Choosing a Model

Type of Model:	**Simple Linear Regression**	**Cluster Analysis**	**Time Series Analysis**	**Classification Analysis**
Purpose:	☐ *Predict the Dependent Variable using the Independent Variable* . (For example, you could use a Simple Linear Regression analysis if you wanted to see if increasing your social media posting results in more conversions.)	☐ *Subsetting Data: Breaking a large group into smaller groups based on similar traits.* (For example, you could use a Classification Analysis to see how different audiences respond to the same ad.)	☐ *Forecasting , i.e., predicting a value of the Dependent Variable at some time in the future.* (For example, you could use a Time Series Analysis to understand how your social media followers have grown over time.)	☐ *Predict the Dependent Variable using the Independent Variable.* (For example, you could use a Classification Analysis if you wanted to see what types of products customers purchase more frequently.)
Variable Requirements:	☐ A *Quantitative Independent Variable* ☐ A *Quantitative Dependent Variable*	☐ A *Quantitative Independent Variable* ☐ A *Quantitative Dependent Variable*	☐ *Independent Variable must be a **time** measurement* ☐ A *Quantitative Dependent Variable*	☐ A *Quantitative Independent Variable* ☐ A *Qualitative Dependent Variable*
Assumptions:	☐ *Minimum Sample Size: 20* ☐ *Linearity* ☐ *Homogeneity of Variance* ☐ *Normality* ☐ *Independence*	☐ *Minimum Sample Size: 50 samples per grouping* ☐ *Sphericity* ☐ *Homogeneity of Variance* ☐ *Equal Prior Probability*	☐ *Minimum Sample Size: 700 days, 100 weeks, 50 months, 40 quarters, **or** 25 years* ☐ *Dependence* ☐ *Stationarity*	*Assumptions for these analyses vary widely, depending on the specific analysis being performed.*