Planogram Data Requirements

How much data is really needed?

Global Retail Business Solutions
International retail and category management services

Author's note

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Introduction

We speak with a lot of sales and (trade) marketing professionals around the world. In these meetings we regularly hear the statement that the company we're talking to feels that it isn't ready yet to support their commercial activities with planograms. "*Because you need a lot of detailed information such as sales, movement, and margins for each product with each retailer, and unfortunately we don't have that information.*"

This is a big misunderstanding! Planograms can be created at different levels, making it possible to benefit from them even if just little data is available. This white paper will provide you with ideas and background information on how you can use planograms with the data that is available to you; allowing you to increase the level of analytics over time when more data becomes available and the relationship with your trading partners grows.

In the rest of this document we'll take you through the five levels at which planograms can be used:

1. Merchandising Philosophy
2. Layout versus general market
3. Assortment versus general market
4. Balance demand and supply
5. Financial optimization

Each level will be covered in a separate chapter where you'll find details on:

- ✓ How does this level link back to the previous one(s)?
- ✓ What are the benefits of using planograms at this level?
- ✓ Which data is required and what can optionally be used in addition to that?

Where possible, we'll use examples to demonstrate how theory is translated into practice. Note that these examples are generally simplified and should not be taken as our recommendation for that specific category.

The final chapter of this document will link the various levels of data requirements to **Retail Shelf Planner**, putting the theory into practice. An interesting related read is the white paper "*Analyzing your first planogram*" that you'll find on the website as well.

We trust that you'll find this white paper helpful and are ready to answer any questions you may have after reading it. Send them to info@planograms.eu and we'll get back to you as soon as possible.

Erwin Bergsma
Managing Director

Level 1. Merchandising Philosophy

The foundation of creating planograms is the merchandising philosophy. This is effectively a translation of your commercial views and knowledge on the shopping behavior of the consumers.

Some people would argue that this level splits in two phases:

1a. General layout in blocks

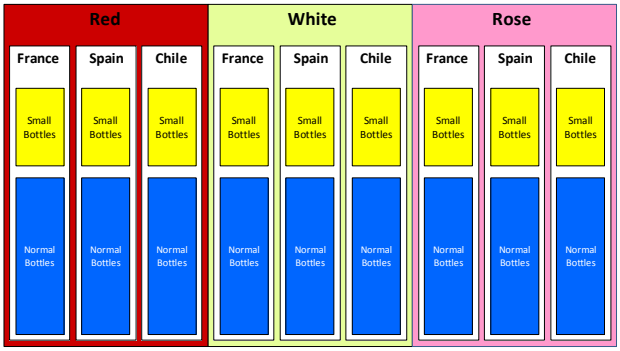
This first step defines how products will be grouped in the section. Generally this will be driven by the way consumers (or shoppers if there is a big difference in behavior) categorize the products. That process is also referred to the CDT, the Consumer Decision Tree.

Example

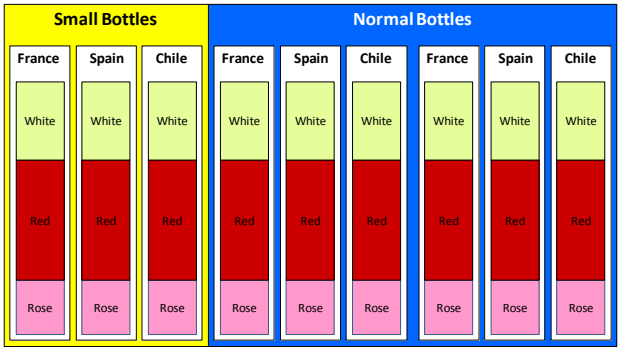
Let's take the category wine as an example. Some basic characteristics of wine are color (red, white, rose), country of origin (e.g. France, Spain, Chile) and size (small bottle, normal bottle). The main question to answer is how a consumer decides which product to buy. Look at the two scenarios below:

"I'm organizing a dinner with beef as the main course, so I want a red wine. The guests are traditionalists, so I'll be looking for a wine from France. As we'll be with three people, a normal bottle will do."
"I'm on my own, so I want a small bottle. I'm keen on trying new-world wines, and will decide on the meal after I have selected my wine."

The logic grouping for consumer 1 will be Color, Country, and Size. But for consumer 2 it will be Size, Country, and Color. The two pictures below display the difference.



Group by Color, Country, Size



Group by Size, Country, Color

The order of the main segments and the sub-segmentation within those should be based on a mixture of consumer preferences and the commercial objectives of the retailer to ensure they fit with, and where possible even strengthen, their marketing positioning.

Data Required

For this first step you don't need any detailed data. Knowledge of the category and what drives the decision process (Brand, Taste, Size, Price, etc.) is what is required here.

Benefits

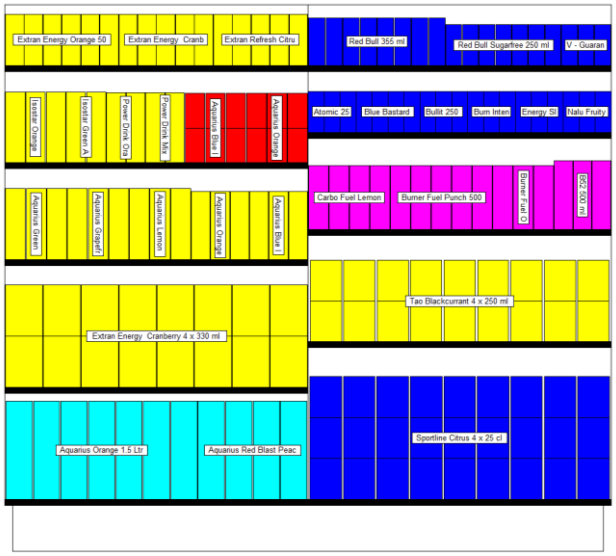
The main benefit of a well-thought-through merchandising philosophy is that you'll make shopping as easy as possible for the consumers. They will be able to quickly find the products they were looking for and will therefore be happy with the shopping experience.

Level 1. Merchandising Philosophy, continued

1b. Detailed layout with individual products

A logic next step from the general layout is to place the individual products within the applicable blocks. This is where you start creating a planogram.

The basic version of a planogram is a schematic layout where the products are displayed as little blocks. A more visual version would be one where you use a photorealistic display of each product, often referred to as Live Images. The pictures below give you an idea of what these could look like:



Planogram as a schematic

Planogram with Live Images

Data Required

For the section and shelves you'll need the physical dimensions (height, width and depth) and for the shelves the distance from the floor.

The product data that is required for a schematic planogram can generally speaking all be found on the actual product: UPC, description and physical dimensions (height, width and depth). Additional characteristics such as supplier, brand, taste, etc. are interesting for reporting purposes. For the "real life" planogram you'll need a digital photo of each product.

Benefits

The main benefits of a visual planogram are already manifold:

- ✓ A logic shelf-layout will please the consumers as they will be able to quickly find what they're looking for.
- ✓ It's a visual proof that the products you're suggesting to be carried actually fit on the section.
- ✓ The schematic output is an effective way to increase shelf-reset efficiency.
- ✓ You will have a similar layout in all stores of the chain, contributing to a consistent shopping experience.
- ✓ Using Live Images, new product packaging can effectively be checked in a "real-life" environment without the high cost of creating many dummies and actual in-store tests.
- ✓ New or (temporarily) redesigned products can be checked for fitting on and between the shelves, ensuring seamless roll-out and effective (volume-plus) promotions.

Level 2. Layout versus general market

In the explanation of level 1, we discussed how to group products and the order in which the segments and sub-segments should be placed within the section. We did however say nothing about how much space should be allocated to each of these segments, that effectively was a logic result of the products that were carried in the assortment. In level 2, we start fine-tuning that using general market research data. We introduce the concept that the space allocated to each segment should be more or less equal to the market share of that segment.

This would work fine if all products are more or less the same size, but may lead to strange results when there are large differences between the physical dimensions of products within the category. E.g. if the category "Baby" would include both the small jars with baby food and the large boxes with diapers, it may be better to use the measure facings instead of shelf space.

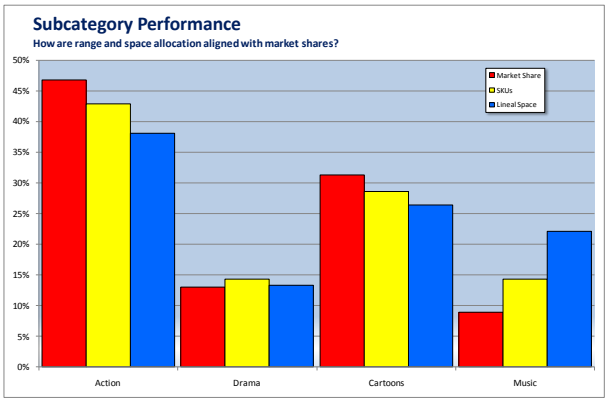
Measures that are often used in this level are:

- ✓ Lineal shelf space
- ✓ Facings
- ✓ SKU's
- ✓ Visibility (i.e. the square surface of the products that are facing the consumers)
- ✓ Shelf stock in units

☝	You may well use the market shares within a region or specific sales channel if large differences exist between the regions/channels and you have access to that data.

Example

The example on the right compares the general market shares of the segments in the category DVD's (Action, Drama, Cartoons and Music) with the share of the assortment carried and the share of the space allocated to each segment.



We can see that both the range and space allocated for the segments Action and Cartoons are significantly less than their market share. As the measures for Drama are more or less in balance, we can conclude that the range of, but especially the space allocated to the segment Music is a lot larger than its market share justifies.

Note that this could be a deliberate choice; the retailer may want to differentiate from its competitors by offering more Music DVD's. However, if this is not the case, we've identified various areas for improvements.

☝	The main driver for segmentation is how the consumer shops the category. However, manufacturers can also use this type of analysis to see if their brands achieve fair share as well.

Data Required

You'll need market share information at aggregated levels matching the segmentation in the layout.

Benefits

Comparing market shares with range and space allocated allows you to check if the shelf layout is in balance with what is generally happening in the market. Is everybody getting their fair share? And using simple fair share calculations, you can start putting an estimate on potential cost savings and/or additional revenue.

Level 3. Assortment versus general market

To further professionalize your approach you can "drill down" to individual SKU level and compare the assortment in the planogram with all the products for this category in the market. Rank the available products descending on performance and check for gaps. I.e. are well performing products missing from the assortment in the planogram?

Example

	Market			Region 1			Planogram		
Name	Rank	Share	Sales	Rank	Share	Sales	Rank	Share	Sales
Product Q	1	23.2%	€203,290	1	21.5%	€75,145	1	27.8%	€25,399
Product F	2	17.5%	€153,344	3	15.3%	€53,475	4	14.9%	€13,613
Product W	3	11.9%	€104,274	2	16.8%	€58,718	2	21.3%	€19,460
Product A	4	10.1%	€88,501	4	11.7%	€40,893	N/A		
Product M	5	8.7%	€76,234	5	9.6%	€33,553	3	16.1%	€14,709
Product T	6	8.7%	€76,234	7	7.7%	€26,912	N/A		
Product P	7	8.1%	€70,976	6	8.1%	€28,310	5	10.4%	€9,502
Product R	8	6.6%	€57,833	9	4.3%	€15,029	N/A		
Product J	9	5.2%	€45,565	8	5.0%	€17,476	6	9.5%	€8,679

You can see in the picture above that in the overall market, as well as in the region for which we're making the planogram, products exist that are currently not carried in the planogram. Some of these products perform better than other products that are in the planogram-assortment. Unless there are compelling commercial reasons not to, you may be better off by exchanging these.

Data Required

You'll need market share or sales information for individual SKU's for the total market, and/or further segmented by region.

Benefits

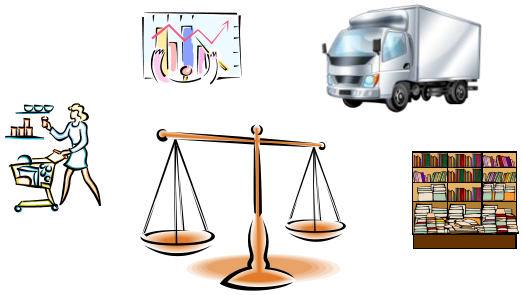
- ✓ Increased customer satisfaction by offering a more successful range.
- ✓ Improved financial performance such as sales and return on shelf space.

Level 4. Balance supply and demand

Planograms are a great tool to help you balance supply and demand. Depending on the available data, this can be done in various ways of increased levels of sophistication.

The following elements play a role in balancing supply and demand:

- ✓ Consumer demand
- ✓ Market trends
- ✓ Supply
- ✓ Shelf space



The sections below will address each of these in more detail.

4a. Consumer demand

Consumer demand is initially represented by the average unit sales of the products. Various factors play a role in the calculation of these numbers:

Geography

From a geographic point of view, it's preferred to use data that is as specific as possible; i.e. the best is to use actual sales data for the retailer you're building recommendations for. However, if that's not available, you can start the discussions based on more generic data. When the retailer sees how you can help them, and levels of trust are building, they will be more inclined to release specific data.

Shop Type

Likewise, it's best to create multiple versions of planograms, taking differences in shop-type, -size and things like regional differences into consideration. The ideal for retailers would be to make planograms for individual shops, but apart from work-volume, this also brings the risk of creating a "self-fulfilling prophecy". See the section "Keep an open mind" below for more details on that.

Periodicity

A common question is what period should be used to calculate the average unit sales. There is no single answer to this, as it really depends on the category and other circumstances. The main idea is that the period chosen should reflect "normal" business as much as possible. So for categories with high seasonal influence, focus on the proper season. If there was a major overhaul of the category 7-8 months ago, take the last 6 months. Etc.

Sales spread

Sales are seldom spread evenly across the week. To be able to take increased demand during busy days into consideration, you should have an idea on the spread of the sales across the week. E.g. Monday 10%, Tuesday 15%, etc.

Keep an open mind

One word of caution: while generally it's good to use as specific data as possible, you should also be careful that this doesn't result in a "self-fulfilling prophecy". E.g. if a product was not given sufficient shelf space and as a result was out-of-stock most of the time, its average unit sales would be poor. If you then give it less space, it will perform worse, resulting in less space next time, etc.

To correct for issues like this, you want to make sure that you're having a broader view as well. Compare the retailer's performance with the general market as described in step 3, and if possible allow the space planning tool to calculate the "true consumer demand" by providing out-of-stock percentages for (at least the most important) products.

Level 4. Balance supply and demand, continued

4b. Market Trends

If you would only be using historical average unit sales to develop a shelf layout recommendation, you're basically optimizing your proposal for the past. While this may already result in some good improvements, you may want to consider building a proposal for the future.

This can easily be done by applying market trends on the historical average unit sales. E.g. if a product historically sold 100 units per week, and the segment that product is in shows a trend of 5% growth, you're likely to sell 105 units per week in the (near) future. Better take that into consideration when optimizing the shelves!

4c. Supply

Where demand is represented by consumers taking products off the shelves, supply is represented by trucks delivering new stock to the stores, and staff refilling the shelves.

The main thing to know here is which day(s) the shelves are restocked.

Data Required

- ✓ Average unit sales per product.
- ✓ Spread of the sales across the weekdays
- ✓ Market trends (optional)
- ✓ Shelf stocking moments

Benefits

- ✓ Increased sales
- ✓ Decreased out-of-stocks.
- ✓ Lower inventory costs
- ✓ Improved customer satisfaction
- ✓ Identification of space for new products

Level 5. Financial Optimization

At the most advanced level, you'll be looking at further fine-tuning the optimization process by taking profitability into consideration.

In an ideal world the previous steps were easy and you've been able to include all products you want, and give them the shelf space they require to satisfy consumer demand. Unfortunately this is rarely the case. Often you'll end up with a situation where e.g. you have two products that each needs two facings, but you have only space for 3 facings. Here's where profitability starts playing a role. If you know the margin on each product, you can optimize profits by giving 2 facings to the product with the highest margin.

Knowing both profitability and average unit sales for each product will also allow you to gain additional insights in the location of "Traffic Builders", "Stars", "Profit Generators" and "Question Marks" in the section:

- ✓ Is valuable shelf space (e.g. at eye-level) allocated to poor performing products?
- ✓ Are high-margin products positioned in the right location to attract as much consumers as possible?
- ✓ Can you stimulate product-switching by placing the right products next to each other?
- ✓ …

Many additional and refined analyses are possible when you know the margin of the products.

☝	You may have access to more information than you initially may think! You obviously know the prices and margins on your own products, and most likely have a reasonable idea on those of the competition. Start with these estimates and refine your analysis when the relationship with your trading partner has grown to a point that they share more information with you.

Data Required

- ✓ Retail Selling Price, Unit Cost and VAT for each product. Based on this data, **Retail Shelf Planner** calculates the Margin, Return on Inventory Investment and the cost of the Average Inventory.

Benefits

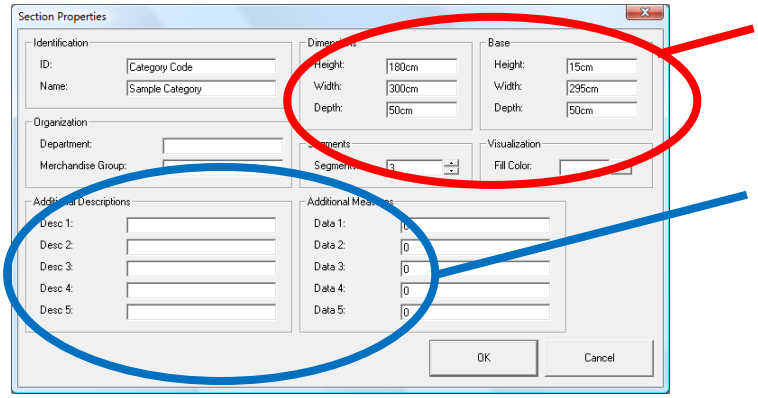
- ✓ Optimized profitability
- ✓ More insights in assortment allowing to optimize promotions

Retail Shelf Planner, putting the theory into practice

In this last chapter we'll be putting the theory into practice by linking the data requirements and benefits back to the **Retail Shelf Planner** software, so that you can see where data goes and what can be done with it from an analysis perspective.

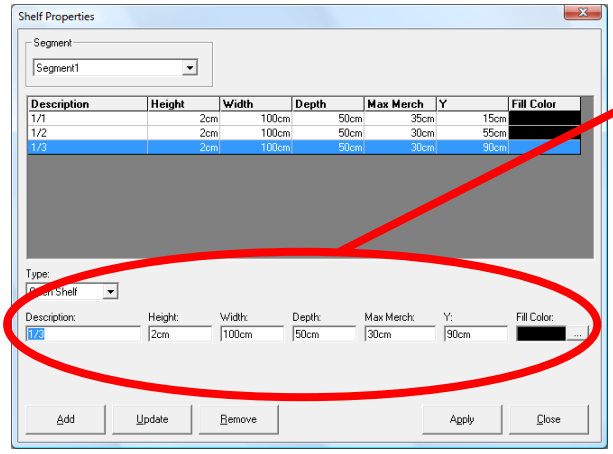
Level 1. Merchandising Philosophy

Data Requirements in practice

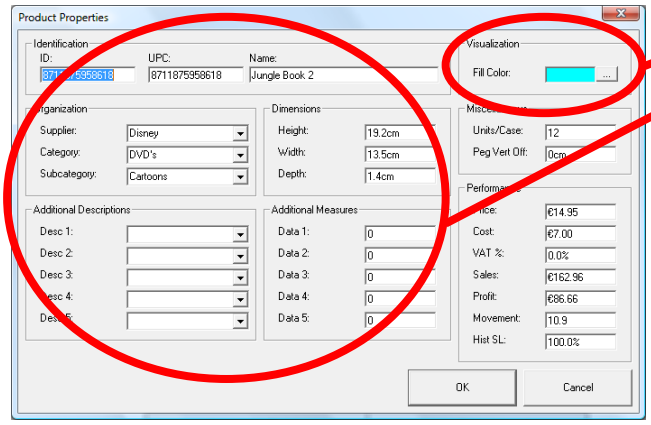


Main information about the section is the physical dimensions.

Information like Department, Merchandise Group and other characteristics (text or numeric) are interesting when you make many planograms and need to organize them properly in a database, and/or perform cross-planogram analyses.



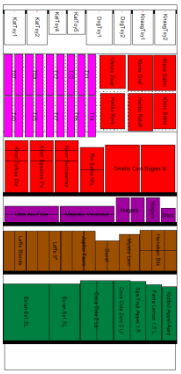
Main information about the shelves is the physical dimensions and distance from the floor.



Main product information is about the physical dimensions, identification/grouping and visualization.

Retail Shelf Planner, putting the theory into practice, continued

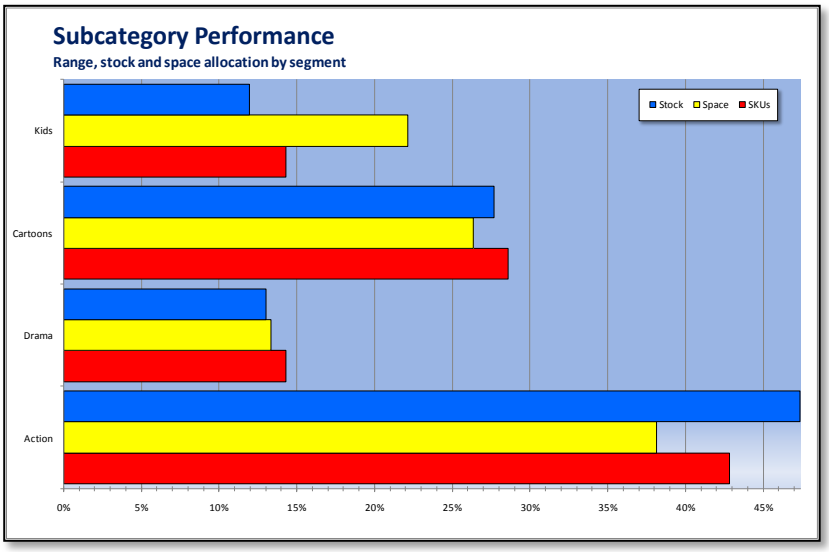
Visual and analytical results



Shelf Reset Report

Where do the products go on the shelves ?

ProductID - UPC - Description	Facings	Units High	Units Deep
Shelf: 1/1 - Location (X/Y): 0/10 - Dimensions (HxWxD): 2 x 200 x 10	**14**	**7**	**49**
GRBS 0000110 - 8711983463707 - Bob de Bouwer	2	1	7
GRBS 0000105 - 7321950349289 - Clifford	2	1	7
GRBS 0000111 - 3259190399297 - Jungle Jack	2	1	7
GRBS 0000109 - 3760120520259 - Les 3 petits cochons	2	1	7
GRBS 0000108 - 3760120520242 - Roodkapje	2	1	7
GRBS 0000107 - 8717418013837 - Mickey's Mooiste Kerst	2	1	7
GRBS 0000106 - 8711875957185 - Walt Disney Sprookjes	2	1	7
Shelf: 1/2 - Location (X/Y): 0/37 - Dimensions (HxWxD): 2 x 200 x 10	**14**	**7**	**49**
GRBS 0000100 - 5412370849908 - Zigzag	2	1	7
GRBS 0000104 - 3760120520280 - Anastasia	2	1	7
GRBS 0000101 - 8712626013634 - Ice Age	2	1	7



Retail Shelf Planner software

The activities described for this level are available with the Enterprise and Express editions of **Retail Shelf Planner**.

Retail Shelf Planner, putting the theory into practice, continued

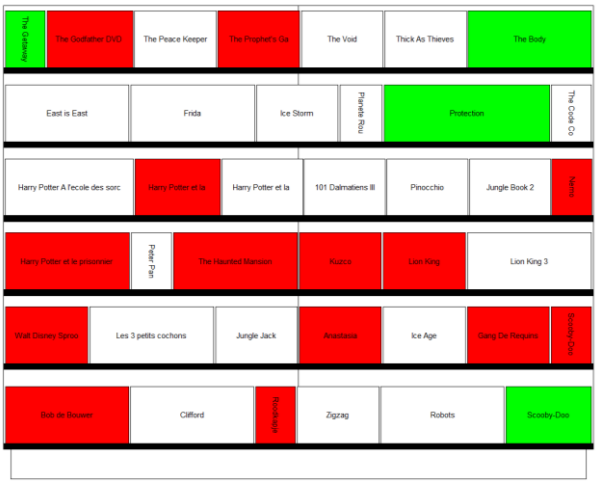
Level 2. Layout versus general market

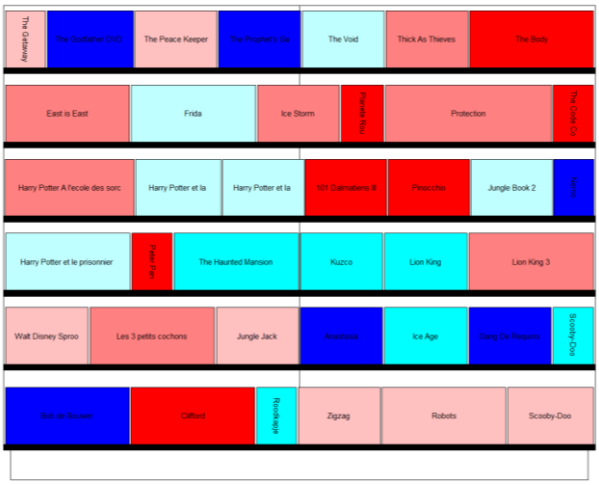
This level describes using additional market share information in analyses. The information about allocated facings, space and number of SKU's carried is created automatically when you're building the visual planogram. Using the Excel-reporting functionality that is available in both Enterprise and Express editions of **Retail Shelf Planner**, you can export this information to a spreadsheet where it can be combined with the market share data.

Level 3. Assortment versus general market

This level describes using additional information in analyses. When these analyses are done outside Retail Shelf Planner, they have no impact on the data requirements for your planograms inside the software.

However, if you import Sales or Movement data for each product into the planogram, you can do various visual analyses:





Top/Bottom performing products:

- ✓ **Green**: the best performing products that generate the top 20% of the sales
- ✓ **Red**: the worst performing products that generate the bottom 10% of the sales

Hot/Cold analysis:

The products are ranked by Sales or Movement and split in 6 equal groups colored from Red (= hot; best performing) to Blue (= cold; worst performing).

☝	These visual analyses can be done on variables like Sales and Movement to gain different insights. In addition the user can set the percentages to influence the part of the assortment that is in- or excluded.

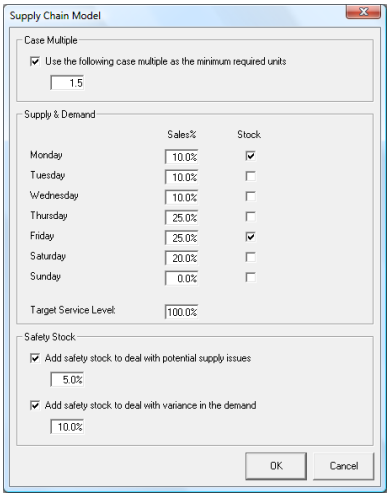
Retail Shelf Planner software

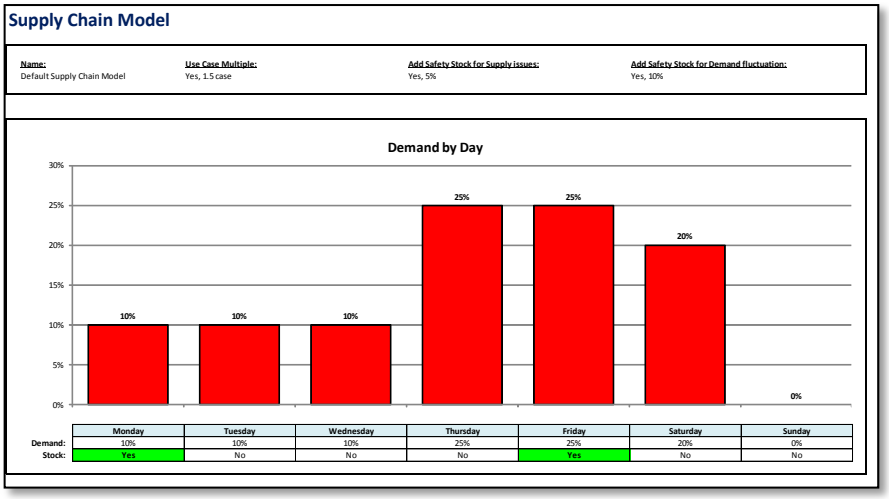
The activities described for this level are available with the Enterprise edition of **Retail Shelf Planner**.

Retail Shelf Planner, putting the theory into practice, continued

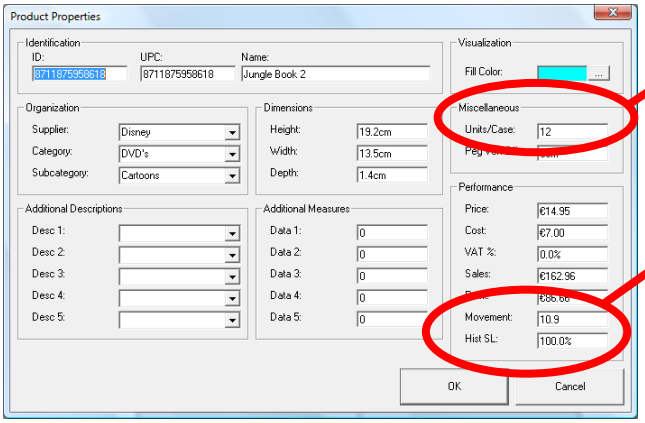
Level 4. Balance demand and supply

Data Requirements in practice



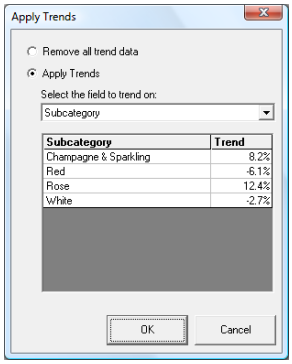


Retail Shelf Planner lets you describe consumer behavior and shelf restocking schedules in a simple way. An Excel report provides a schematic overview to share with others.



The number of units per case is often used as a logistical minimum for the shelf stock as retailers want to avoid having half-empty boxes in the backroom storage.

To calculate the consumer demand **Retail Shelf Planner** takes the historical average unit sales per week and when needed corrects these with the Historical Service Level.



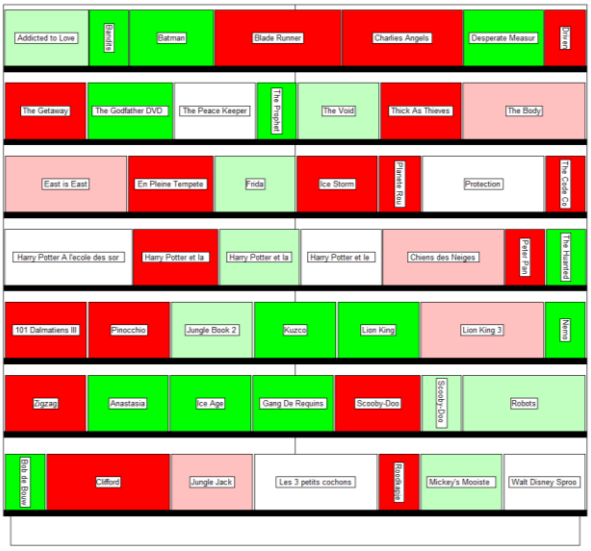
To take trends into consideration and build a planogram focused on the future, you can include trend information.

Enter the applicable percentages in the dialog and press the OK-button. For each product, **Retail Shelf Planner** will calculate the expected increase (or decline) in Sales, Profit and Movement and store these numbers in the fields Trend Sales, Trend Profit and Trend Movement.

When consumer demand is calculated for stock and financial analyses, the trend information is taken into consideration.

Retail Shelf Planner, putting the theory into practice, continued

Visual and analytical results



Through a visual inventory analysis you get quick insight in the stock position of all products:

- ✓ **Dark Red**: seriously understocked
- ✓ **Light Red**: little understocked
- ✓ **White**: correct stock
- ✓ **Light Green**: little overstock
- ✓ **Dark Green**: seriously overstocked

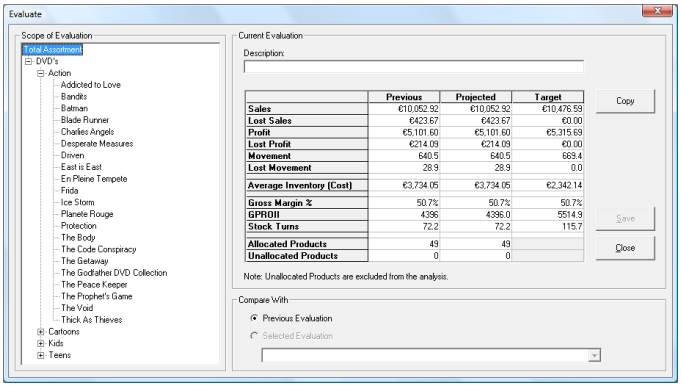
With this information you can start optimizing the shelf inventory by increasing and decreasing the number of facings where applicable.

Additionally you can review the units per case or the frequency of restocking if those are variables that are open for discussion and changes.

With the Evaluations dialog you can see what the financial impact of the current shelf-layout is. This can be done for the total category, by subcategory or for each individual SKU.

Depending on availability of data, it will give you projections for Sales, Profit and Movement. And as **Retail Shelf Planner** has calculated the true consumer demand, it can also tell you how much Sales and Profit you're missing due to out-of-stocks.

The KPI Stock Turns indicates the number of times the average shelf inventory is sold annually.



	Previous	Projected	Target
Sales	€10,052.92	€10,052.92	€10,476.59
Lost Sales	€423.67	€423.67	€0.00
Profit	€5,101.60	€5,101.60	€5,315.69
Lost Profit	€214.09	€214.09	€0.00
Movement	640.5	640.5	669.4
Lost Movement	28.9	28.9	0.0
Average Inventory (Cost)	€3,734.05	€3,734.05	€2,342.14
Gross Margin %	50.7%	50.7%	50.7%
GPROII	4396	4396.0	5514.9
Stock Turns	72.2	72.2	115.7
Allocated Products	49	49	
Unallocated Products	0	0	

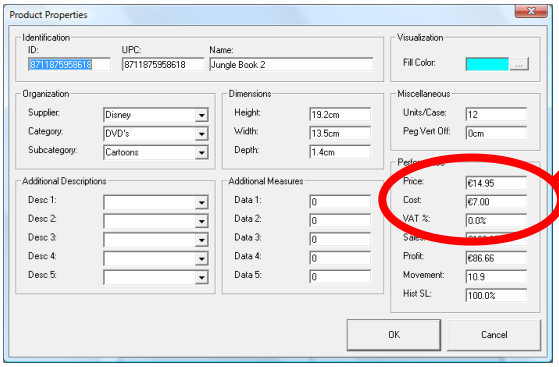
Retail Shelf Planner software

The activities described for this level are available with the Enterprise edition of **Retail Shelf Planner**.

Retail Shelf Planner, putting the theory into practice, continued

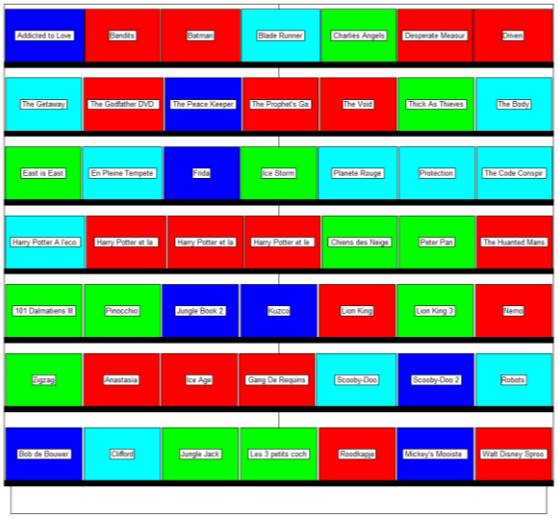
Level 5. Financial Optimization

Data Requirements in practice



To calculate the margin for each product **Retail Shelf Planner** takes retail selling price, unit cost and VAT into consideration.

Visual and analytical results



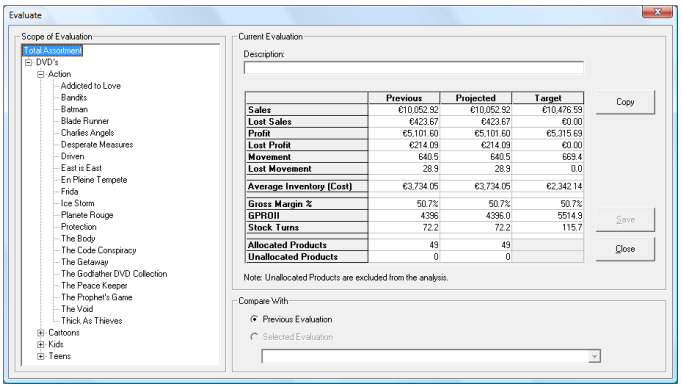
Through the powerful visual quadrant analysis you get quick insight in the relative performance of all products:

- ✓ **Green**: *Stars*, both margin and unit sales above average
- ✓ **Aqua**: *Traffic Builders*, unit sales above average, but margin below average
- ✓ **Blue**: *Profit Generators*, margin above average, but unit sales below average
- ✓ **Red**: *Problem Children*, both margin and unit sales below average

With this information you can identify potential products for delisting and review products' shelf location versus their role in the category.

With margin information the Evaluations dialog gives you additional information such as Projected Profit, Projected Lost Profit and the Average Inventory at cost.

There are also two additional KPI's: the average Gross Margin and the GPROII, the Gross Profit Return on Inventory Investment.



	Previous	Projected	Target
Sales	€10,052.92	€10,052.92	€10,476.59
Lost Sales	€423.67	€423.67	€0.00
Profit	€5,101.60	€5,101.60	€5,315.69
Lost Profit	€214.09	€214.09	€0.00
Movement	640.5	640.5	669.4
Lost Movement	28.9	28.9	0.0
Average Inventory (Cost)	€3,734.05	€3,734.05	€2,342.14
Gross Margin %	50.7%	50.7%	50.7%
GPROII	4396	4396.0	5514.9
Stock Turns	72.2	72.2	115.7
Allocated Products	49	49	
Unallocated Products	0	0	

Retail Shelf Planner software

The activities described for this level are available with the Enterprise edition of **Retail Shelf Planner**.

About the author:

Erwin Bergsma is a Dutch national with an international mindset. He has an extensive background in the retailing industry that started back in the 1980's with a regional chain of bookstores in the Netherlands. Later he worked in the buying and merchandising department of Albert Heijn, the largest Dutch grocery-retailer.

During a 14 year career in consulting, account management and marketing with the global market information specialist A.C.Nielsen he built up an in-depth knowledge in the areas of data analysis, Category Management, floorplanning, spacemanagement and assortment planning. Having had local positions in the Netherlands, as well as European and global Marketing positions, Erwin has a broad understanding of the differences and similarities of retailing in many parts of the world.

In 2005 he founded Global Retail Business Solutions, providing specialist software applications and consulting services to companies in the FMCG and CPG business.

Over the years he has worked with many retailers and suppliers, ranging from relatively small locals to large multinationals, in virtually all distribution channels, including Food, Drug, Do-It-Yourself, Convenience, and Mass Merchandising, providing him with a unique and multi-faceted view on the retailing business.

Global Retail Business Solutions *is a Belgium based company with 20 years of experience in data analysis, Category Management, assortment-, floor- and space-planning. Our software and services are delivered directly and through partners to companies around the globe.*

In those 20 years we worked with hundreds of local and international retailers and suppliers in Food and Non-Food, guiding them in the implementation and successful use of specific software applications supporting their sales, marketing, buying and merchandising departments.

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