

Regression Analysis for Demand Forecasting of A SKU

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Current Scenario

MONTH	PRIMARY SALE in NOS	Time in Month	DLP Price	MRP Price	Cp Offer
NOV'21	14160	1	57	70	0
DEC'21	11880	2	57	70	0
JAN'22	17400	3	57	70	0
FEB'22	15660	4	58.69	70	0
MAR'22	59460	5	58.97126539	70	1
APR'22	87300	6	59.04761901	70	1
MAY'22	6780	7	58.98764749	70	0
JUNE'22	36420	8	59.04761834	70	0
JULY'22	18480	9	59.64749513	75	0
AUG'22	20966	10	60.63242249	75	0

Regression Analysis

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.93955361
R Square	0.882760987
Adjusted R Square	0.788969776
Standard Error	11738.25624
Observations	10

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	5187381055	1.3E+09	9.41198	0.015092672
Residual	5	688933297.4	1.38E+08		
Total	9	5876314352			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	465265.8976	566880.0661	0.820748	0.449136	-991945.7034	1922477.5	-991945.703	1922477.499
Time in Month	4311.093087	4021.868425	1.071913	0.332748	-6027.448832	14649.635	-6027.44883	14649.63501
DLP Price	-6644.575687	10345.39057	-0.64227	0.548981	-33238.24876	19949.0974	-33238.2488	19949.09738
MRP Price	-1158.58365	2850.96758	-0.40638	0.701271	-8487.229125	6170.06182	-8487.22912	6170.061824
Cp Offer	57596.65092	11663.642	4.938136	0.004329	27614.30466	87578.9972	27614.3047	87578.99717

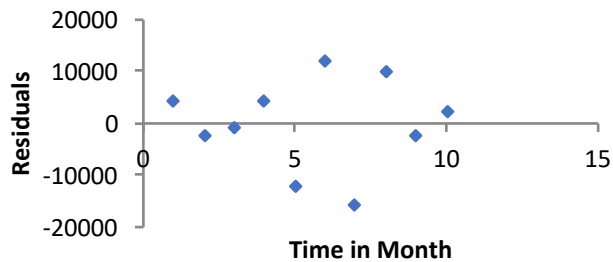
Regression Analysis

RESIDUAL OUTPUT

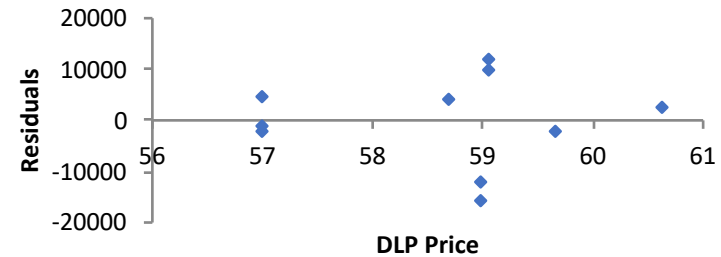
<i>Observation</i>	<i>Predicted PRIMARY SALE in NOS</i>	<i>Residuals</i>
1	9735.320989	4424.679011
2	14046.41408	-2166.41408
3	18357.50716	-957.507163
4	11458.53491	4201.465088
5	71478.12218	-12018.1222
6	75281.87782	12018.12218
7	22394.80531	-15614.8053
8	26307.41755	10112.58245
9	20839.66566	-2359.66566
10	18606.33434	2359.665664

Regression Analysis

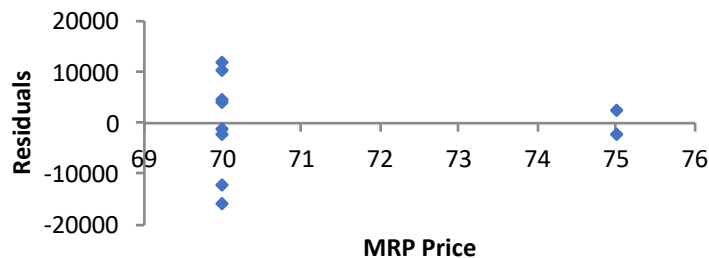
Time in Month Residual Plot



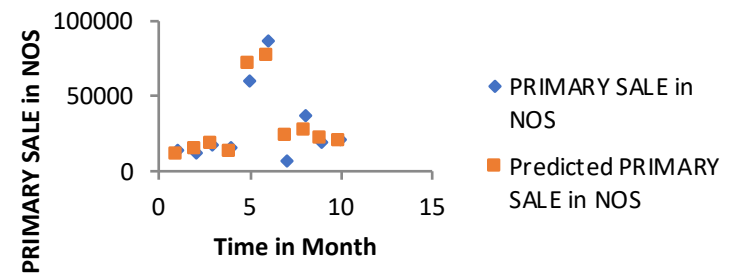
DLP Price Residual Plot



MRP Price Residual Plot



Time in Month Line Fit Plot



Forecasted Volume

MONTH	FORECAST IN NOS	FORECAST IN MT
SEP'22	22917.42742	11.46
OCT'22	27228.52051	13.61
NOV'22	31539.6136	15.77
DEC'22	35850.70669	17.93
JAN'22	40161.79977	20.08
FEB'22	44472.89286	22.24
MAR'22	48783.98595	24.39
APR'22	53095.07903	26.55
MAY'22	57406.17212	28.70
JUNE'22	61717.26521	30.86