

Non Contractual Settings

Weeks->	0	1	2	3	4	5	6	7	8	9
CustA		X	X				X		X	X
CustB	X			X		X		X		
CustC			X			X				

Reaction to econometric analysis?



Model Building

- Determine properties of dependent variable
 - Linear, + ve values, Dummy Variable, text data
- Select model that reflects dependent variable properties
 - Logistic regression for dummy variables

Model Building

- Include the decision variable of interest among the independent variable set
 - Price, advertising, etc
- Include common control variables
 - Quality, Distribution, Demographics, Tenure, Competition etc.

Model Building

- Does including lagged dependent variable lead to UNIT ROOT?
- If UNIT ROOT, use difference as the dependent variable

Marketing Mix Models - Summary

- Are independent variables correlated?
 - Is the sign of a variable not making sense?
 - Is the significance and sign of the coefficient changing with other variables in the model?
- Do we have an omitted variable bias?
- If no omitted variable bias-
 - Check for correlation among independent variables
 - If they are correlated; try combining them (add/subtract/divide/multiply etc.)

When to apply which Descriptive Model?

Dependent Variable	Example	Model	Transformation
Linear, positive and negative values		Multiple Regression	None
Linear, only positive values	Sales	Multiple regression	Log
Dummy Variable, 1/0	Customer Retention	Binomial Logit, Random Forests	
Linear, 0 to 100%	Market Share, Click Through Rate	Multiple regression	Logistic
Dummy Variable, one out of many	Brand Choice	Multinomial Logistic	
Rating Scale, 1-5 etc	Movie Rating	Ordinal Logit	
Dummy Variable, Many out of many	Shopping Basket	Multivariate Logit	
Time elapsed, censored observations	Relationship duration	Accelerated Failure Time	Log