

Module description

prediction of demand of spare parts

Manager Can see the report of predicted spare parts needed with needed quantity and available quantity. From here managers can generate auto purchase order. Spare Parts demand prediction is done using artificial neural networks model. In classification problems, the purpose of the network is to assign each case to one of a number of classes. Nominal output variables are used to indicate a classification problem. The nominal values correspond to the various classes. Very often used technique is the one where there is only a two-state variable. following variables were defined as an input

- number of days between two last demands in the time immediately preceding target period
- number of days between the target period and first nonzero demand immediately preceding target period
- mean demand for six days immediately preceding target period
- total demand in the last week immediately preceding target period
- number of days in the week immediately preceding target period when there was no demand
- mean demand for two weeks immediately preceding target period

A multi-layered perceptron (MLP) neural network has been used for forecasting occurrence of demand. If result coming from the ANN equals zero, it means that the predicted quantity of demand equals zero. However, if the result coming from the ANN equals one, it means that the quantity of the demand is nonzero and its value needs to be calculated.

Inventory management and billing

- Create new product ,edit details of existing product
- block/unblock a product
- register/edit/delete vendor details
- Stock update - enter stock update details based on new supply
- Mark Damage product/stock adjustment
- Create purchase order based on demand prediction/view status of purchase order
- Mark vendor payments ,view vendor payment details, view balance statement
- Create/view/edit category

Customer management

- add/edit customer details
- Customer enquiry details update
- Customer segmentation: Common characteristics in customer segments can guide how a company markets to individual segments and what products or services it promotes to them. K-means clustering is a popular unsupervised

machine learning algorithm method, used for segmentation. after perform customer segmentation, algorithm find similar characteristics in each customer's behaviour and needs. Then, those are generalized into groups to satisfy demands with various strategies. Moreover, those strategies can be an input of the

- Targeted marketing activities to specific groups
 - Launch of features aligning with the customer demand
 - Development of the product roadmap
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- Auto Marketing campaign based on customer groups