

Lesson 2:
ETS Models

SEARCH

RESOURCES

CONCEPTS

✓ 5. Simple Exponential Smoothing

✓ 6. Simple Exponential Smoothing ...

✓ 7. Next Few Methods

✓ 8. Holt's Linear Trend Method

✓ 9. Exponential Trend Method

✓ 10. Damped Trend Methods

✓ 11. Holt-Winters Seasonal Method

✓ 12. Overview So Far

✓ 13. Constructing an ETS Model

✓ 14. Constructing an ETS Model Quiz

✓ 15. Constructing an ETS Model Sol...

✓ 16. Learning Summary

Overview So Far

1. Linear or exponential trend

2. Constant or increasing seasonality components

For trends that are exponential, we would need to use a **multiplicative** model.

For increasing seasonality components, we would need to use a **multiplicative** model.

ETS

Therefore we can generalize all of these models using a naming system for ETS:

ETS (Error, Trend, Seasonality)

Error is the error line we saw in the time series decomposition part earlier in the course. If the error is increasing similar to an increasing seasonal components, we would need to consider a multiplicative design for the exponential model.

Therefore, for each component in the ETS system, we can assign None, Multiplicative (M), or Additive (A) for each of the three components in our time series.

Examples

A time series model that has a constant error, linear trend, and increasing seasonality means we would need to use an ETS model of:

ETS(A,A,M)

A time series model that has increasing error, exponential trend, and no seasonality would need to use an ETS model of:

ETS(M,M,N)

QUIZ QUESTION

A time series model has increasing error, no trend, and constant seasonal components. What would the corresponding ETS model be?

☐ ETS(N,M,N)

☐ ETS(M,A,N)

☒ ETS(M,N,A)

☐ ETS(M,A,M)