

Business decision making in car sales

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Assuming that a suitable plan to procure the cars from the manufacturer will be worked out to take care of the purchase of the complete supplies from the manufacturer, the company forecast and the maximum supply the manufacturer could make will form the controlling constraints for the sale. Since these two constraints will be applied, the minimum number of units in each category is assumed to be the sold quantity every month. This would mean that the company would realize the following sales figures: alphas: 25, Betas: 30 and Gammas: 6. In order to achieve these sales figures, the initial investment required to buy these supplies from the manufacturer will be PDS 733, 500/- which is well within the budgetary limits set (PDS 900, 000). This can be achieved within the specified budget but the total time needed to execute this job will be 1540 hours which is much ahead of the time available for this work, which is, 1100 hours and does not realize in a profit of PDS 300, 000.

The final set of constraints for the second level can be worked out to be if a is the number of alphas, b for betas and c for gammas.

$$28a+22b+30c \leq 1100$$

$$13500a+10000b+16000c \leq 900000$$

$$4500a+3000b+6500c \geq 300000$$

Since the constraint of time is more pronounced, on applying that we arrive at the following quantities for the cars sold.

Alpha: 14 Beta: 24 and Gamma: 6 resulting in a time of 1100 sales hours.

But the profit that could be obtained will be 174, 000 only and not 300, 000 targeted. In order to ensure that these profit levels are obtained, then the appropriate increase in the sales man-hours should be there resulting in better sales and hence better profits.