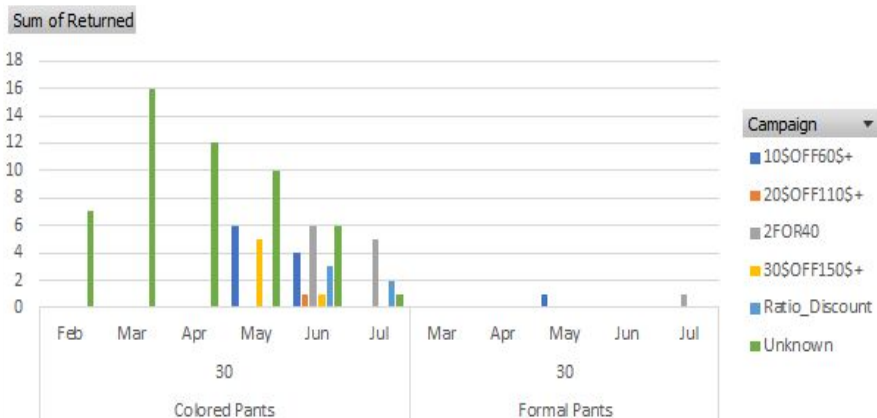
\$30 items have significantly higher number of returns than any other price. Most of these returns:

- Were colored pants

- Occurred in the First Quarter

- Were on non-discounted items

For \$60+ items, **ratio discounted jackets** were returned the most in March and April



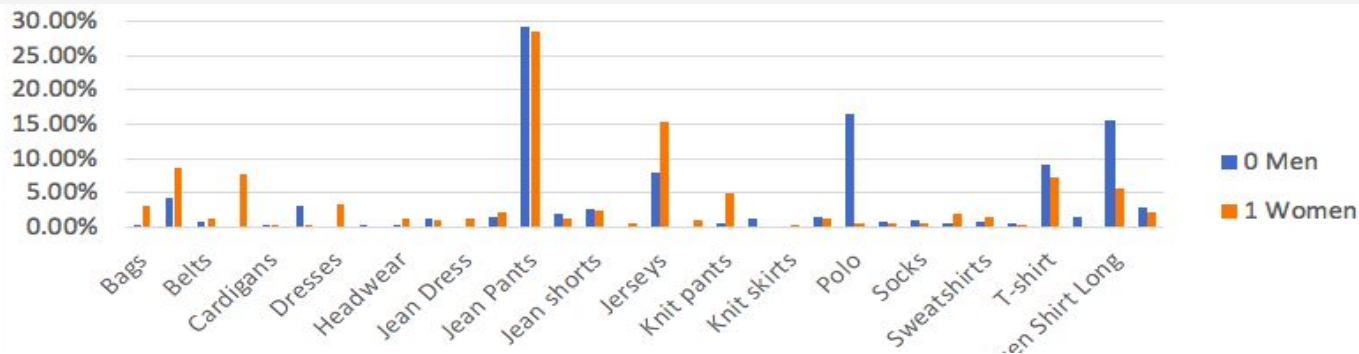
CATEGORY

Most Returned Category: Jean pants

28.73% of returns were done for Jean pants

Return rates for jean pants are within 1% for each gender

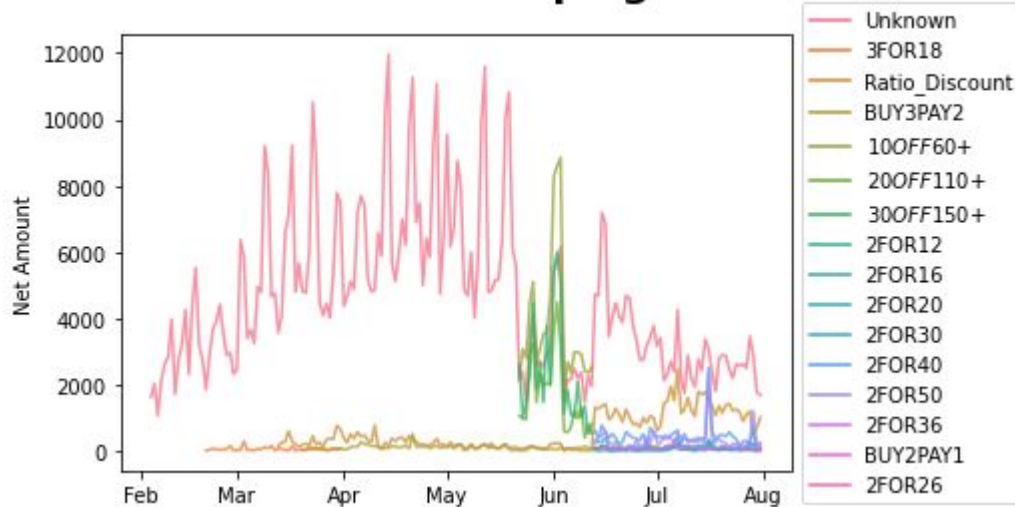
Other highly returned categories: Men's Polos (16.20%), Women's Jerseys (15.02%), Men's Woven Shirt Long (15.37%)



As a proportion of sales, **knit pants**, **jean shirts** and **polos** saw the highest rate of returns.

CAMPAIGN

VIVA 2019 Campaigns



Campaigns are split up into **3 groups**

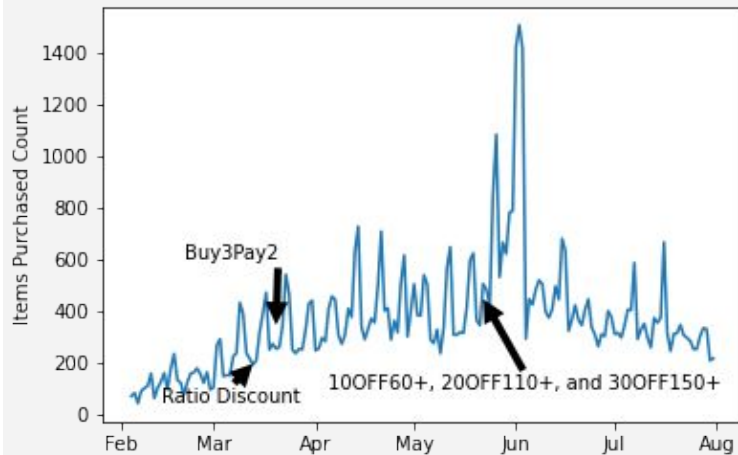
Highest Net Income for long-term campaigns is Ratio Discount

Highest Net Income for short-term campaign occur during May and June.
(10\$OFF60\$+, 30\$OFF150\$+, 20\$OFF110\$+)

Lowest Net Income occur during mid-June and July.

DATE

VIVA 2019 Items Purchased

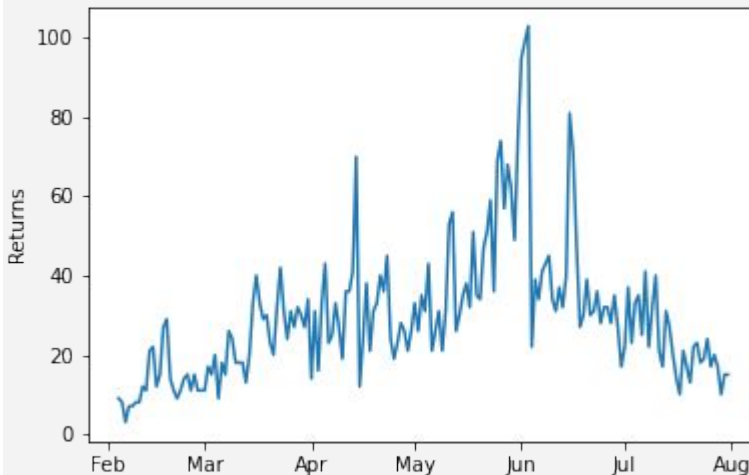


Daily Purchase Average: 369.05

Highest Volume occur late May/early June following the start of three campaigns.

Lowest Average Volume occur during February

VIVA 2019 Returns



Daily Return Average: 29.76

Highest Returns occur early/mid June

Lowest Average Returns occur during February

Seasonal return trend follows similar pattern to items purchased

GENDER

Men are the highest returner in sizes ranging from XXS-XXXL by 53%

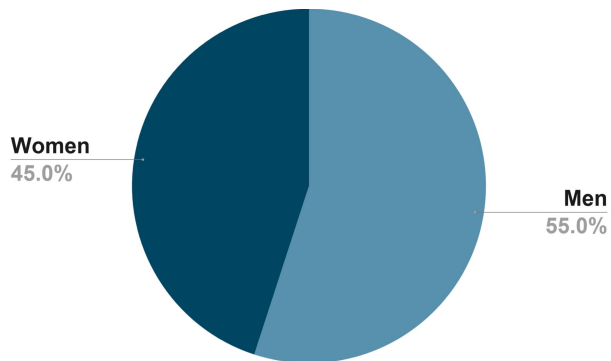
Specifically in sizes L,XL, and XXL

Over **55% of all returned are from customers that identified as men**

Men are more likely to return a product that has a **campaign attached to it by almost 60%**

Takeaways:

According to the data men are unsure of their clothing size, their preference material, and are more likely to impulse purchase a product if it is on a campaign



NEXT STEPS



Logistic Regression

Model the probability of an item being returned or not.

Thank You | Questions

Appendix

Appendix A - Category + Gender as % of purchased

Sum of Returned	Column Labels		
Row Labels	0 Men	1 Women	Grand Total
Bags	0.10%	2.89%	1.36%
Basics	4.05%	8.35%	5.98%
Belts	0.65%	1.01%	0.81%
Blouses	0.00%	7.59%	3.42%
Cardigans	0.03%	0.08%	0.06%
Colored Pants	2.92%	0.08%	1.64%
Dresses	0.00%	3.19%	1.43%
Formal Pants	0.07%	0.00%	0.04%
Headwear	0.03%	0.96%	0.45%
Jackets	1.03%	0.71%	0.89%
Jean Dress	0.00%	0.96%	0.43%
Jean Jackets	1.20%	2.06%	1.59%
Jean Pants	29.03%	28.36%	28.73%
Jean Shirts	1.65%	0.92%	1.32%
Jean shorts	2.37%	2.18%	2.28%
Jean skirts	0.00%	0.42%	0.19%
Jerseys	7.79%	15.02%	11.04%
Knit dresses	0.00%	0.76%	0.34%
Knit pants	0.27%	4.70%	2.27%
Knit shorts	0.96%	0.00%	0.53%
Knit skirts	0.00%	0.13%	0.06%
Knitwear	1.20%	1.09%	1.15%
Polo	16.20%	0.42%	9.10%
Shorts	0.48%	0.25%	0.38%
Socks	0.72%	0.42%	0.59%
Sweaters	0.24%	1.68%	0.89%
Sweatshirts	0.48%	1.34%	0.87%
Swimwear	0.38%	0.13%	0.26%
T-shirt	8.89%	6.92%	8.00%
Underwear	1.34%	0.00%	0.74%
Woven Shirt Long	15.37%	5.49%	10.93%
Woven Shirt Short	2.54%	1.89%	2.25%
Grand Total	100.00%	100.00%	100.00%

Appendix B - Gender + Category

Sum of Returned	Column Labels		
Row Labels	0	1	Grand Total
Bags	3	69	72
Basics	118	199	317
Belts	19	24	43
Blouses	181		181
Cardigans	1	2	3
Colored Pants	85	2	87
Dresses	76		76
Formal Pants	2		2
Headwear	1	23	24
Jackets	30	17	47
Jean Dress		23	23
Jean Jackets	35	49	84
Jean Pants	846	676	1522
Jean Shirts	48	22	70
Jean shorts	69	52	121
Jean skirts		10	10
Jerseys	227	358	585
Knit dresses		18	18
Knit pants	8	112	120
Knit shorts	28	0	28
Knit skirts		3	3
Knitwear	35	26	61
Polo	472	10	482
Shorts	14	6	20
Socks	21	10	31
Sweaters	7	40	47
Sweatshirts	14	32	46
Swimwear	11	3	14
T-shirt	259	165	424
Underwear	39		39
Woven Shirt Long	448	131	579
Woven Shirt Short	74	45	119
Grand Total	2914	2384	5298

Appendix C - Gender + Size

L	539	270	809	0.15269913	15%
M	490	448	938	0.17704794	18%
ONE SIZE	25	102	127	0.02397131	2%
S	292	452	744	0.14043035	14%
XL	295	85	380	0.07172518	7%
XS	61	261	322	0.06077765	6%
XXL	125	4	129	0.02434881	2%
XXS	0	2	2	0.0003775	0%
XXXL	24		24	0.00453001	0%
Grand Total	2914	2384	5298		

Appendix D - Gender + Size

L	539	270	809	0.15269913	15%
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XXL	125	4	129	0.02434881	2%
XXS	0	2	2	0.0003775	0%
XXXL	24		24	0.00453001	0%
Grand Total	2914	2384	5298		

Appendix E - Gender + Campaign

Sum of Returned	Column Labels		
Row Labels	0	1	Grand Total
10\$OFF60\$+	238	158	396
20\$OFF110\$+	76	45	121
2FOR12	35		35
2FOR16	14		14
2FOR20	26		26
2FOR26	0		0
2FOR30	51		51
2FOR36	21		21
2FOR40	44	72	116
2FOR50	43		43
30\$OFF150\$+	107	37	144
3FOR18	2		2
BUY2PAY1		2	2
BUY3PAY2	35	3	38
Ratio_Discount	197	298	495
Unknown	2025	1769	3794
Grand Total	2914	2384	5298

Appendix F - Date + Items

```
count    178.000000
mean     369.050562
std      217.019728
min       47.000000
25%      256.250000
50%      331.500000
75%      427.750000
max      1510.000000
Name: SKU, dtype: float64
```

Highest

```
Date
2019-06-02    1510
2019-06-01    1426
2019-06-03    1417
2019-05-26    1087
2019-05-25     857
2019-05-31     791
2019-05-30     785
2019-04-14     731
2019-04-21     712
2019-06-15     684
Name: SKU, dtype: int64
```

Lowest

```
Date
2019-02-06     47
2019-02-11     66
2019-02-04     74
2019-02-20     80
2019-02-05     87
2019-02-07     94
2019-02-28     99
2019-02-15     99
2019-02-08    105
2019-02-12    106
Name: SKU, dtype: int64
```

Appendix G - Date + Returns

		Highest		Lowest	
		Returned		Returned	
		Date		Date	
count	178.000000	2019-06-03	103	2019-07-29	10
mean	29.764045	2019-06-02	99	2019-02-04	9
std	17.116432	2019-06-01	95	2019-02-21	9
min	3.000000	2019-06-15	81	2019-03-05	9
25%	18.000000	2019-05-31	75	2019-02-10	8
50%	27.000000	2019-05-26	74	2019-02-09	8
75%	35.000000	2019-06-16	71	2019-02-05	8
max	103.000000	2019-04-14	70	2019-02-08	7
		2019-05-25	69	2019-02-07	7
		2019-05-28	68	2019-02-06	3

Appendix G - Campaign Net Amount

Campaign	
Unknown	819213.19
10\$OFF60\$+	83586.05
Ratio_Discount	78860.77
30\$OFF150\$+	51107.43
20\$OFF110\$+	37409.16
2FOR40	22101.96
2FOR50	16706.37
BUY3PAY2	15022.14
2FOR30	6769.50
2FOR36	3906.90
2FOR12	3532.16
2FOR20	3331.30
3FOR18	2368.06
2FOR16	2092.11
BUY2PAY1	54.96
2FOR26	24.07

Name: Net_Amount, dtype: float64

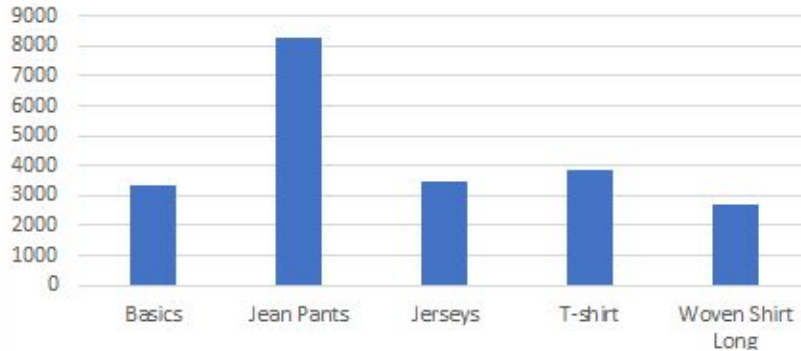
HIGHLIGHTS

Jeans, Jerseys and **Long Woven Shirts** are popular with or without discounts

Socks and **Underwear** become highly demanded with discounts

Sum of Not Returned

Category Sales without Campaign



Sum of Not Returned

Category Sales with Campaign

