Understanding Regression Outputs

Diagnosing Market Response: Regression Analysis

Regression Statistics	
Multiple R	0.775
R-Squared	0.601
Adjusted R-Squared	0.586
Standard Error	2.566
Observations	29

ANOVA

	df	SS	MS	F	Sig F
Regression	1	267.28	267.28	40.60	0.00
Residual	27	177.75	6.58		
Total	28	445.03			

	Coefficients	Standard Error	t Stat	P-value
Intercept	9.90	0.85	11.60	0.00
Number of Promotions	1.42	0.22	6.37	0.00

Example: Simulated Shopper Card Data

Units purchased = a + b1 * price paid + b2 * feature + b3 * display + error

Customer	Price Paid	Feature	Display	Units Purchased
1	1.50	0	0	3
1	2.56	1	1	1
1	1.62	1	0	3
2	2.41	1	0	1
2	2.37	0	1	1
2	2.23	0	1	1
2	2.65	0	0	0
2	2.06	1	0	2
2	2.12	1	1	2
3	2.31	0	1	1
3	1.69	1	1	3
3	1.37	1	1	4
3	1.82	0	0	2
3	1.54	0	1	3
3	1.29	1	1	4
3	1.96	1	0	2
3	2.20	0	0	1
3	1.55	1	0	3
3	2.01	0	1	2
4	2.07	0	1	2
4	2.79	1	0	0
4	2.15	0	0	1
4	2.50	1	0	1

Feature and Display:

- 1 = Yes
- 0 = No

Simulated Shopper Card Data: Regression Output

	True Model	Estimated Model
Intercept	6.28	1.34
Price	-2.31	—
Feature	0.38	0.822
Display	0.48	0.687
R-Squared	0.93	0.188

Why are the coefficients of feature and display different in the true and estimated models?