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Introduction to Time Series Analysis Using IBM SPSS Modeler (v18.1.1)

Information

Length: 8.0 Hours

Ref: 0A028G □

Delivery method: Classroom

Price: AUD

Overview

This course gets you up and running with a set of procedures for analyzing time series data. Learn how to forecast using a variety of models, including regression, exponential smoothing, and ARIMA, which take into account different combinations of trend and seasonality. The Expert Modeler features will be covered, which is designed to automatically select the best fitting exponential smoothing or ARIMA model, but you will also learn how to specify your own custom models, and also how to identify ARIMA models yourself using a variety of diagnostic tools such as time plots and autocorrelation plots.

Public

Roles: Business Analyst, Data Scientist

Specifically, this is an introductory course for:

- Anyone who is interested in getting up to speed quickly and efficiently using the IBM SPSS Modeler forecasting capabilities

Prerequisites

- Familiarity with the IBM SPSS Modeler environment (creating, editing, opening, and saving streams).
- General knowledge of regression analysis is recommended but not required

Topics

- 1: Introduction to time series analysis
- Explain what a time series analysis is
 - Describe how time series models work
 - Demonstrate the main principles behind a time series forecasting model
- 2: Automatic forecasting with the Expert Modeler
- Examine fit and error
 - Examine unexplained variation
 - Examine how the Expert Modeler chooses the best fitting time series model
- 3: Measuring model performance
- Discuss various ways to evaluate model performance

- Evaluate model performance of an ARIMA model
- Test a model using a holdout sample

4: Time series regression

- Use regression to fit a model with trend, seasonality and predictors
- Handling predictors in time series analysis
- Detect and adjust the model for autocorrelation
- Use a regression model to forecast future values

5: Exponential smoothing models

- Types of exponential smoothing models
- Create a custom exponential smoothing model
- Forecast future values with exponential smoothing
- Validate an exponential smoothing model with future data

6: ARIMA modeling

- Explain what ARIMA is
- Learn how to identify ARIMA model types
- Use sequence charts and autocorrelation plots to manually identify an ARIMA model that fits the data
- Check your results with the Expert Modeler