

Learning objectives

After reading this chapter and doing the exercises you should be able to:

- 1 Understand that the long-run success of an organization is often closely related to how well management is able to predict future aspects of the operation.
- 2 Know the various components of a time series.
- 3 Use smoothing techniques such as moving averages and exponential smoothing.
- 4 Use the least squares method to identify the trend component of a time series.
- 5 Understand how the classical time series model can be used to explain the pattern or behaviour of the data in a time series and to develop a forecast for the time series.
- 6 Be able to determine and use seasonal indices for a time series.
- 7 Know how regression models can be used in forecasting.
- 8 Know the definition of the following terms:
 - time series
 - forecast
 - trend component
 - cyclical component
 - seasonal component
 - irregular component
 - mean squared error
 - moving averages
 - weighted moving averages
 - smoothing constant
 - seasonal constant