

Social Media Marketing MS 491-II

Group Number - 10

Ajay Karwasara 19110142

Deepak Patel 19110010

Satyam Anand 19110135

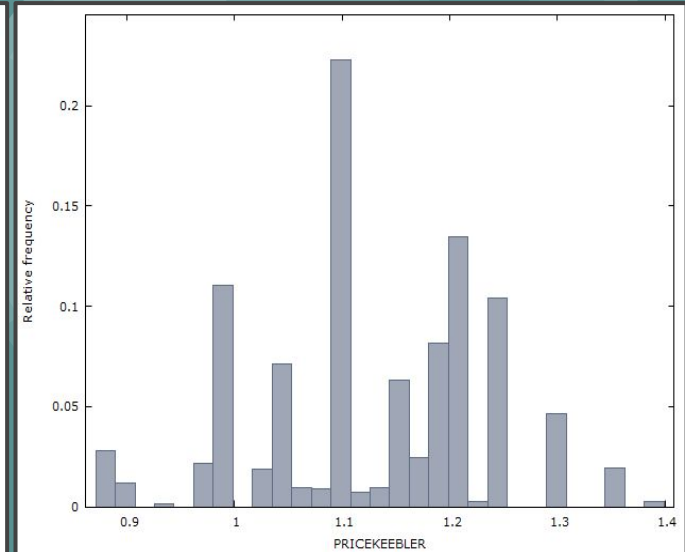
Siddharth Joshi 19110169

Introduction

- In this presentation, we are going to analyze the price and sales of product of different brands such as Private, Sunshine, Nobisco and Keebler ([Dataset](#)).
- We have dataset of 136 households making about 3292 total purchase.
- We will also see the dependence of price and sales of a particular brand on the display at the store or feature on the store magazine.
- This analysis will help us develop new strategies for the brands to increase their sales and profits.

Full Summary Statistics of Price

	Mean	Median	Minimum	Maximum
PRICEPRIVATE	0.68073	0.65000	0.38000	1.1500
PRICESUNSHINE	0.95703	0.97000	0.49000	1.2900
PRICEKEEBLER	1.1259	1.0900	0.88000	1.3900
PRICENABISCO	1.0792	1.0900	0.00000	1.6900
	Std. Dev.	C.V.	Skewness	Ex. kurtosis
PRICEPRIVATE	0.12407	0.18225	1.0096	1.1039
PRICESUNSHINE	0.13292	0.13889	-0.67590	1.4218
PRICEKEEBLER	0.10638	0.094478	-0.19078	-0.46938
PRICENABISCO	0.14478	0.13415	-0.47378	2.2229
	5% perc.	95% perc.	IQ range	Missing obs.
PRICEPRIVATE	0.53000	0.92000	0.19000	0
PRICESUNSHINE	0.78000	1.0900	0.16000	0
PRICEKEEBLER	0.98000	1.2900	0.16000	0
PRICENABISCO	0.89000	1.2900	0.20000	0



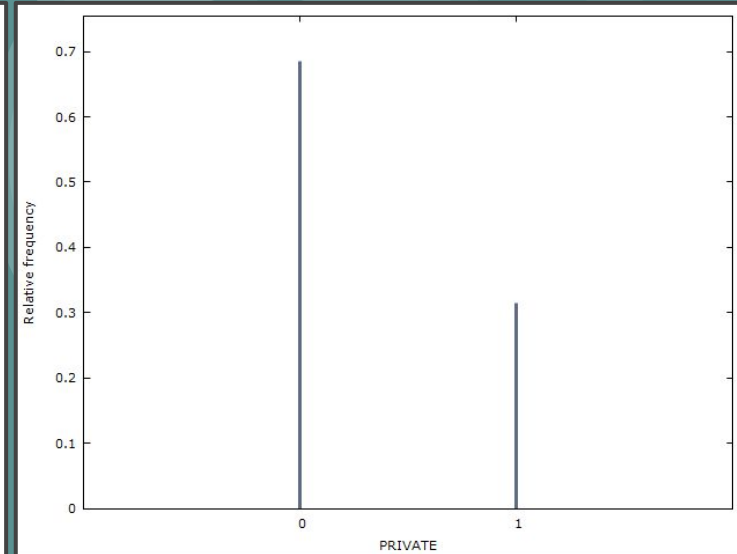
Full Summary Statistics

Relative frequency of price of
Keebler brand

Full Summary Statistics of Sales

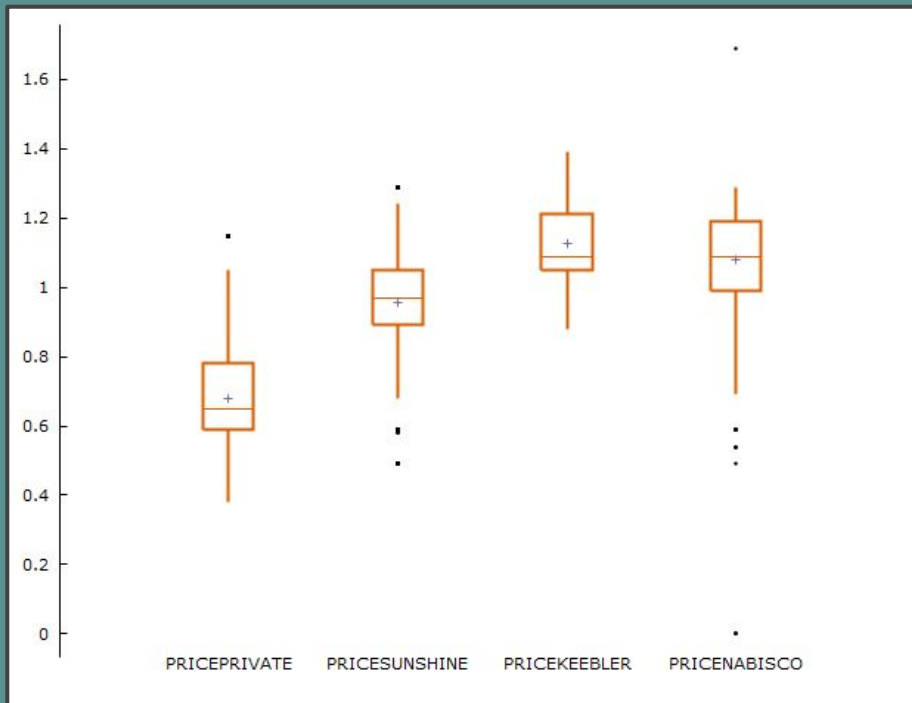
	Mean	Median	Minimum	Maximum
PRIVATE	0.31440	0.00000	0.00000	1.0000
SUNSHINE	0.072600	0.00000	0.00000	1.0000
KEEBLER	0.068651	0.00000	0.00000	1.0000
NABISCO	0.54435	1.0000	0.00000	1.0000
	Std. Dev.	C.V.	Skewness	Ex. kurtosis
PRIVATE	0.46435	1.4769	0.79953	-1.3608
SUNSHINE	0.25952	3.5746	3.2943	8.8523
KEEBLER	0.25290	3.6838	3.4118	9.6401
NABISCO	0.49810	0.91505	-0.17810	-1.9683
	5% perc.	95% perc.	IQ range	Missing obs.
PRIVATE	0.00000	1.0000	1.0000	0
SUNSHINE	0.00000	1.0000	0.00000	0
KEEBLER	0.00000	1.0000	0.00000	0
NABISCO	0.00000	1.0000	1.0000	0

Full Summary Statistics

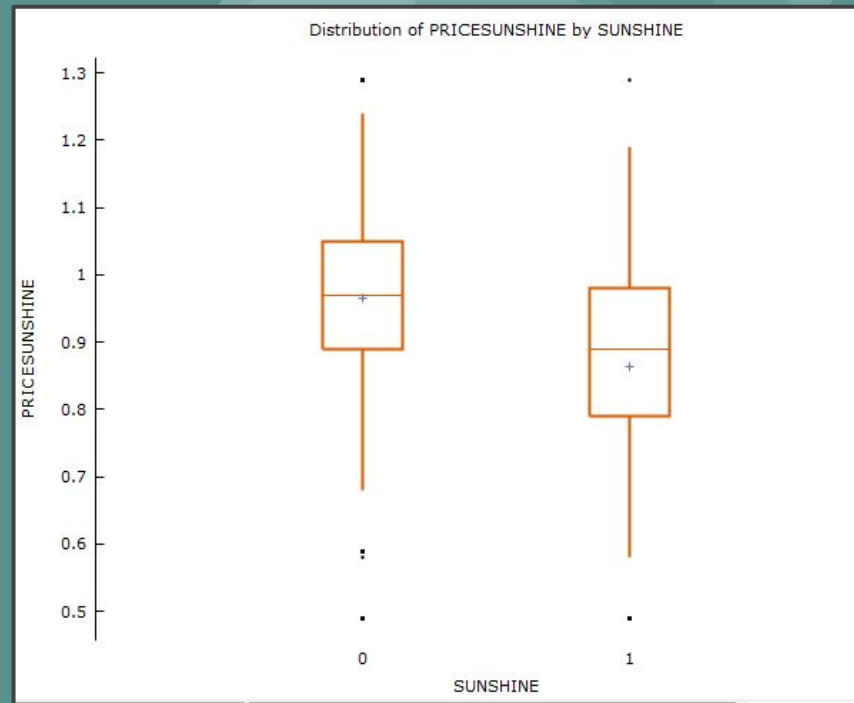


Relative frequency of sales of Private brand

Boxplots and Factorized Boxplots

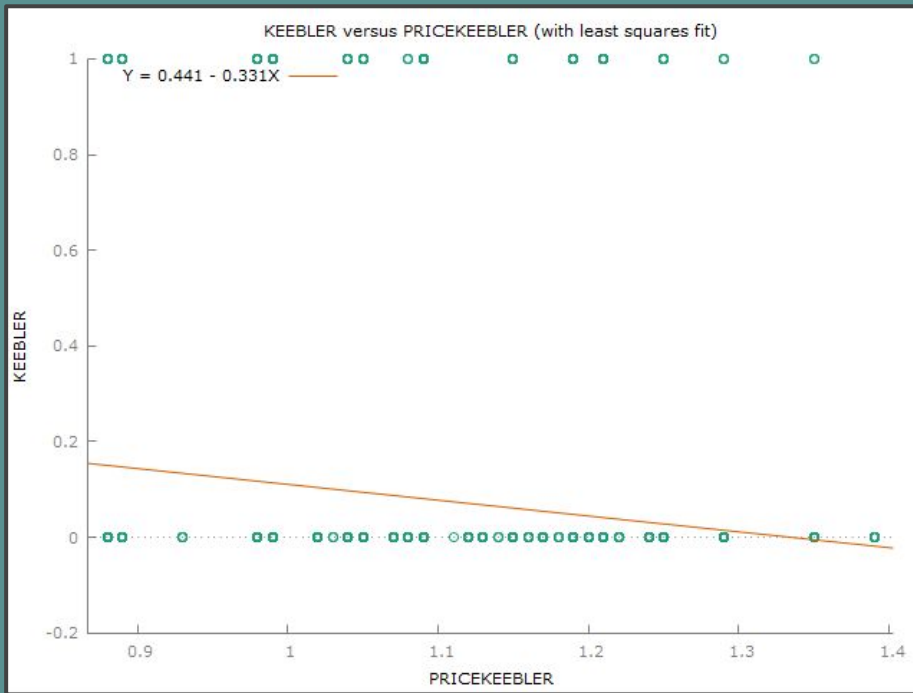


Boxplot of price of various brands

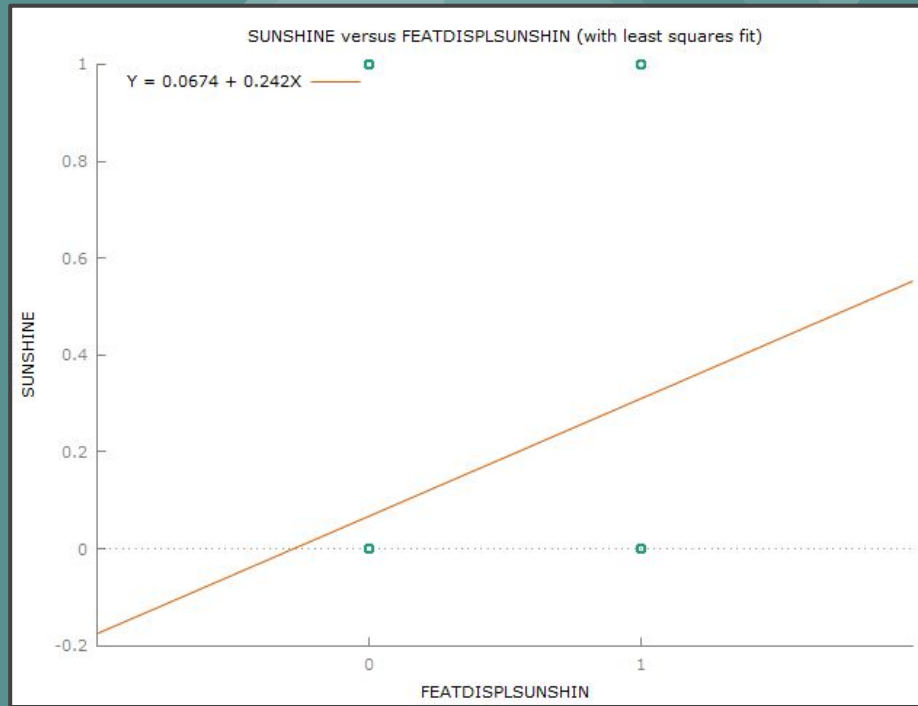


Factorized Boxplot
(Price_sunshine Vs Sale_sunshine)

X-Y Scatter Plots



Plot of Price_Keebler Vs Sales_Keebler



Plot of FeatDispl_Sunshine Vs Sales_Sunshine

Restricted dataset (when Private brand is bought, i.e., PRIVATE == 1)

	Mean	Median	S.D.	Min	Max
PRICEPRIVATE	0.6702	0.5900	0.1586	0.3800	1.150
PRICESUNSHINE	0.9752	0.9800	0.1339	0.4900	1.290
PRICEKEEBLER	1.130	1.090	0.09188	0.8800	1.350
PRICENABISCO	1.111	1.090	0.1314	0.8900	1.290

Summary Statistics
of price

	Mean	Median	S.D.	Min	Max
FEATDISPLPRIVATE	0.04734	0.0000	0.2125	0.0000	1.000
FEATDISPLSUNSHIN	0.01063	0.0000	0.1026	0.0000	1.000
FEATDISPLKEEBLER	0.01932	0.0000	0.1377	0.0000	1.000
FEATDISPLNABISCO	0.01836	0.0000	0.1343	0.0000	1.000

Summary Statistics of
feature and display

Cross-tabulation of FEATDISPLPRIVATE (rows) against FEATDISPLSUNSHIN (columns)

	[0]	[1]	TOT.
[0]	975	11	986
[1]	49		49
TOTAL	1024	11	1035

Cross Tabulation
(Feat_Displ_Private Vs
Feat_Displ_Sunshine)

Restricted Dataset (when Nabisco is displayed, i.e., DISPLNABISCO == 1)

	Mean	Median	S.D.	Min	Max
PRIVATE	0.3094	0.0000	0.4625	0.0000	1.000
SUNSHINE	0.08542	0.0000	0.2796	0.0000	1.000
KEEBLER	0.05104	0.0000	0.2202	0.0000	1.000
NABISCO	0.5542	1.000	0.4973	0.0000	1.000

Summary Statistics of
sales

	Mean	Median	S.D.	Min	Max
PRICEPRIVATE	0.6867	0.6500	0.1416	0.3800	1.150
PRICESUNSHINE	0.9752	0.9800	0.1146	0.4900	1.290
PRICEKEEBLER	1.148	1.170	0.1014	0.8800	1.350
PRICENABISCO	1.080	1.090	0.1418	0.0000	1.690

Summary Statistics of
price

Cross-tabulation of PRIVATE (rows) against NABISCO (columns)

	[0]	[1]	TOT.
[0]	131	532	663
[1]	297		297
TOTAL	428	532	960

Cross Tabulation
(Private Sales Vs
Nabisco Sales)

Restricted Dataset (when Sunshine is featured, i.e., FEATSUNSHINE == 1)

	Mean	Median	S.D.	Min	Max
PRIVATE	0.3019	0.0000	0.4635	0.0000	1.000
SUNSHINE	0.2075	0.0000	0.4094	0.0000	1.000
KEEBLER	0.01887	0.0000	0.1374	0.0000	1.000
NABISCO	0.4717	0.0000	0.5040	0.0000	1.000

Summary Statistics of sales

	Mean	Median	S.D.	Min	Max
PRICEPRIVATE	0.7138	0.6800	0.1179	0.5500	0.9900
PRICESUNSHINE	0.7443	0.7900	0.1510	0.4900	0.9900
PRICEKEEBLER	1.109	1.090	0.09354	0.9900	1.350
PRICENABISCO	1.043	1.090	0.1743	0.0000	1.190

Summary Statistics of price

Cross-tabulation of SUNSHINE (rows) against KEEBLER (columns)

	[0]	[1]	TOT.
[0]	41	1	42
[1]	11		11
TOTAL	52	1	53

Cross Tabulation
(Sunshine Sales Vs
Keebler Sales)

Restricted Dataset

(when Keebler is not featured and displayed, i.e., FEATDISPLKEEBLER == 0)

	Mean	Median	S.D.	Min	Max
PRIVATE	0.3166	0.0000	0.4652	0.0000	1.000
SUNSHINE	0.07205	0.0000	0.2586	0.0000	1.000
KEEBLER	0.06488	0.0000	0.2463	0.0000	1.000
NABISCO	0.5465	1.000	0.4979	0.0000	1.000

Summary Statistics
of sales

	Mean	Median	S.D.	Min	Max
PRICEPRIVATE	0.6809	0.6500	0.1234	0.3800	1.150
PRICESUNSHINE	0.9578	0.9700	0.1341	0.4900	1.290
PRICEKEEBLER	1.129	1.120	0.1052	0.8800	1.390
PRICENABISCO	1.076	1.090	0.1445	0.0000	1.690

Summary Statistics
of price

Cross-tabulation of PRIVATE (rows) against KEEBLER (columns)				
	[0]	[1]	TOT.	
[0]	1983	208	2191	
[1]	1015		1015	
TOTAL	2998	208	3206	

Cross Tabulation
(Private Sales Vs
Keebler Sales)

Conclusion

- Majority of the market is occupied by the Nabisco brand (54.435%) despite of it having the second highest mean price (1.0792).
- Mean price of Keebler brand is highest (1.1259) and its share in the market is about 6.86%.
- We have also observed the maximum standard deviation from the mean price in the case of Nabisco brand (0.14478) and minimum standard deviation in the case of Keebler brand (0.10638).
- Featuring a brand in the store magazine or displaying it in the store have proved to be useful for increasing the sale of that particular brand.