Osborne Books

Spreadsheets for Management Accounting

Forecast sheet supplement

This supplement provides an explanation of the FORECAST Sheet option, which AAT has clarified may be tested as part of the AQ2022 assessment for Management Accounting Techniques.

This subject should be studied in conjunction with pages 318 - 319 in the Spreadsheets for Management Accounting tutorial book.

The **FORECAST function** (or FORECAST.LINEAR) is covered on pages 318 and 319 of the Spreadsheets for Management Accounting Tutorial. This function calculates a value based on existing values. In the context of a range of x values, and the corresponding y values, the function will calculate a y value for a specified x value, using linear regression.

There is also an option within Excel to create a **FORECAST SHEET.** This is found in the **DATA** menu and is described below.

forecast sheet option

The **FORECAST Sheet** option can be used to forecast future values, these are calculated from historical values and represented graphically. Using a range of x values over equal units of time, eg weeks, months, or years, **FORECAST Sheet** will calculate one or more future values using Exponential Triple Smoothing (ETS), and represent these graphically. This could be used to calculate things like future sales values, advertising spend, or future costs based on previous values.

If we were to take the expenses data shown here:

	A	B	C	D	E	F	G	H	I	J
1	Year	1	2	3	4	5	6	7	8	9
2	Annual Expenses	£92,278	£89,423	£72,109	£171,989	£70,137	£94,904	£69,208	£149,205	£94,067

we can use the Forecast Sheet option to forecast what the values for years 10, 11 or later would be, based on the sales values for years 1 to 9. It is worth noting that as with all forecasts, the more actual values you have, the more accurate the predictions will be. Also, the further into the future you predict, the less accurate the predictions will be.

To create a forecast sheet for this data we:

1. Select the data in cells A1 to J2
2. Select the Forecast Sheet option from the Data menu

The Create Forecast worksheet window then opens, and if the Forecast End at the bottom left hand side of the graph is set to 11 (the default Forecast End value may vary depending on how your Excel is set up), it appears as shown below:
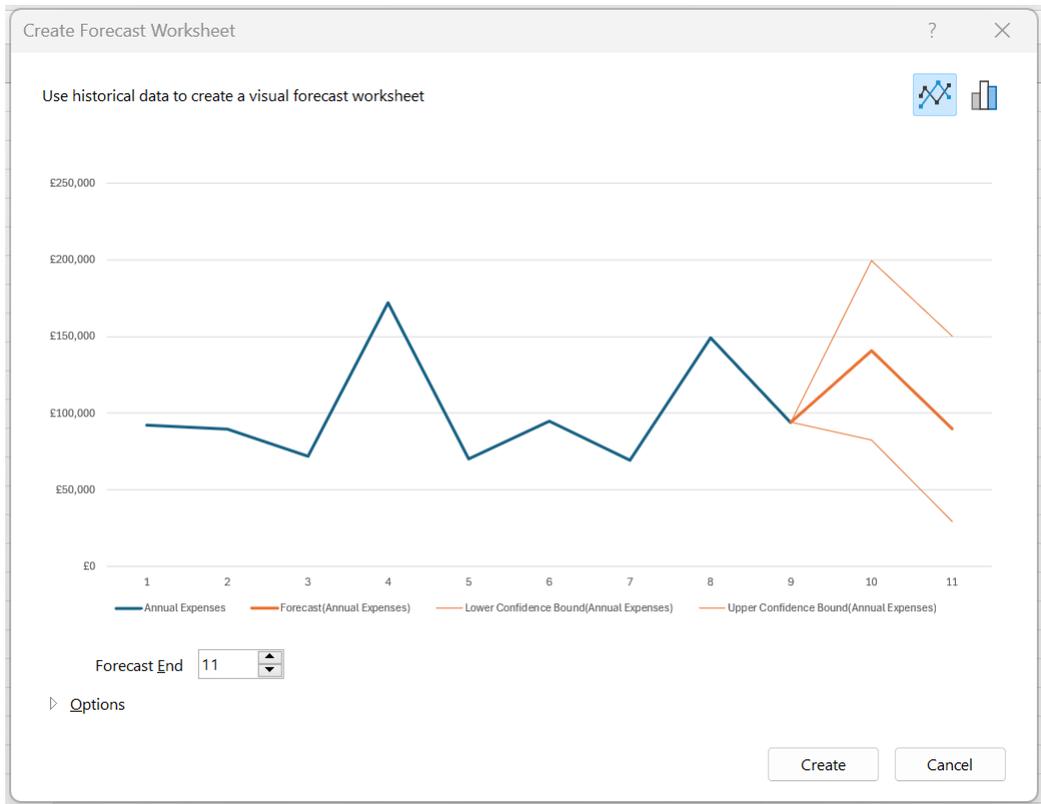
The default type of graph is a line graph, and the default Forecast End value is usually just two more than the last point of actual data (this may vary depending on how your Excel is set up).

Here we see a column chart, selected by clicking the icon on the top right hand side of the Create Forecast Worksheet window, with forecast values up to the 13th year, as indicated by Forecast End at the bottom of the window.
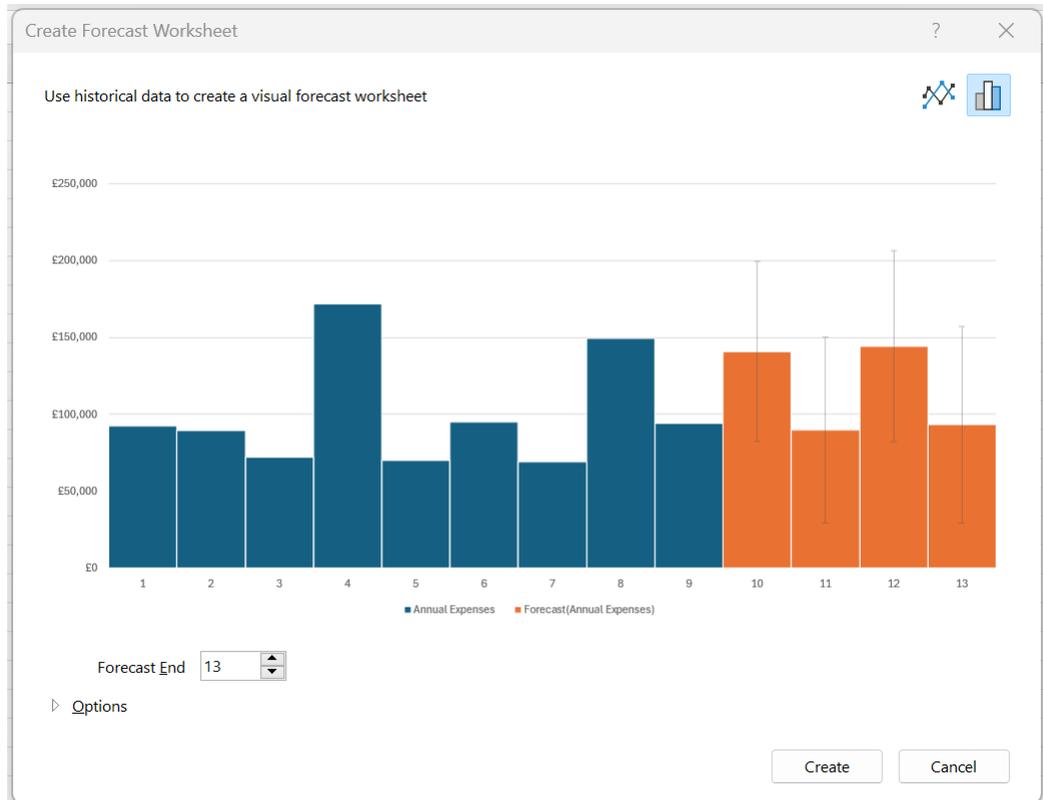
There are other options we can change, which are available by clicking on the arrow to the left of Options, at the bottom of the window.
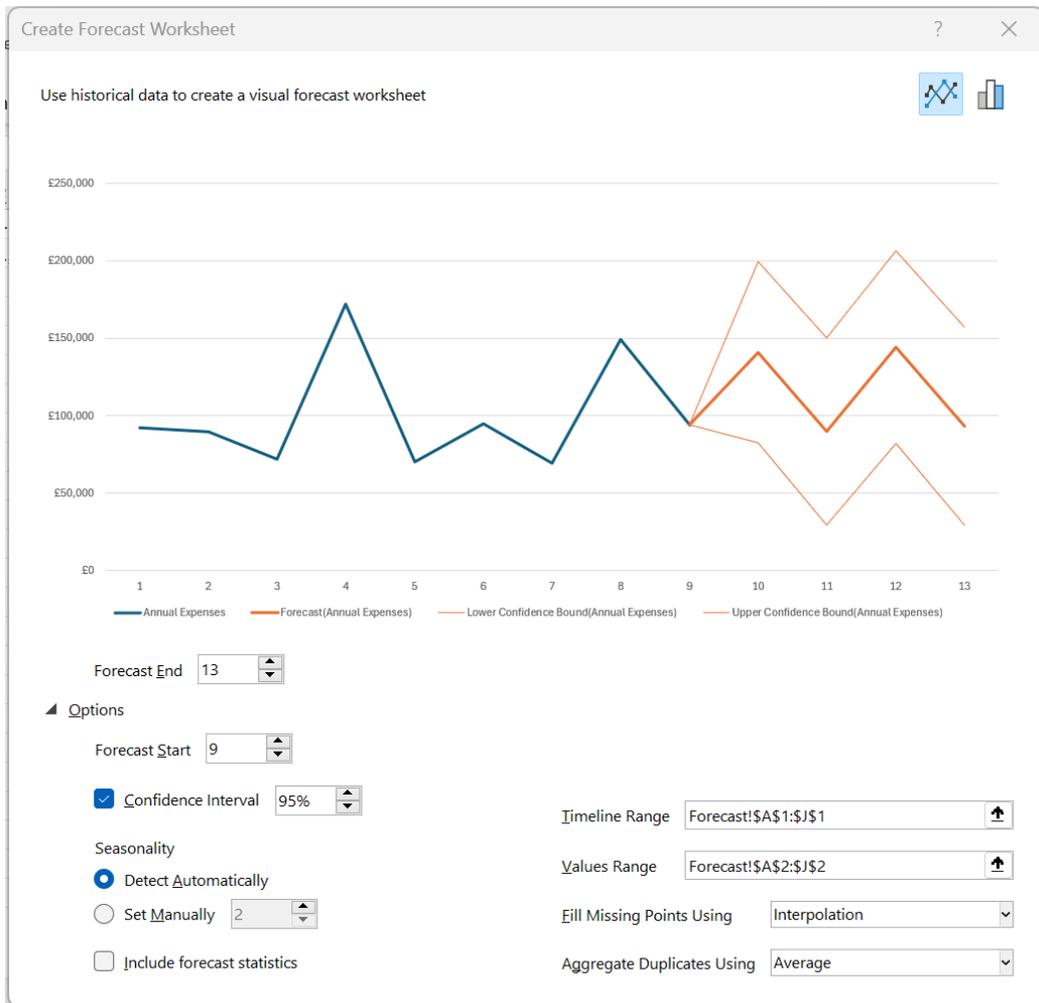
These reflect the data we have selected, and we would normally simply accept the default values. We will not cover the statistical options here.

Once we have confirmed our Forecast End, Forecast Start, Timeline Range and Values Range, we:

1. Close the Options section, by clicking on the arrow to the left of Options
2. Select Create

A new worksheet will be created in the workbook, showing the existing values and the forecast values numerically and graphically. If the graph type is a line graph, Upper and Lower confidence bounds are included, which give an indication of the accuracy of the forecast values, and the range of actual values which could occur.

	A	B	C	D	E
1	Year	Annual Expenses	Forecast(Annual Expenses)	Lower Confidence Bound(Annual Expenses)	Upper Confidence Bound(Annual Expenses)
2	1	£92,278			
3	2	£89,423			
4	3	£72,109			
5	4	£171,989			
6	5	£70,137			
7	6	£94,904			
8	7	£69,208			
9	8	£149,205			
10	9	£94,067	£94,067	£94,067	£94,067
11	10		£140,956	£82,481	£199,432
12	11		£89,796	£29,493	£150,100
13	12		£144,258	£82,152	£206,364
14	13		£93,098	£29,241	£156,955
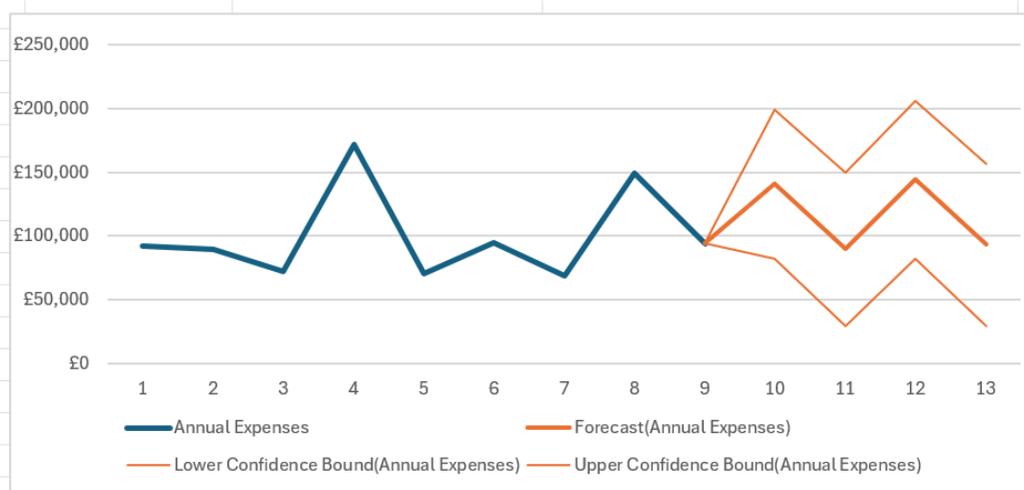
If the graph type is Column, Confidence Interval values are included numerically and graphically, as shown on the next page.

	A	B	C	D
1	Year ▼	Annual Expenses ▼	Forecast(Annual Expenses) ▼	Confidence Interval(Annual Expenses) ▼
2	1	£92,278		
3	2	£89,423		
4	3	£72,109		
5	4	£171,989		
6	5	£70,137		
7	6	£94,904		
8	7	£69,208		
9	8	£149,205		
10	9	£94,067		
11	10		£140,956	£58,475
12	11		£89,796	£60,303
13	12		£144,258	£62,106
14	13		£93,098	£63,857
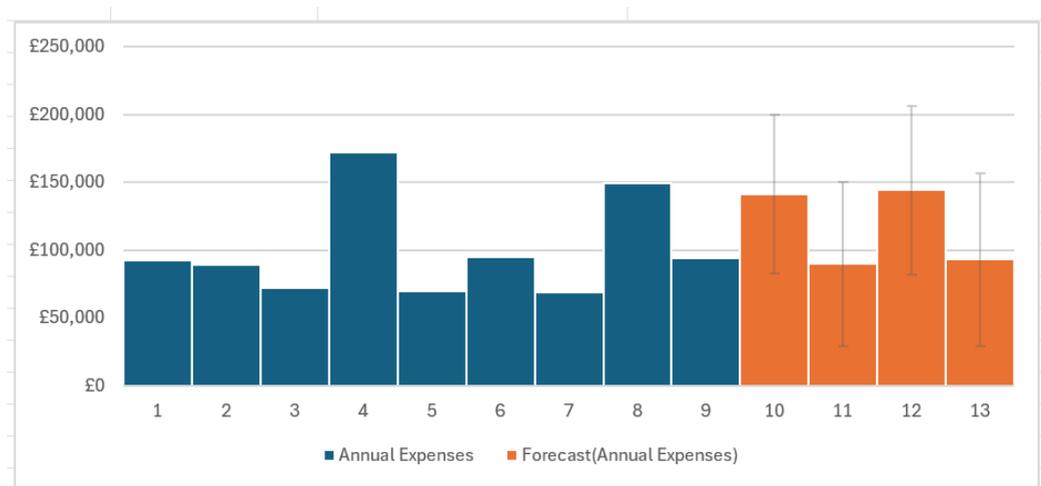
Here, the confidence interval is represented by the grey vertical lines in the column graph above.

On the new worksheet, if you click on one of the cells containing a forecast value, for example A11, you will see the formula used to calculate the value, shown below. The function **FORECAST.ETS** is used, and the parameters it uses are defined within the options section described earlier. We will not cover the use of this function here.

C11		fx	=FORECAST.ETS(A11,$B$2:$B$10,$A$2:$A$10,1,1)	
	A	B	C	D
1	Year	Annual Expenses	Forecast(Annual Expenses)	Lower Confidence Bound(Annual Expenses)
2	1	£92,278		
3	2	£89,423		
4	3	£72,109		
5	4	£171,989		
6	5	£70,137		
7	6	£94,904		
8	7	£69,208		
9	8	£149,205		
10	9	£94,067	£94,067	£94,067
11	10		£140,956	£82,481
12	11		£89,796	£29,493
13	12		£144,258	£82,152
14	13		£93,098	£29,241

To practice using the Forecast Sheet option, try the exercise on the next page. The workbook Forecast Sheet Example.xlsx that accompanies the exercise can be downloaded from the Spreadsheets for Management Accounting page on the Osborne Books website.

exercise for FORECAST Sheet

1. Open workbook Forecast Sheet Exercise
2. Select worksheet Staff Costs

This contains the data shown below.

	A	B	C	D	E	F	G	H	I	J	K
1											
2		Year	1	2	3	4	5	6	7	8	9
3		Staff costs	£75,123	£69,346	£72,999	£70,132	£80,923	£69,166	£91,231	£93,912	£110,900

3. Using the **FORECAST Sheet** option, create a forecast for years 10, 11, 12 and 13 represented as a column chart

The values on the new worksheet are shown below.

	A	B	C	D
1	Year	Staff costs	Forecast(Staff costs)	Confidence Interval(Staff costs)
2	1	£75,123		
3	2	£69,346		
4	3	£72,999		
5	4	£70,132		
6	5	£80,923		
7	6	£69,166		
8	7	£91,231		
9	8	£93,912		
10	9	£110,900		
11	10		£115,105	£18,050
12	11		£119,310	£20,188
13	12		£123,515	£22,128
14	13		£127,720	£23,918

The graph is shown on the next page.
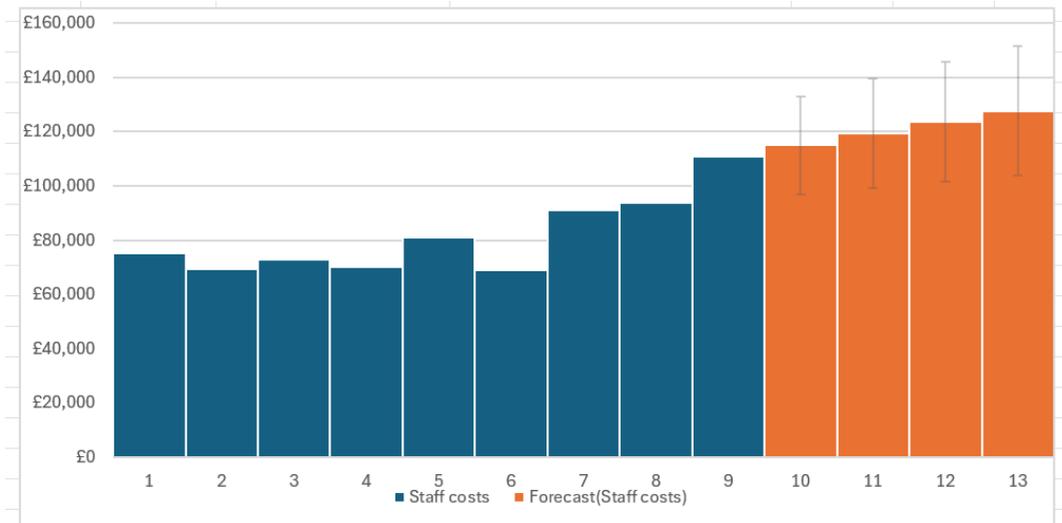
4. Save your workbook as Forecast Exercise

management accounting techniques workbook

There is also a practice question in the resources section for the Management Accounting Techniques Workbook on the Osborne Books website where this function can be practiced further.