The forecast process

The final goal of a forecast is to make decisions based on the future value(s) of some variable. The forecast process can be presented with the following outline.

1. Specify objective
2. Define variable to forecast
3. Establish periodicity
4. Data considerations: measurement (index, units, dollars)
5. Model selection: regression, time series models, other
6. Model evaluation
7. Forecast preparation
8. Forecast presentation. Clear, nontechnical presentations are crucial in the communication of the forecast results.
9. Tracking results. Tracking the performance of the forecasts helps to redefine, respecify the model, or to replace the estimation method used.

The following table presents a guideline of the different forecasting methods based on different conditions.

Forecasting method	Data pattern	Data points	Forecast Horizon	Quantitative skills
Naive	stationary	1 or 2	Very short	None
Moving average	stationary	At least the number of periods in the moving average	Very short	Little
Exponential smoothing				
Simple	Stationary	5-10	Short	Little
Winter's	Trend and seasonality	4-5 per season	short to medium	Moderate
Regression-based				
Trend	Linear or nonlinear trend with or without seasonality	4-5 per season if seasonality included, otherwise 15-20	Short to medium	Little
Regression-based				
Causal	Any data pattern	10 per independent variable	Short, medium and long	Moderate
Time series decomposition	Trend, seasonal, and cyclical patterns	Enough to see two peaks and troughs in the cycle	Short, medium, and long	Little
ARIMA	Stationary	At least 50	Short, medium, and long	High