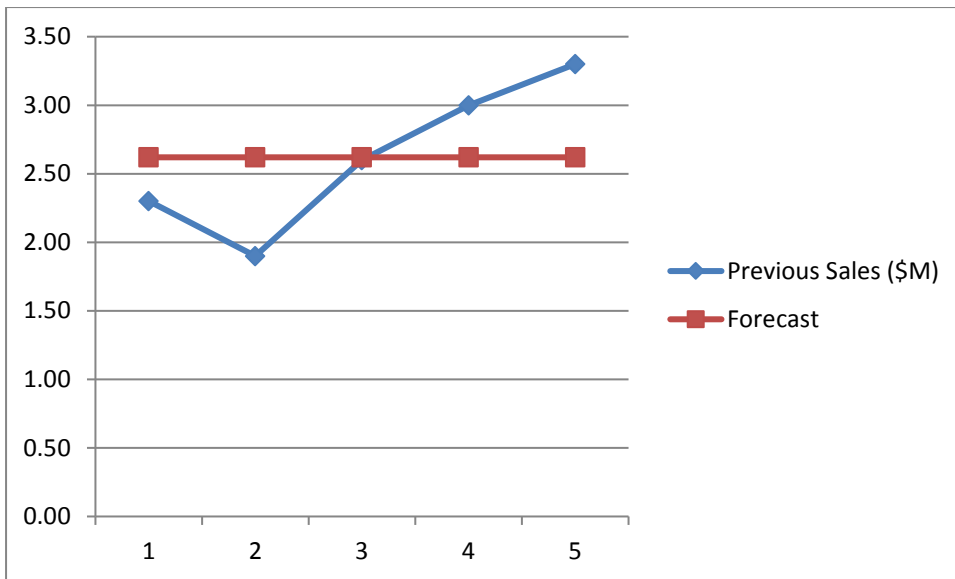


Simple Moving Average

Year	Sales (\$M)
2007	\$2.3
2008	\$1.9
2009	\$2.6
2010	\$3.0
2011	\$3.3
<hr/>	
Total	\$13.1

Source: Fictitious data, for illustration purposes only – the case study did not have historical data but I wanted to use methods that required this data so I put in my own numbers.

The five-year SMA of closing sales for John Readings is \$2.62M



Regression Analysis

X	Y	XY	X ²
Sales (\$M)	# Employees		
\$2.3	22	51	5.29
\$1.9	29	55	3.61
\$2.6	35	91	6.76
\$3.0	43	129	9.00
\$3.3	56	185	10.80
\$13.1	185	511	35.46

Source: Fictitious data, for illustration purposes only

$$\text{Average } X = 13.1/5 = 2.62$$

$$\text{Average } Y = 185/5 = 37$$

Calculating B

$$B = 511 - 5(2.62)(37)$$

$$B = 511 - 409$$

$$35.46 - 5(2.62)$$

$$35.46 - 23.6$$

$$B = 8.60$$

Calculating A

$$A = 37 - (8.60)(2.62)$$

$$A = 14.47$$

Calculate Predicted HR Demand for Personnel

\$5 Million	\$7 Million	\$9 Million
$Y = A + BX$	$Y = A + BX$	$Y = A + BX$
$A = 14.47$	$A = 14.47$	$A = 14.47$
$B = 8.60$	$B = 8.60$	$B = 8.60$
$X = 5$	$X = 7$	$X = 9$
$Y = 14.47 + (8.60)(5)$	$Y = 14.47 + (8.60)(7)$	$Y = 14.47 + (8.60)(9)$

$$Y = 57.47$$

$$Y = 74.67$$

$$Y = 91.87$$

57 Staff Required

75 Staff Required

92 Staff Required

Source: Fictitious data, for illustration purposes only

Exponential Smoothing

Smoothing Constant – $A = .30$

Forecast for Latest Period - \$33000

Actual Sales - \$38000

$$F(\text{Next Period}) = \$33000 + (.30)(38000 - 33000) = \$34500$$

Forecast for next period = \$34500