**Briefcase**

Call:

lm(formula = net\_Sales ~ ., data = kol.PE\_Briefcase)

Residuals:

Min 1Q Median 3Q Max

-0.28632 -0.03972 -0.03085 -0.02637 0.66829

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 2.610e-02 9.323e-02 0.280 0.7800

kohl\_Regular\_price -1.044e-02 3.215e-02 -0.325 0.7460

kohl\_disc\_perc -2.388e-02 2.185e-01 -0.109 0.9132

amazon\_Shipping -1.242e-02 8.017e-02 -0.155 0.8771

Target\_final\_price 1.409e-02 3.398e-02 0.415 0.6791

Amz\_pdt\_desc\_length 6.349e-05 7.753e-05 0.819 0.4144

Amz\_Review\_count 5.655e-03 2.402e-03 2.355 0.0202 \*

Amz\_cal\_avg\_score -4.149e-02 9.945e-02 -0.417 0.6772

Amz\_Avg\_negative\_sent\_score 1.646e-01 1.676e-01 0.982 0.3280

Neg\_avg\_wt\_score -1.561e-01 6.103e-01 -0.256 0.7986

kohls\_Number\_of\_images -8.066e-04 4.578e-03 -0.176 0.8604

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.168 on 120 degrees of freedom

Multiple R-squared: 0.06154, Adjusted R-squared: -0.01666

F-statistic: 0.787 on 10 and 120 DF, p-value: 0.6412

|  |  |  |
| --- | --- | --- |
|  | **Briefcase** |  |
|  |  |  |
| **Variables** | **Beta's** | **Expected Change** |
| kohl\_Regular\_price | -0.010438757 | 0.999568005 |
| kohl\_disc\_perc | -0.023875918 | 0.9990122 |
| amazon\_Shipping | -0.01242322 | 0.999485902 |
| Target\_final\_price | 0.014090953 | 1.000583432 |
| Amz\_pdt\_desc\_length | 6.34906E-05 | 6.35E-05 |
| Amz\_Review\_count | 0.005655297 | 5.66E-03 |
| Amz\_cal\_avg\_score | -0.041494368 | -4.15E-02 |
| Amz\_Avg\_negative\_sent\_score | 0.164632496 | 1.65E-01 |
| Neg\_avg\_wt\_score | -0.156051832 | -1.56E-01 |
| kohls\_Number\_of\_images | -0.000806618 | -8.07E-04 |
|  |  |  |
|  |  |  |
| **Expected Y for log Var** |  |  |
|  | exp((beta)\*log([100+p]/100)) |  |
|  | Percentage Change :p=10 |  |
|  |  |  |
| **Price\_Elasticity** | kohl\_Regular\_price | -0.010438757 |
|  | kohl\_disc\_perc | -0.023875918 |
|  | amazon\_Shipping | -0.01242322 |
|  | Target\_final\_price | 0.014090953 |

**Pre-modifications over data**

1. It is most preferable to have more data points among all data which helps us providing better fit.

**Pre-modifications over defining variables:**

1. Defining variables should be of identical and independently distributed (property of iid/normality) results in overcoming the problem of multi-collinearity.
2. Reduce as many number of missing cases (values) as possible which it helps in force fitting the data by replacing its value by zero (results in reducing average/means).
3. It is advisable to have more periodical price changes results in establishing better elasticity.

**Conclusions on Model output**

1. As there are no much price changes over weeks, the price is in-elastic except Amazon regular price.
2. It is recommended to take 10% change in price for later weeks following dynamic pricing.
3. Since F-statistic is too small, we fail to reject null hypothesis and conclude that sales are having no significant relationship among all explanatory variables.