Section 4.3

**Activity 4.3.1**

1. ‘Seasonal variation’ is the difference in value between the monthly data and the moving trend data.
2. Values in the table:

* W = 29.375
* X = 0.5
* Y = -3.625
* Z = 7.875

1. The line of best fit and other information can be used to give a sales forecast for 2016 in the following ways:

* The line of best fit projects the general trend in the data going forward to 2016
* Other information on the market for hotels and economic growth data can be used to support this.

1. The advantages of the moving average method of sales forecasting might be:

* It is a good way of identifying trends in data over time
* Seasonal variations can be used to understand how data changes over a year
* Trend data can be projected to make future forecasts
* It can support other information that affects sales in a market.

The disadvantages of using moving averages for sales forecasting could include:

* The method is based on past data and is not as useful for long-term forecasting
* Business needs to have sufficient past data
* Significant market changes make interpreting and forecasting data difficult.

**Exam practice question**

1. The ‘moving average method’ is averaging past data over set time periods to create a trend in the data.
2. Moving average data for Rajesh’s convenience store:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Quarter** | **Sales ($000)** | **Quarterly moving average (trend)** | **Seasonal variation** | **Average seasonal variation** |
| Year 1 | 1  2  3  4 | 18  24  35  27 | 26.125  26.5 | 8.875  0.5 | 9.208  0.333 |
| Year 2 | 1  2  3  4 | 19  26  38  29 | 27.125  27.75  28.5  29.125 | -8.125  -1.75  9.5  -0.125 | -7.208  -2.5  9.208  0.333 |
| Year 3 | 1  2  3  4 | 23  27  40  32 | 29.5  30.125  30.75  31.375 | -6.5  -3.125  9.25  0.625 | -7.208  -2.5  9.208  0.333 |
| Year 4 | 1  2  3  4 | 25  30  42  35 | 32  32.625 | -7  -2.625 | -7.208  -2.5 |

1. The estimate of Rajesh’s sales for year 5, quarter 4 is based on moving average trend (26.5, 29.125, 31.375): $34,000.
2. The advantages of the moving average method for Rajesh’s store might be:

* Effective for analysing changes over time
* Seasonal variations data can help to explain cyclical changes
* Good forecasting model
* Can be used to other information when forecasting.

The disadvantages of using moving averages for sales forecasting include:

* It is not as good for long-term forecasting because it is based on past data
* A firm may not have access to sufficient data
* Changes in market conditions can make it difficult to interpret data.

**Key concept question**

Considerations on the importance of innovation in business forecasting might include:

* Technological advances in forecasting methods – the use of more sophisticated computers and software
* Forecasting sales from newly innovated product it produces – to see whether the investment in the innovation is viable
* Forecasting sales when the innovation takes place in the market – to see how market changes affect the sales of a firm’s products in the future.

Considerations on the importance of change in business forecasting might include:

* Economy through economic growth – how economic growth or recession affects sales forecasting
* Market through consumer taste and preferences and competition – if tastes change in favour of a product how it will affect sales forecasts
* Business management – how changes in management decision-making affects sales forecasts.