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DURLINGER ESSENTIAL

The assortment index

we make problems easy

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1. Introduction

The life cycle of a product goes through a number of phases, from phasing in to phasing out. In this *Essential* we will introduce a phase to precede the introduction phase: 'the reflection phase'. In other words, we will consider whether we should actually introduce this product.

We will discuss the assortment index, based on objective criteria. This index is a tool for the MT, an aid to determining whether it makes sense to include a product in the assortment. However, whether we should keep the introduced product in stock is another matter. The assortment index can also be used as an instrument to determine whether we should phase out a product.

2. Reflection phase – *'the mother of all things?'*

Assortments tend to grow like weeds. Why on earth do we want to keep introducing more products, even though it is well-known (www.nielsen.com) that the majority of product introductions fail (see Table 1)?

Product development	Qualification	Introduction
48,000 products	90% failure	1 in 10 success
Over the past three years, more than 48,000 products were introduced in Western Europe, but only 10 of them were successful *game changers*.	90 percent of the product introductions fail. Let's beat these statistics!	1 in 10 new products is a success.

Table 1. Failed product introductions (from www.nielsen.com, 2017)

Of course a company needs to innovate and of course it is a good thing when Sales is optimistic about a possible new product. But unfortunately not every new stapler is *'the mother of all staplers'*, even though that is what we all hope. There should be limits, of course, and a tool to quantify these limits is the 'assortment index'.

This is an instrument developed by Walther Ploos van Amstel, that we are going to use in the 'reflection phase'.

The reflection phase precedes the introduction phase in the Product Life Cycle. It is the phase in which we consider whether it makes sense to introduce the product at all. Logistics people should take a very hard look at introducing a new type of stapler if there are already 250 in the range (yes, this is a real-life example). Or a new trashcan if we already have 389 (also a true example). Of course we are hoping for the *'mother-of-all-things'*, but it is far more likely that the new model will not be a success or else will cannibalize other products.

3. The assortment index

So we start with reflection. When would we like to introduce a new product and what factors make for a successful introduction? There is always an element of crystal gazing in this, but a few factors can give us some indication. For example, how many similar products have we already got? Or how many customers will want to purchase this product? Perhaps the supplier also plays a role; is it an existing supplier or a new one? Table 2 lists some possible criteria.

Criterion
Sales volume
Gross margin
How many customers
How many orders
Traffic
Alternatives
Earn x Turn
New supplier?

Table 2. Possible criteria

This is certainly not an exhaustive or exclusive list, and therefore the entire MT should carefully consider the factors that play a role in their sector or their situation.

In practice, we can come up with a list of criteria as follows. At a wholesaler of snacks and products for small catering businesses, each MT member was asked which criteria he considered important. This resulted in a list with more than 15 criteria. We then asked each MT member to choose which 6 of these criteria he or she considered the most important. Then we looked at the 6 criteria 'with the most votes'. The surprising thing was that there was clear agreement on what was considered important and what was less important.

The next step is to determine the relative value or weight of each of these factors. In other words: is turnover more important than gross margin or the number of customers? This is a subjective appraisal, of course, but the MT is sure to have an opinion. In Table 3 we give an example of criteria and their assigned weight. It's handy if the total weight equals 100, but this is not strictly necessary.

Criterion	Weight
Sales volume	20
Gross margin	20
Customers	20
Orders	10
Traffic	5
Alternatives	10
Earn x Turn	10
Supplier	5
Total	*100*

Table 3. Criterion weighting

Now, we may decide that a product must reach at least 70 points to proceed with the phasing-in procedure. If the score is less than 40 points, we will not to introduce this product. And a score between 40 and 70 means that we will think it over again.

The next step is to decide when a criterion has been met. For example, if the estimated turnover is € 10,000 or more, the corresponding 20 points will be added to the total score. We can set the limit values in this way for each of the criteria.

As before in our real-life example, the MT of the snack distributor quickly agreed on the relative importance of the criteria given to them, and soon established the limits.

For our (fictional) example we show the result in Table 4.

Criterion	Weight	Limit
Sales volume	20	> £ 10k
Gross margin	20	> 20%
Customers	20	> 10/yr
Orders	10	> 50/yr
Traffic	5	Yes
Alternatives	10	< 10
Earn x Turn	10	> 90%
Supplier	5	Existing
Total	*100*	

Table 4. Limit thresholds per criterion

We must realise that these preliminary considerations are carried out before we even have any particular product in mind. We are only coming to that now. This is where we get to our 251st stapler. Or in our snack example, 'Meat ball variant nr. 81'. We are going to determine whether we should introduce this item.

For each of the pre-defined criteria, we consider how they would turn out in practice for this new product that we might want to introduce. We ask Sales / MT what sales volume they expect to achieve and what the gross margin would be. And whether there are customers for this product and how many orders they expect to get. The (expected) results are shown in the 4th column in Table 5.

Criterion	Weight	Limit	Expected
Sales volume	20	> £ 10k	£ 5k
Gross margin	20	> 20%	15%
Customers	20	> 10/yr	30
Orders	10	> 50/yr	45
Traffic	5	Yes	Yes
Alternatives	10	< 10	25
Earn x Turn	10	> 90%	60%
Supplier	5	Existing	New
Total	*100*		

Table 5. Limit thresholds and expected results

And now we come to the final step. We will calculate the total score for this proposed product. If the expectation according to Sales meets the limit value (as set beforehand!) the weight for this criterion is added to the score. The results are shown in column 5 in Table 6.

Criterion	Weight	Limit	Expected	Score
Sales volume	20	> £ 10k	£ 5k	0
Gross margin	20	> 20%	15%	0
Customers	20	> 10/yr	30	20
Orders	10	> 50/yr	45	0
Traffic	5	Yes	Yes	5
Alternatives	10	< 10	25	0
Earn x Turn	10	> 90%	60%	0
Supplier	5	Existing	New	0
Total	*100*			*25*

Table 6. Calculating the index score

For this particular product the index score works out at only 25 out of 100 points. That is far too low for a product introduction because we said that at least 70 points are required.

4. Summary

It is obvious from our discussion that there is a considerable amount of subjectivity involved in this ‘objective’ approach. The criteria, the weighting, the scores per criterion and the total score with the consequences of that total score are all subjective. But the important thing is to think carefully *before* actually phasing in a new product.

We can also use this approach to keep tabs on the existing range. If we calculate the actual results of the assortment index for an existing product and it doesn’t meet the target values to introduce a product, why should we keep it in the assortment? This led to staggering results for the snack distributor. During a first evaluation of their assortment of 10,000 items, 8,000 items scored less than 40 points. In other words: 80% of the range ought to be phased out immediately, according to the criteria and standards that the MT had drawn up themselves. This was not realistic, of course, but nevertheless a very interesting observation. After some further thought and modification of some of the limit values, the MT still found 3,000 articles that they wanted to phase-out immediately. A further consequence was that the number of product introductions decreased by as much as 75%! Definitely ‘time for reflection’.

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