



GETTING ABC CLASSIFICATIONS RIGHT

MORE INVOLVED THAN YOU THINK

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ABC Classification: It is one of the oldest, most reliable methods for catalogue or customer segmentation. It relies on the properties of the Pareto distribution and states that about 20% of a population will account for about 80% of the volume. ABC classification has entered popular language and is often referred to as the '80-20' rule. A quick Google search will yield many real – and many not-so-real – examples of the 80-20 rule explaining distributions in fields ranging from the natural to the sociological.

But for supply chains the 80-20 rule has definitely demonstrated its merit. In most contexts, about 80% of the sales volume is indeed from about 20% of the product catalogue. From this, the ABC classification arose and has been a staple of supply chain inventory management for over 30 years in applying segmentation strategies.

If a company is going to perform an ABC classification, the first, most basic question is 'why'? This question may be harder to answer than one might think. We asked supply chain planners from the same company how to manage their Stock Keeping Units (SKUs), i.e. whether an "A-SKU" should have more inventory or less inventory than the "B-" and "C-SKUs". About half said that A-SKUs should have *less inventory*, because they are so impactful to the stock levels. The other half felt that A-SKUs should have *more inventory* than the other SKUs, as they are most vital to revenue.

The right answer, we would argue, is that the A-SKUs return the highest value from attention in determining the appropriate target service level and required inventory and supply chain agility. Getting that message out and adopted by a broad, extended community of planners is in itself a managerial challenge. In multinational organizations it is not even evident which product catalogue should be used for the classification. Should it be done for each market, for each factory, or for both? In addition, different functional managers have different perspectives on what should constitute "the volume" basis. Should it be revenue, units, profit or something else altogether?

With these questions in mind, it is actually worthwhile to return to foundational ideas of something as basic as ABC Classification at a time when supply chain digitalization is getting everybody excited about Big Data, artificial intelligence and predictive analytics. They can serve as a reminder how even the most apparently simple concepts entail real implementation challenges. The challenges can be categorized as *data* challenges and *managerial* challenges.

Data challenges

In order to calculate an ABC classification, only two data are needed: the product catalogue and the volume of each SKU. However in each of these there are nuances that must be addressed. Starting with the product catalogue, many companies would prefer not to include SKUs that have just been launched or that are being discontinued. Including recently launched SKUs could overstate their weighting as the volume likely includes pipeline build, and including products close to discontinuation would needlessly dilute the importance of ongoing SKUs and render the ABC classification quickly obsolete when those products drop out of the offering.

The method for quickly identifying and excluding these SKUs is by means of a product lifecycle status indicator. We are in an age where the consumer has ever increasing expectations of customization and product renewal, which drive increased product churn. Maintaining accurate product lifecycles status is critical, but also a true data management challenge. Planners are often under staffed and have many operational responsibilities to attend to. It can be a tough to convince them to maintain this additional data field that has no apparent immediate benefits for them, when they already know well in their heads, which products are launching or discontinuing.

Once the right SKUs have been identified, the volume used to classify them can be the subject of much internal debate. Finance managers may prefer to use gross or net margin, arguing that the most critical element is not revenue, but margin. Another approach is to use direct product costs rather the cost of goods, with the reasoning that fixed costs would be spent in any case. This may sound trivial, but we have seen large, mature companies reject automated, APS-embedded ABC classification tools in favor of Excel for this reason.

In some industries, such as luxury goods, the promotional products supply chain plays a critical role in the distributional channel presence and customer expectation. It could be argued that these SKUs should be included as well. As these products do not generate revenue or margin, this further clouds the picture of which dataset to use.

Managerial challenges

Today, supply chains usually have multinational footprints, with a many-to-many supply chain configuration. A factory could service many markets, which could in turn be serviced by many factories. This reality leads companies to ask where the attention to A-SKUs is to be paid: upstream or downstream. This is critical for deciding which population of SKUs to use for the classification.

If one of the goals of the ABC classification is to identify the upstream bottlenecks, it can be argued that the classification should be done over the production catalogue of each factory. In other words, each individual factory would perform an ABC classification for its specific catalogue. The downside to this approach is that the ABC classification has distanced itself from its reflection of revenue importance. It can be difficult for the supply chain to justify additional flexibility (often in the form of component inventory) for SKUs not seen by the business actors as critical.

The temptation is then to look downstream and perform the ABC classification over the population of products sold in markets. This too has its downsides. If the ABC classification is performed in each market, the difference in product catalogues in each market make it possible that far greater than 20% of the total company catalogue be identified as A-class. It is also possible that some factories may find the majority (or almost none) of their products are A-class.

Simply complicated

The net effect of these considerations is that companies face a challenge in having end-to-end alignment on what constitutes a critical product that warrants investment in resources for greater reactivity, time in demand planning and definition of service expectation. Even if properly calculated, companies often have several competing ABC classifications.

The ever-increasing catalogue turnover and promotional intensity of products also means that, even if companies succeed in finding the right managerial level for the ABC classification, it is quickly obsolete and must be redone to maintain relevance. The wide range of potential catalogues makes it challenging for the ABC refresh to be an automatic process.

Some supply chains also look to identify a second dimension of product segmentation, often referred to as the XYZ classification. The objective is to identify the references that are more variable and thus more difficult to forecast. If a SKU is both an A-class and highly variable, the logic of this approach would be that it warrants more effort in demand planning and upstream agility. The XYZ classification can be a powerful tool for secondary segmentation, but only as a complement to the ABC classification with its inherent complexities.

Getting it Right

So, how do practitioners enact ABC classifications? We spoke to Jeremy Basckin, who has held senior supply chain positions at three major FMCG companies. Jeremy described the approach he has refined over time, one that addresses the issues we describe and may constitute a best practice as follows. He explained that his strategy was to develop a collaborative ABC classification for each region, bringing together the supply chain, commercial and marketing teams along with general management. Jeremy formalized the process around four criteria: volume in units, service/lead time, strategic importance and margin. The exercise was done at the market level, so when tallied up for each region, this usually led too far more than 20% of the catalogue being “A-class”. The regional general management would then arbitrate to lower the A class to 20% of the catalogue. Jeremy admits that this process is a bit heavy and manual, but with discipline and training the classification can be updated twice yearly.

For companies now facing the array of choices and opportunities that supply chain digitalization has to offer, this is a reminder that the underlying foundation of data rigor, discipline and aligned cross-functional priorities can be difficult to implement.

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