Forecasting Paper: A Case Study of M + L Manufacturing

Potential Benefits of a Formalized Forecasting Approach

Forecasting has been used as a tool in the production and operation management in various organizations. Forecasting involves estimating future possible outcome of a production process or trading activities in a particular organization and this makes forecasting a crucial tool for both production and operations managers (Dweiri, Khan, & Jain, 2015). As a management technique forecasting has a number of benefits that are likely to accrue to an organization that employs it appropriately. For instance, proper forecasting enables the organization to make important decisions concerning the future investments and outcomes of the business activities. These decisions will ensure that the output of a production activity closely marches the demand of the particular product (Dweiri, Khan, & Jain, 2015). At the same time, the organization will cut down on the surpluses that may consequently lead to wastages. Moreover, formalized forecasting approaches are based on the qualitative data that is more of the experts' opinion and results in more reliable predictions (Dweiri, Khan, & Jain, 2015). Furthermore, these techniques allow for minimal error and, therefore, they are more efficient in decision making. In operation management, it is important in supply chain management in and out of the business and can be used to regulate costs effectively and at the same time maximize sales and hence profitability of the firm.

The main assumption on which the forecasting process is based is that the future outcome of production process or market situation is closely related to the previous performance. Experts such as Dweiri, Khan, and Jain (2015) believe that there is a significant correlation between the future outcome and the previous data and, therefore, forecasting is based on past information over a given time frame. From the information it is possible to predict the future outcome using various forecasting techniques ranging from simple ones like the naïve approach to technical ones like weighted moving average and autoregressive moving average methods (Dweiri, Khan, & Jain, 2015).

Forecasting for the Next Four Weeks for the M + L Products Using the Naive Method
In this method the outcome of the next period (At +1) is taken to be equivalent to the outcome of the immediate previous period (At). In this section, we are going to use the demand for two products in the previous weeks to prepare forecast for the demands for future four weeks.
Weekly forecast for four weeks (the actual demands for the weeks are fictitious values)

Week	Product 1(At) actual demand	Forecast (At + 1)	Product 2 (At) actual demand	Forecast (At +1)
14	96	…..	44	…..
15	89	96	42	44

16	91	89	45	42
17	93	91	43	45
18		93		43

Factors and Assumptions for Choosing the Naive Method for Casting Weekly Demand for Both Products

The rationale for using naïve approach in forecasting in the M + L Manufacturers case is its coast effectiveness. This technique is one of the most cost effective methods of forecasting, moreover, it is the basic model from which other complex models are developed (Dweiri, Khan, & Jain, 2015). It therefore follows that the naïve approach is simpler to apply and gives the simplest outcome to understand. Furthermore, the forecast outcome can easily be traced back to the previous period outcome giving room for adjustment in the determination of next forecasting. Considering the risks involved in the market analysis, it was more suitable to use an approach that is less expensive and that gives a forecast outcome which will not vary significantly from the base period. In such a situation, naïve technique is the most appropriate as it gives the forecast that is equal to the previous period (Dweiri, Khan, & Jain, 2015).

The main assumption made when using this technique is that the outcome of the net period is invariant from that of the current one. Based on this assumption, the forecast outcome of the next week was taken to be equal to the previous period values. Moreover, there being no values for the current weeks, values were taken that do not vary so much from those of the previous seven weeks. Therefore, despite being fictitious, they still give the forecast that is within the acceptable range.

Conclusion

In conclusion, it is important to point out that, despite the presence of other techniques of forecasting, it is evident that the naïve method is more effective in forecasting economic values. Moreover, the technique is simpler compared to other methods and at the same time it is cost effective. Generally, it is imperative for operations managers to carry out a formalized forecasting rather than depend on the traditional estimation techniques which may give significantly inaccurate outcomes resulting into large surpluses or shortages. Moreover, formal forecasting approaches help in cost cutting and profit maximization. It is, therefore, advisable for organizations to embrace forecasting as management tool for effectiveness of production and supply chain management.