



Demand Forecasting in Retail & Consumer Goods E-learning Course



Martec International

Martec International is a leading provider of data, industry knowledge and insight on retailers, consumer goods companies and other suppliers to retail, especially technology companies.

Our customers include:

- Retailers
- Consumer Goods companies
- Technology suppliers to retailers and consumer goods companies
- Marketing services companies that promote services to retailers and consumer goods companies
- Other service providers, such as logistics companies.

We help clients increase their industry knowledge, develop their skills and grow sales. Companies from approximately 35 countries across 6 continents come to Martec for assistance and insight.

Target Audience

Martec's Demand Forecasting in Retail and Consumer Goods e-learning course is designed for everyone involved in forecasting including merchandisers, buyers and supply chain managers. IT departments and vendors supplying and selling forecasting systems will benefit from a better understanding of the key processes and methods.

Objectives of the Suite

The course provides a thorough grounding in key forecasting principles and concepts. It is suitable for retailers operating in both category management and merchandise management environments. By the end of the program, students will be able to do the following:

- Explain the theory, principles and practice of forecasting.
- Describe best practice forecasting processes.
- Be able to judge which are the best forecasting techniques to use in your business.



Course Overview

- Demand Forecasting in Retail and Consumer Goods is a self-paced web-based training program. The program provides about 3-4 hours of training. We recommend that students study in 30-40 minute segments to maximize learning retention.
- The program includes a variety of interest generating features and exercises. The student sees his or her own test scores immediately and can review explanations for the correct answers, as appropriate.
- Companies who buy a group of licences will be given access to the reporting facilities in the Learning Management System. This enables management to track which students have started and completed the training and their test scores.

There are three pricing options:

- Induction is suited to new joiners who will complete the complete training suite in a limited time. An induction licence is valid for 3 months.
- Professional is valid for 12 months. This allows those who need to re-visit the classes periodically to refresh their knowledge to do so whenever necessary.
- Performance Enhancer includes access to the complete Retail and Consumer Goods Industry WIKI and performance support system also for a 12 month licence.

You can get a full explanation of the benefits and what is included in each option as explained in our [class pricing options](#) web page.

All a student needs to run the program is access to a PC and a web browser. The program is hosted on Martec International's Learning Management System and is available round the clock.

Companies may also purchase a corporate licence which provides unlimited access within the company's own organization. Prices are available on request.

Program Contents

Introduction

- Simple forecasting
- Pre-requisites to support good forecasting
- Demand forecasting
- Characteristics of an item

Forecasting Methods

- Simple moving average
- Weighted moving average
- Setting weights
- Averages or weighted moving average – limitations for forecasting
- Variance against plan
- Forecast profiles
- What is a profile?
- Using profiles
- Forecasting promotional lift using profiles

Forecasting accuracy

- Inventory review horizons
- Chain vs. store forecasting
- Chain or warehouse vs. store forecasting
- Measuring forecast error

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Weighted Moving Average

Weighted average of last X weeks' sales - giving more significance to most the most recent history.

Week	-4	-3	-2	-1	This Week
Sales	28	23	24	20	??
Weight	1	2	3	4	--
Plan	25	24	22	18	16

Weighted average of 4 last weeks =
 $(28*1)+(23*2)+(24*3)+(20*4)/10 = 226/10 = 22.6$
Round up to **23** units for this week's forecast

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Forecast Error Tracking Example - 9 Weeks of Sales

Week	1	2	3	4	5	6	7	8	9
Forecast	6	4	7	3	4	9	10	5	5
Actual	7	3	9	4	3	11	8	4	6
Forecast Error	1	-1	2	1	-1	2	-2	-1	+1
Absolute Deviation	1	1	2	1	1	2	2	1	1
Absolute Percentage Error	14.3%	33.3%	22.2%	25%	33.3%	18.2%	25%	12.5%	12.5%

At end of week 9 Mean Absolute Deviation (MAD) = $12/9 = 1.33$ and the Mean Absolute Percentage Error = $(14.3+33.3+22.2+25+33.3+18.2+25+12.5+12.5)/9 = 21.8\%$
Re-calculate the rolling n weeks MAPE each week and watch the trend

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Program Contents

More advanced forecasting

- Forecasting at a price
- Exponential smoothing
- Adjusting smoothing based on length of sales experience
- Smoothing factors
- Exponential smoothing with trend and seasonality
- Trend modifier
- Using seasonality factors
- New product profile
- Forecast profiles – advanced

Forecasting strategy

- Practical comments
- Category management
- Forecasting and allocation / replenishment
- Forecasting across the supply chain

Mastery test

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Exponential Smoothing

Benefits	Limitations
<ul style="list-style-type: none">• Gives more weight to recent data• Incorporates all past history• Lower data storage requirements• Fast calculation - good when '000s forecasts to compute• Easily adapted to different conditions.	<ul style="list-style-type: none">• Does not react quickly if values (weights) set incorrectly or a sudden change takes place• Skewed by periods of abnormal trade• Applies the same smoothing factor to all periods, unless the replenishment specialist manually intervenes.

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Using Seasonality Factors

Month	1	2	3	4	5	6	Total
Seasonal Factor	1.0	1.09	0.73	0.82	1.09	1.27	
Actuals/forecast	1130	1250	800	900	1200	1400	6680
De-seasonalize history	1130	1148					
Generate forecast			1139	1139	1139	1139	
Apply seasonality to forecast	1130	1250	831	934	1242	1447	6834

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Testing

At the end of each module there is a mastery test. If the learner completes this test with a pass mark of 70% or more and also completes our short class survey, they will be issued with a certificate and a digital badge. The digital badge can be shared on social media and has metadata, so anyone clicking on the badge can see what the learner has achieved. We also issue credits for classes completed. For more information on digital badges click [here](#).

Delivery Options

This program can be delivered in three ways:

- Individuals or companies can order the program for one or more people via the Martec International web site at www.martec-international.com.
- If a company wants to train batches of students, the e-learning program can be studied to a group time schedule and live web-based instructor-led sessions can be provided to allow for interaction with a subject matter expert. There is an extra charge for this for smaller size groups.
- Live instructor-led classes can be presented using the same material. This is relevant when there are 20 or more people to train at the same time.

Further information and pricing can be provided on request.

More Information

You can learn more about Martec at the following locations:

<https://www.martec-international.com>

Our YouTube channel at <https://www.youtube.com/channel/UCy9AbJlSWOIOJitqjqWZsDA>.

If you have an enquiry you would like to make of Martec, you can use the Enquire Further button on <https://www.martec-international.com/contact-us> or call +44 1823 333469.