**Breakdowns on Vacation[[1]](#footnote-1)1**

Raj Mirchandani is concerned about the production figures of the last fortnight. He had just returned from his annual vacation and the production had fallen short of the target during his absence. According to Raman Kutty, the foreman, the problem was with the machines. Raman says that the breakdown rate was unusually high. Even though the maintenance department attended to the machines almost immediately, the production did suffer due to the breakdowns.

Raj asked Raman about the preventive maintenance schedule. As usual, the preventive maintenance was carried out exactly as per schedule. Nevertheless, there were six breakdowns in the last two months and two of them did occur during the last fortnight. He started wondering whether this rate is really high, as suggested by Raman.

Raj immediately asked for the complete details on the preventive maintenance and the breakdowns for the last 5 years. The data, as summarized by Raj, is given in the following table.

Raman reminded him that Raj had changed the policy just before going on vacation. It was an unwritten policy that the machine operators were always on hand when the preventive maintenance was carried out. Raj did not see any justification as to why the operators should waste their time while the machines are being attended to. He thought that the operators can be better utilized somewhere else and issued orders accordingly. Raman did implement the change in the policy during the last fortnight. Now, can the shortfall in the production be attributed to the change in the policy?

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| --- | --- |
| Summary of Machine Breakdowns | |
| No. of Breakdowns | No. of months |
| 0 | 3 |
| 1 | 14 |
| 2 | 16 |
| 3 | 13 |
| 4 | 9 |
| 5 | 2 |
| 6 | 2 |
| 7 | 1 |
| Total | 60 |

1. 1 V. Nagadevara, Indian Institute of Management Bangalore [↑](#footnote-ref-1)