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# RightStock Classification and Forecast Analysis

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Data Analysis on behalf of  
Aberdeen Stationery

# RightStock Data Analysis

## Introduction

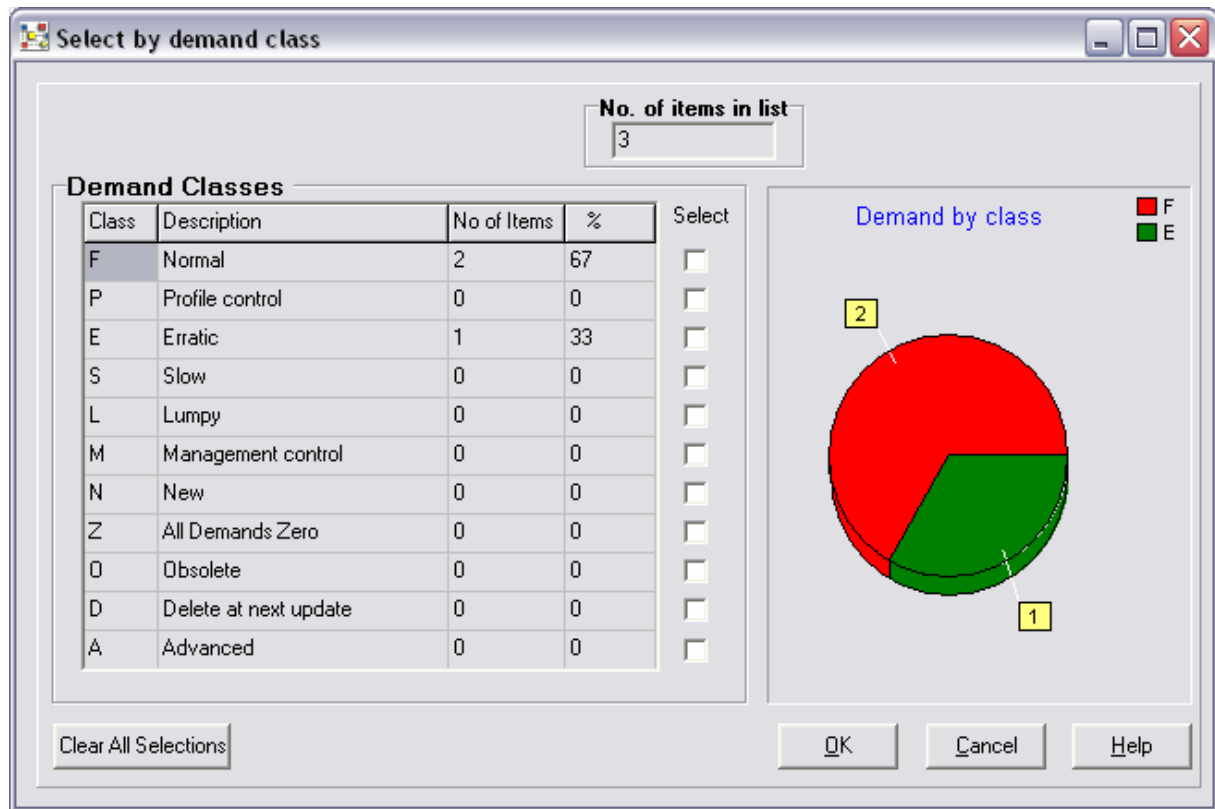
RightStock's automated data analysis starts by assigning a demand class to each item, based on the available demand history within the most recent year for which data have been supplied. The demand class, which at its simplest reflects the degree to which the demand has been continuous or intermittent, is a vital first step for determining which forecasting techniques will be most suitable. Statistical tests are then applied to ascertain:

- (i) whether there are any extreme demands ("outliers") which should be regarded as untypical,
- (ii) whether there may be consistent growth or decline ("trend") over the most recent year,
- (iii) whether there is sufficient evidence of consistency of pattern between the two consecutive years for seasonality to be presumed.

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## Overview



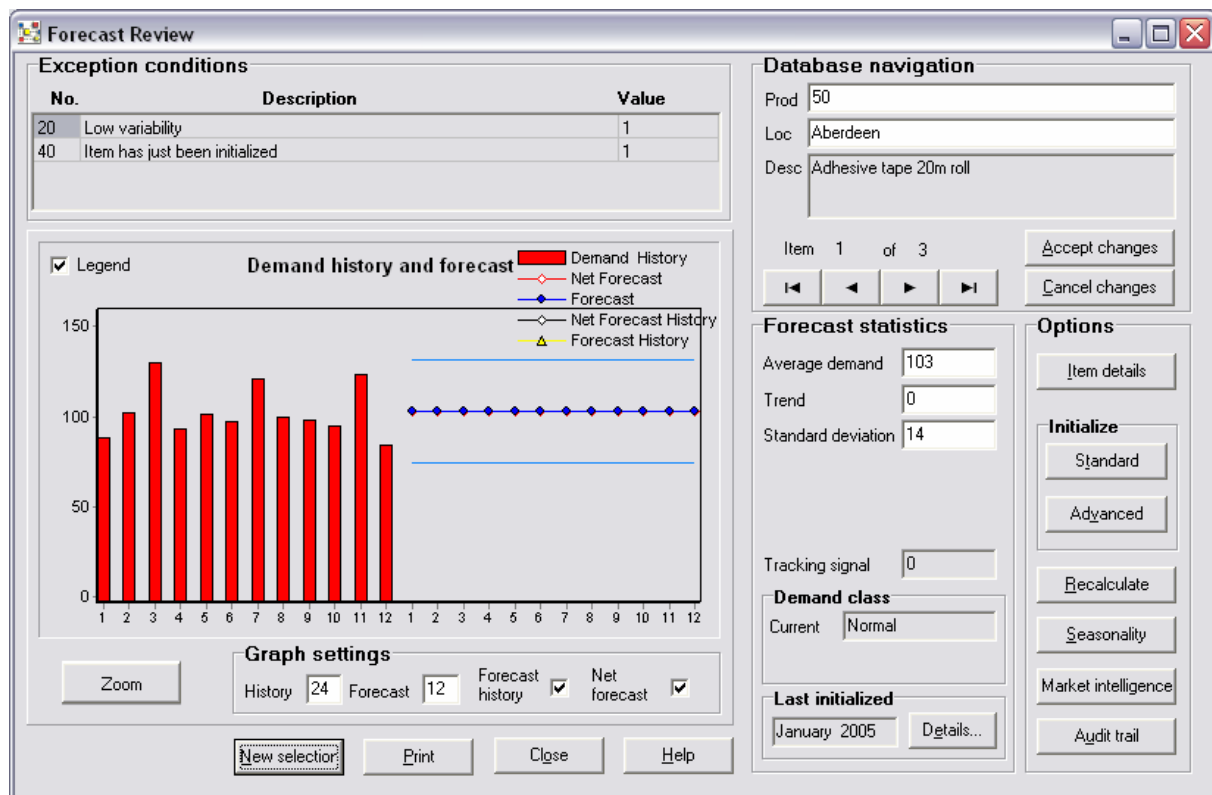
The data supplied has been classified to show that following breakdown:

Normal Items: 2  
Erratic Items: 1

See Appendix for details on all the main classes within RightStock Forecasting.

## Item 1: 50@Aberdeen

Product	50
Location	Aberdeen
Description	Adhesive tape 20m roll
Average monthly demand	102.67
Standard deviation	14.39
Trend	0
Average of the non-zero demand	102.67
Standard deviation of non-zero demands	14.39
Forecasts for this month	102.67
Forecasts for next month	102.67
Demand Class	F
Coefficient of variation	0.14
Seasonal item	N



### Demand Class

F: This item is classed as Normal, or fast-moving, because the incidence of zero demand months in the most recent year is less than 20%.

### Outliers

No exceptionally high or low demands ("outliers") were found

### Seasonality

There is no reason to believe that this item is seasonal, either because there is insufficient data for analysis or because the statistical test at 99% significance does not support the hypothesis of seasonality. The forecast is therefore a straight line.

### Trend

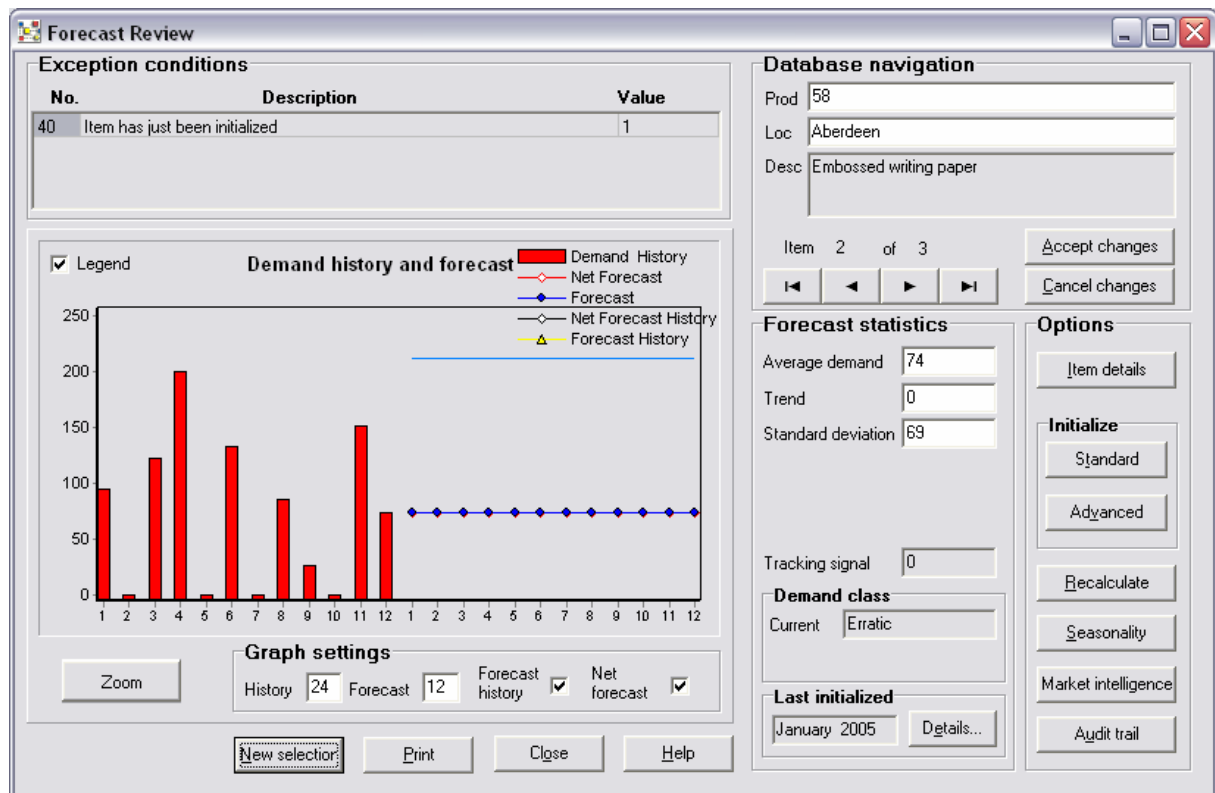
No trend was detected in the data.

### Variability

The standard deviation of the residual, unexplained variability in the demand history is relatively low - less than 0.2 of the average demand. It should be possible to provide a high level of service from stock without excessive cost.

## Item 2: 58@Aberdeen

Product	58
Location	Aberdeen
Description	Embossed writing paper
Average monthly demand	74
Standard deviation	69.11
Trend	0
Average of the non-zero demand	111
Standard deviation of non-zero demands	53
Forecasts for this month	74
Forecasts for next month	74
Demand Class	E
Coefficient of variation	0.93
Seasonal item	N



### Demand Class

E: This item is classed as Erratic because the incidence of zero demand months in the most recent year is between 20% and 50%. Erratic items tend to exhibit high variability in relation to the average demand, with the result that a high level of safety stock would be required to protect customer service. The possibility of supplying to order rather than off the shelf should be considered.

### Trend

No trend was detected in the data.

### Variability

The standard deviation of the residual, unexplained variability in the demand history is relatively high – in excess of 0.5 of the average demand. It would be impossible to provide a high level of service from stock without excessive cost, and it would therefore make sense either to set a lower service target or to consider supplying the item to order only.

### Item 3: 65@Aberdeen

Product	65
Location	Aberdeen
Description	School jotters feint with margin 6-pack
Average monthly demand	135.81
Standard deviation	24.75
Trend	0
Average of the non-zero demand	135.81
Standard deviation of non-zero demands	24.75
Forecasts for this month	92.91
Forecasts for next month	70.75
Demand Class	F
Coefficient of variation	0.18
Seasonal item	S



### Demand Class

F: This item is classed as Normal, or fast-moving, because the incidence of zero demand months in the most recent year is less than 20%.

### Outliers

No exceptionally high or low demands ("outliers") were found

### Seasonality

The statistical test at 99% significance indicates that this item may be seasonal: the degree of agreement between last year and the previous year is unlikely to have arisen by chance alone. The forecast and standard deviation have therefore been adjusted to take account of the calculated seasonal adjusters.



## Trend

No trend was detected in the data.

## Variability

The standard deviation of the residual, unexplained variability in the demand history is relatively low - less than 0.2 of the average demand. It should be possible to provide a high level of service from stock without excessive cost.

## Round Up

We hope that you have found this Rightstock analysis helpful. Please feel free to email [support@dboservices.com](mailto:support@dboservices.com) if you have any questions, or if you would like to explore the implications for safety stocks and average investment in inventory.

## Appendix 1: RightStock Classifications

Class	Name	Description
F	Normal	Normal, or fast-moving; the incidence of zero demand months in the most recent year is less than 20%.
E	Erratic	The incidence of zero demand months in the most recent year is between 20% and 50%. Erratic items tend to exhibit high variability in relation to the average demand, with the result that a high level of safety stock would be required to protect customer service. The possibility of supplying to order rather than off the shelf should be considered.
L	Lumpy	The incidence of zero demand months in the most recent year exceeds 50%. Furthermore, the lumps of demand are too large or too variable for the item to be classed as Slow. There may be only one or two customers for this product. If possible, it should be supplied to order rather than off the shelf.
S	Slow	The average monthly demand is less than 1.5 and in other respects it is satisfactorily modeled by statistical Poisson distribution. This pattern is commonly found in service part inventories, and it can be stocked efficiently against a service target.
M	Management Control	If there are too few non-zero demands for reliable calculation of a forecast or a stock level, and if the demands do not suggest a Slow demand pattern then the item will be under Management Control. If the item is to be held in stock, then management will have to make a decision as to the level. If possible, avoid holding stock of such an item
Z	Zero	All Demands are Zero; there are no non-zero demands in the past 12 months
N	New	New because there are too few months of demand history for automatic calculations to be performed.