

A BRAND NEW SALES FORECASTING EXERCISE USING CORRELATION FOR A SUNNY DAY IN JUNE.

You have just been appointed as the brand manager for Budweiser Budvar UK. Like most other beer brands sales of your product are influenced heavily by the weather and the temperature. People tend to drink more when the weather is hot. Budweiser Budvar is produced in the Czech Republic before being shipped over to Britain for sale. The lead-time for deliveries is three days. At the moment Budweiser Budvar UK orders 50 000 pints per day from Budweiser Budvar's brewery in the Czech Republic. During hot spells of weather when sales are abnormally high stocks frequently run out and sales are lost as a result. Your task is to improve the efficiency of stock ordering by investigating the precise effect that temperature has on sales of your product.

The following table shows the sales of Budweiser Budvar last summer. The table also shows what the temperature was on each day

Date	Sales volume (pints 000's)	Temperature in degrees Celsius
June 1 st	40	19
June 2 nd	52	19
June 3 rd	40	23
June 4 th	68	29
June 5 th	72	32
June 6 th	42	23
June 7 th	35	17
June 8 th	36	18
June 9 th	39	19
June 10 th	37	18
June 11 th	53	26
June 12 th	54	24
June 13 th	55	24
June 14 th	51	23
June 15 th	62	25
June 16 th	53	21
June 17 th	42	20
June 18 th	65	31
June 19 th	70	32

Questions.

1. Plot the figures in the table on a graph and then drawn in a line of best fit.
2. Use your graph to determine whether a correlation exists between the temperature and sales of Budweiser Budvar. Describe any correlation that you can observe
3. Next week weather forecasters predict the following temperatures. Using your graph predict what the sales level will be on each day so that the correct quantities of beer can be sent to you from the Czech brewery.

Monday 18C, Tuesday 24C, Wednesday 28C, Thursday 33C and Friday 28C

4. Explain two reasons why your sales forecasts might prove to be wrong