

Table of Contents

The Contents Procedure	2
WORK.RUBY_ANALYSIS	2
Varnum	2
The Print Procedure	3
Data Set WORK.SALES_VOLUME	3
The SGPlot Procedure	4
The SGPlot Procedure	4
The Univariate Procedure	5
Prices	5
Quantiles	5
Plots for Prices	5
The Print Procedure	7
Data Set WORK.RUBY_ANALYSIS	7
The Print Procedure	8
Data Set WORK.RATINGS_FOR_PRODUCTS	8
The Print Procedure	9
Data Set WORK.BSR_RANK	9
The Freq Procedure	10
Table Discounted_Status	10
One-Way Frequencies	10
The Print Procedure	11
Data Set WORK.PRODUCT_DISCOUNTS	11
The SGPlot Procedure	12
The SGPlot Procedure	12
The GLMSelect Procedure	13
Full Model	13
Fit Statistics	13
Parameter Estimates	13

Assignment 2
Insights from Ruby Olive Jewellery Store
Analysis

26777 Data Processing Using SAS - Spring 2024
Somesh Shanbhag - 25525837

Variables and their Descriptions

2

Variables in Creation Order						
#	Variable	Type	Len	Format	Informat	Label
1	SKU	Char	67	\$67.	\$67.	Stock ID
2	SHOPIFY_VARIANT_ID	Char	19	\$19.	\$19.	Shopify Variant ID
3	SHOPIFY_PRODUCT_ID	Char	18	\$18.	\$18.	Shopify Product ID
4	TITLE	Char	44	\$44.	\$44.	Title
5	GRAMS	Char	3	\$3.	\$3.	Weight in grams
6	TAXABLE	Char	3	\$3.	\$3.	Taxable
7	REQUIRES_SHIPPING	Char	3	\$3.	\$3.	Shipping Requirement
8	AVAILABLE	Char	3	\$3.	\$3.	Stock Availability
9	NAME	Char	70	\$70.	\$70.	Name
10	VENDOR	Char	36	\$36.	\$36.	Vendor
11	PRODUCT_TYPE	Char	23	\$23.	\$23.	Product Type
12	CREATED_AT_Products	Char	19	\$19.	\$19.	Creation Date (Products)
13	BODY	Char	650	\$650.	\$650.	Review Description
14	Prices	Num	8			Final Price
15	BSR	Num	8			Bestseller Rank
16	Positions	Num	8			
17	COMPARE_AT_PRICES	Num	8			Old Price
18	price_difference	Num	8			Price Difference
19	Discounted_Status	Num	8			Discounted Status
20	Discount	Num	8			
21	Ratings	Num	8			
22	Created_At_Reviews	Char	19			Creation Date (Reviews)
23	REVIEW_COUNTS	Num	8			Review Count

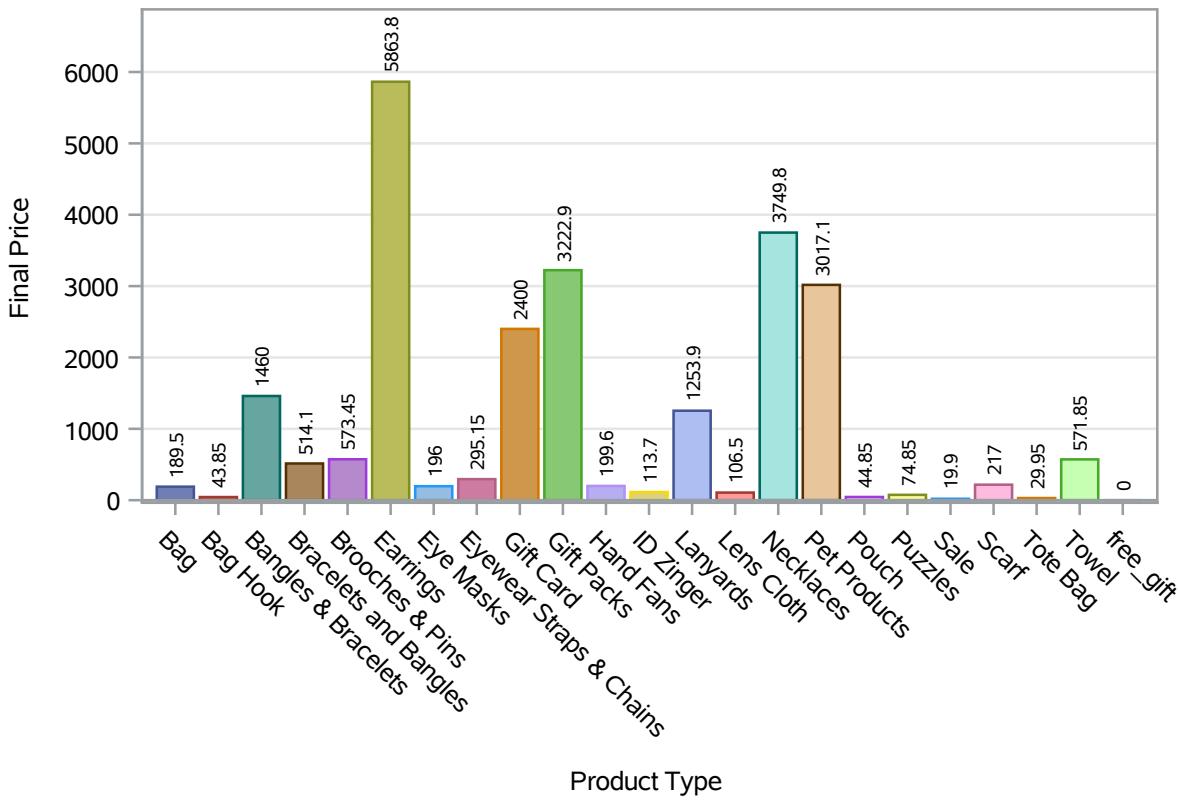
Total Sales volume per product type

3

Product Type	Number of products per category	Sales volume
Earrings	257	5863.85
Pet Products	87	3017.09
Necklaces	80	3749.80
Bangles & Bracelets	70	1460.00
Lanyards	67	1253.85
Gift Packs	52	3222.90
Brooches & Pins	36	573.45
Gift Card	26	2400.00
Bracelets and Bangles	22	514.10
Eyewear Straps & Chains	17	295.15
Lens Cloth	11	106.50
Towel	11	571.85
Bag	10	189.50
Hand Fans	8	199.60
ID Zinger	6	113.70
Eye Masks	4	196.00
Puzzles	3	74.85
Bag Hook	3	43.85
Pouch	3	44.85
Scarf	3	217.00
Sale	2	19.90
free_gift	1	0.00
Tote Bag	1	29.95
	780	24157.74

Explains the value of inventory and possible sales per category.

Which product type on inventory can generate the highest sales volume?



Earrings category has the ability to generate the highest sales

Customer Spending Habits

5

Variable: Prices (Final Price)

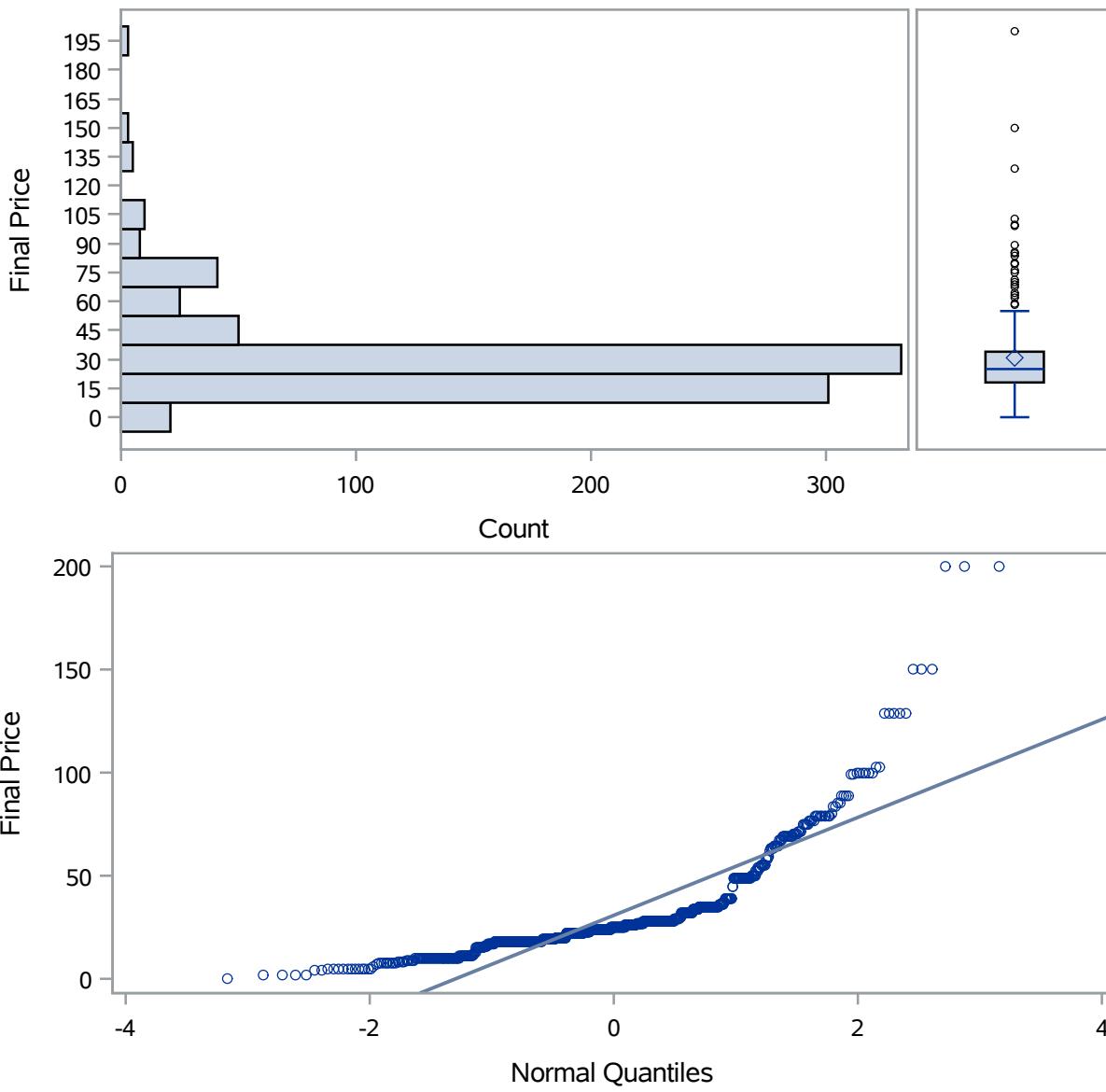
Quantiles (Definition 5)	
Level	Quantile
100% Max	200.00
99%	129.00
95%	79.00
90%	63.00
75% Q3	33.95
50% Median	24.95
25% Q1	18.00
10%	9.95
5%	8.95
1%	5.00
0% Min	0.00

From the inventory analysis, it is clear that most customers spend on average between \$18 to \$34 with \$25 being the mean amount which is why majority of the products are priced around this range.

Customer Spending Habits

6

Distribution and Probability Plot for Prices



From the inventory analysis, it is clear that most customers spend on average between \$18 to \$34 with \$25 being the mean amount which is why majority of the products are priced around this range.

Products which received less than 4 rating

7

Product Name	Ratings	Customer Reply	Vendor
Rainbow Reef Necklace	1	It broke after wearing it three times.	Ruby Olive
Colour Me Happy Drop Earring (10 Colours)	1	It broke after wearing it three times.	Ruby Olive

Both reported broken products are made in house but breakage rate is within acceptable margin of error.

Total Ratings received for all products.

8

Ratings	Number of Products	% of Total Products
1	2	0.25
4	39	4.92
5	751	94.82

Rating system - 5 is best and 1 is the worst
94% of products have a rating of 5

Top Selling product categories

9

Bestseller Rank	Product Type	Price	Number of Products	% of Total Products
1	Earrings	15.95	4	0.67
1	Necklaces	49.00	2	0.34
2	Lanyards	19.95	8	1.34
3	Earrings	28.00	43	7.23
4	Earrings	24.00	26	4.37
5	Bangles & Bracelets	22.00	16	2.69
6	Earrings	26.00	16	2.69
7	Earrings	35.00	2	0.34
8	Earrings	22.40	6	1.01
9	Earrings	8.95	6	1.01
10	Necklaces	36.00	2	0.34
11	Earrings	5.00	1	0.17
12	Earrings	28.00	13	2.18
13	Earrings	35.00	12	2.02
14	Earrings	7.95	3	0.50
15	Lanyards	17.95	4	0.67

From the table above, it is clear that Ruby Olive earrings are very popular among their customers.

Number of products on Discount

10

Discounted Status		
Discounted_Status	Frequency	Percent
Full Price	589	73.72
Discounted	210	26.28

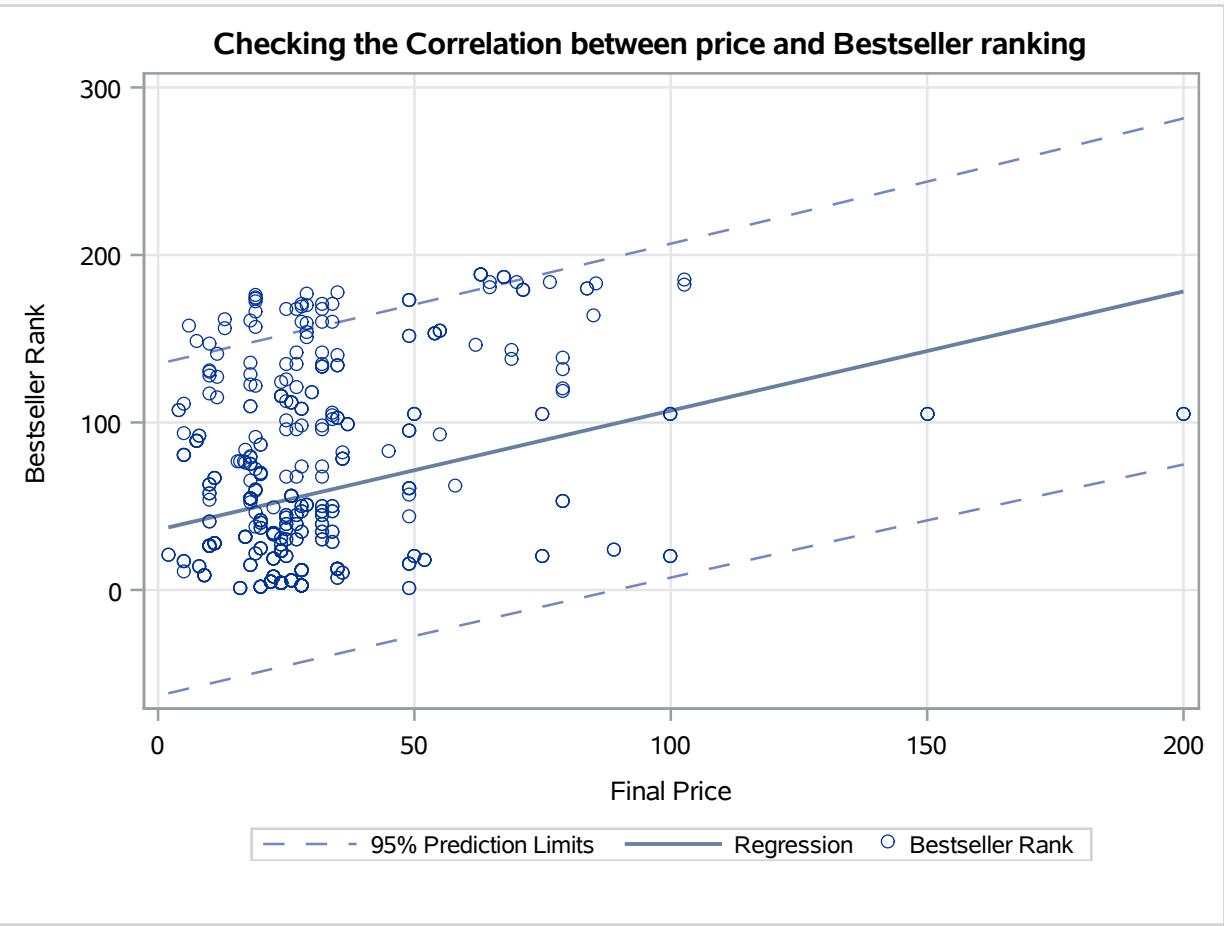
Ruby Olive have 210 products on sale currently.

Discount details for chosen product categories

11

Product Type	Number of Products	Old Mean Price	Final Mean Price	Price Difference	Discount %
Bracelets and Bangles	5	16.00	9.95	6.05	37.81

Designed to print discount details of any chosen product type using a macro.



Least Squares Model (No Selection)

Root MSE	16.63169
Dependent Mean	55.09483
R-Square	0.8765
Adj R-Sq	0.8580
AIC	785.00724
AICC	791.25214
SBC	711.06468

Parameter Estimates						
Parameter		DF	Estimate	Standard Error	t Value	Pr > t
Intercept		1	86.309989	39.157599	2.20	0.0298
Prices		1	1.556941	0.393893	3.95	0.0001
Ratings		1	7.897472	6.819230	1.16	0.2496
REVIEW_COUNTS		1	-4.514047	0.930673	-4.85	<.0001
COMPARE_AT_PRICES		1	-0.745304	0.480093	-1.55	0.1237
Discounted_Status		0	0	.	.	.
PRODUCT_TYPE	Bag Hook	1	26.418474	19.276131	1.37	0.1736
PRODUCT_TYPE	Brooches & Pins	1	-20.197925	13.811410	-1.46	0.1468
PRODUCT_TYPE	Earrings	1	-60.426962	15.725116	-3.84	0.0002
PRODUCT_TYPE	Gift Packs	1	-32.207836	21.035804	-1.53	0.1289
PRODUCT_TYPE	Necklaces	1	-79.714320	17.363078	-4.59	<.0001
PRODUCT_TYPE	Pet Products	1	-0.578941	16.836149	-0.03	0.9726
PRODUCT_TYPE	Puzzles	1	-48.302719	22.274946	-2.17	0.0325
PRODUCT_TYPE	Sale	0	0	.	.	.
AVAILABLE	NO	1	-15.587216	8.865438	-1.76	0.0818
AVAILABLE	YES	0	0	.	.	.
VENDOR	Charity By Design	1	12.674971	22.985970	0.55	0.5826
VENDOR	Limited Run	1	9.988558	22.726142	0.44	0.6612
VENDOR	Ruby Olive	1	23.913779	12.694720	1.88	0.0625
VENDOR	Ruby Olive Jewellery	0	0	.	.	.
TAXABLE	YES	0	0	.	.	.