

Step 2: Initial multivariable model

model with all predictors

```
``{r}
```

```
# Fit model with all predictors
```

```
model.multiv1 <- glm(online_only ~ limited_edition + exclusive + log_price +  
log_value_price + log_love, family = binomial, data = sephora)
```

```
# residual deviance for full model residual_deviance_full_model <-  
round(model.multiv1$deviance,2)
```

```
residual_deviance_full_model
```

```
...
```

```
Residual deviance full model: 8649.08
```

Statistical summary full model

```
``{r}
```

```
# summary for full model
```

```
sum_model.multiv1 <- summary(model.multiv1)
```

```
sum_model.multiv1
```

```
...
```

Call:

```
glm(formula = online_only ~ limited_edition + exclusive + log_price +  
log_value_price + log_love, family = binomial, data = sephora)
```

Coefficients:

	Estimate	Std. Error	z value	Pr(> z)
(Intercept)	3.17630	0.23374	13.589	< 2e-16 ***
limited_edition1	0.42064	0.09348	4.500	6.80e-06 ***
exclusive1	-0.30590	0.06704	-4.563	5.04e-06 ***

```
log_price      -0.90736      0.23945   -3.789 0.000151 ***
log_value_price  0.94990      0.23487    4.044 5.24e-05 ***
log_love       -0.55131      0.01979  -27.861 < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

(Dispersion parameter for binomial family taken to be 1)

```
Null deviance: 9791.0 on 8986 degrees of freedom
Residual deviance: 8649.1 on 8981 degrees of freedom
AIC: 8661.1
```

Number of Fisher Scoring iterations: 4

```
```{r}
```

```
kbl(tidy(model.multiv1)) %>%
```

```
kable_classic_2(full_width = F)
```

```
```
```

| term | estimate | std.error | statistic | p.value |
|------------------|------------|-----------|------------|----------|
| (Intercept) | 3.1763013 | 0.2337367 | 13.589230 | 0.00e+00 |
| limited_edition1 | 0.4206406 | 0.0934812 | 4.499735 | 6.80e-06 |
| exclusive1 | -0.3059004 | 0.0670354 | -4.563268 | 5.00e-06 |
| log_price | -0.9073637 | 0.2394465 | -3.789421 | 1.51e-04 |
| log_value_price | 0.9499019 | 0.2348656 | 4.044448 | 5.24e-05 |
| log_love | -0.5513137 | 0.0197882 | -27.860737 | 0.00e+00 |

$$g(\text{online}_{only}) = 3.176 + 0.421 * \text{limited}_{edition} - 0.306 * \text{exclusive} \\ - 0.907 * \text{Log}_{price} + 0.95 * \text{Log}_{value_{price}} - 0.551314 * \text{Log}_{love}$$