THE KEYSTONE GROUP
Atlanta ✦ Chicago

Middle Market Trends:

Too Much of a Good Thing

Managing SKU Proliferation for Distributors

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Executive Summary

Particularly for distributors, the constant pressure to carry a larger variety of products can be misleading. Adding new products can lead to new customers, increased sales and a higher switching cost for customers. However, a large portfolio can also add hidden cost and complexity to the business, creating narrower margins and reducing overall profitability. This is called *SKU proliferation*.

To diagnose and address SKU proliferation, The Keystone Group recommends a five-step process:

- Diagnose SKU proliferation
- Determine true profitability by SKU
- Separate the winners and losers
- Develop a strategy by SKU
- Successfully implement the strategy

The analytical process of developing and implementing a strategy by SKU is called *product rationalization*. Also known as product portfolio optimization, successful SKU rationalization results in an increase in profitability, decrease in working capital, and improvement in customer service levels. The overall complexity of running the business will drop as the portfolio becomes more streamlined.

Diagnosing SKU Proliferation

Recognizing Trends

The impacts of SKU proliferation can be felt across the company. An untamed product portfolio adds unnecessary complexity not only to inventory management and warehousing, but can also impact less obvious areas such as procurement and financial planning. The effects of this complexity is often not offset by improved profitability.

SKU proliferation can negatively impact commonly measured operational trends for a distributor. For example, a wider variety of products can reduce available space at distribution centers, or labor costs may begin to rise as more handling is required to move smaller order sizes.

Further, companies experiencing SKU proliferation often find that inventory turns have decreased over time. Although this can signify several alternative underlying business issues, when coupled with other inventory management issues, the culprit is easier to pinpoint. Potential indications include:

- Reduced batch sizes or increased lead times from vendors,
- Difficulty maintaining customer fill rates, or
- Large number of mature or slow-moving SKUs.

In parallel, some non-operating trends can signal SKU proliferation. For example, if a company is having increased difficulty creating reliable sales forecasts, an unwieldy product portfolio is likely the culprit when:

- A large majority of SKUs have been added in recent years,
- New product introductions are outpacing product retirements,
- The number of SKUs with very small volume has increased, or
- The ability to aggregate SKUs for demand planning purposes has diminished.

It is important to reiterate that several of the traits mentioned are interconnected, thus making it difficult to determine with certainty that SKU rationalization is a worthwhile opportunity. As such, a high-level analysis, as described in the next section, can help to confirm any suspicions.

Applying the Pareto Principle

Before diving into a detailed analysis, it is important to first verify that SKU rationalization is an opportunity to improve operations and increase the bottom line. To do so, the Pareto Principle, commonly known as the "80/20 rule," can be applied. The Pareto Principle states that roughly 80% of the outputs are driven by only 20% of the inputs. In the context of SKU proliferation, it is often the case that 20% of the SKUs drive 80% of the profit. Refer to Figure 1 below for an illustrative look at how an increasing SKU profile can quickly lead to diminishing returns.

In this client example, 8% of the products provided nearly 80% of gross margin, while 55% of SKUs (more than 2,500 in total) generated merely 1% of gross margin. The incremental costs of maintaining these SKUs – working capital investment, invoicing administration, material handling – likely erodes the overall gross margin for the company, revealing an opportunity to optimize the portfolio for better returns. Applying the Pareto Principle is a quick way to determine whether it is worthwhile to further analyze the opportunity.

Figure 1: Client Example for the Pareto Principle

Count of SKUs	% of SKUs	% of Sales	% of GM	% of Inventory $
71	1%	50%	52%	37%
400	8%	80%	79%	68%
768	16%	90%	90%	80%
2,205	45%	99%	99%	95%
4,917	100%	100%	100%	100%

Determining True Profitability

Allocating Proper Costs

The most common mistake in assessing product profitability is assuming that all costs are proportional to a single measure, such as percentage of sales, direct labor costs, or material costs. While this can work at a high-level, a detailed look at product costing is required before taking action. This involves ascertaining the *real* contribution that a product has on the business.

The best measure of product profitability involves accurately assigning operating costs and overhead to products at a granular level through activity-based costing. Also known as "full absorption costing," this method dictates that these costs should be allocated on a line-by-line basis according to the activity driver of each. For example, a more technical product should be assigned a higher engineering cost per unit than its simplified counterpart.

In a SKU rationalization effort, the allocation of each cost should be assessed at the SKU level. This can be done by asking, "What costs would go away if this product goes away?" It is worth noting that some companies are hesitant to complete this exercise because they do not want to fully implement activity-based costing due to resource or system constraints. However, a point-in-time assessment is often sufficient for this application.

Figure 2 below highlights the difference between traditional costing methods and activity-based costing. In the traditional costing method, overhead cost per unit is directly proportional to direct labor. Using this method, Product A and Product B have contribution margins of 19% and 38%, respectively. Activity-based costing, however, tells a different story.

Figure 2: Client Example for Activity-Based Costing

	Product A		Product B	
	Traditional	**Activity Based**	**Traditional**	**Activity Based**
Price per Unit	$ 8.0	$ 8.0	$ 15.0	$ 15.0
Direct Material	3.0	3.0	4.0	4.0
Direct Labor	1.0	1.0	1.5	1.5
Overhead	2.5	1.8	3.8	4.8
Gross Margin	1.5	2.2	5.7	4.7
Variable Operating Expenses		0.4		2.3
Contribution Margin	$ 1.5	$ 1.8	$ 5.7	$ 2.4
Contribution Margin (%)	**19%**	**23%**	**38%**	**16%**

Throughout this analysis, it is important to corroborate the results with business rationale. In most cases, a time horizon of one year is most representative of current performance. However, if the resulting numbers are not consistent with the original hypothesis, the data may not be accurately representing each SKU. For example, sales for new products may need to be annualized, seasonality may be impacting the decision, or perhaps a one-time cost should be excluded.

Additional Applications

The same methodology can be applied to a variety of sales categories such as customer, geography, or product group. In all cases, it is important to remember that each dollar of revenue does not contribute equally to net income. For example, some customers may be offered tiered pricing, some geographies may be more difficult to serve, or some product groups might require incremental service or support. As such, the same tools that are used to assess product profitability can and should be used for each of these analyses as well.

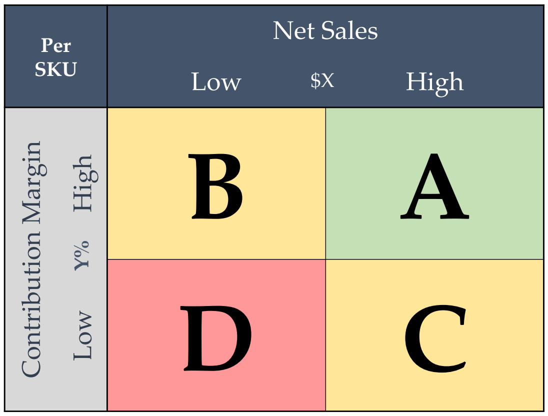
Rationalizing the Portfolio

Separating the Winners and Losers

While products are deemed to be either profitable or unprofitable at an individual level, the contribution generated by the product portfolio must be sufficient to cover fixed costs and still meet financial objectives. In most cases, each individual SKU can be held to the same standard, though there may be strategic reasons why it is not applicable in all cases, which will be addressed in the next section.

There are no hard and fast rules for determining that threshold. For its clients, Keystone creates a contribution margin threshold, which is a function of both margin percentage and product sales. Quick math suggests that margin percentage should be equal to fixed costs plus the desired profitability of the company (e.g., 5% fixed costs plus 3% desired profit = 8% threshold). For sales, an easy rule of thumb for the minimum sales per SKU is 5% of total sales. Figure 3 below illustrates this concept:

Figure 3: Product Rationalization Matrix



Per SKU	Net Sales		
Contribution Margin	Low	$X	High
High	B		A
Y%			
Low	D		C

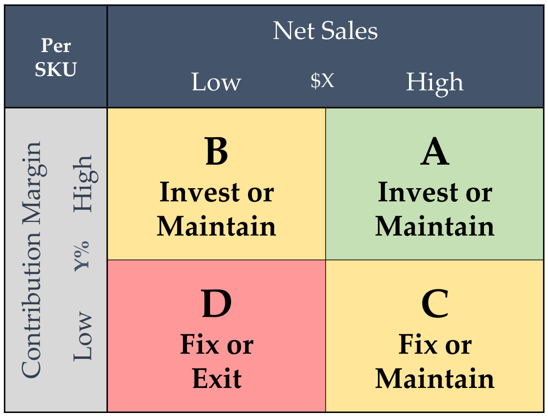
For clear communication, products can be given a rating of A, B, C or D. An "A" product meets both the sales and contribution thresholds. A "B" product meets the contribution threshold but does not generate adequate sales. Conversely, a "C" product meets the sales threshold but does not generate adequate margin. A "D" product is underperforming in both sales and margin. Assigning ratings can help to clarify which items should be prioritized for correction ("D" products should be first priority, followed by "C" products, and so on).

Creating a Strategy by SKU

With a clear assessment through the aforementioned tools, management can readily assign a strategy for each SKU. As this will be a cross-functional effort, it is important to communicate the objectives, rationale, approach and analysis results to the broader team. Agreement at each stage is critical in gaining agreement in strategy.

While products can be grouped by A, B, C, or D, each item should be reviewed individually. Common strategies include:

Figure 4: Product Rationalization Matrix with Strategies



Per SKU	Net Sales		
Contribution Margin	Low	$X	High
High	B Invest or Maintain		A Invest or Maintain
Y%			
Low	D Fix or Exit		C Fix or Maintain

- **Invest** – Assign resources to enhance sales while maintaining acceptable margins
- **Maintain** – Protect current sales and margin, maintain focus
- **Fix** – Assign resources to improve margin through changes in price, cost or product substitution
- **Exit** – If valuable, consider sale; if not, wind down resources

It is important to consider qualitative reasons when developing each strategy. Product bundling, utilization of excess capacity, role of a product as a loss leader, or intrinsic brand value may be more valuable than pure profitability or market share at the SKU level.

Implementing the Strategy

As with most improvement initiatives, developing the strategy is the easy part, relative to the execution. Implementation requires structure, attention and persistence. Though each individual may agree with the broad strategy, compliance can waiver when it comes to making specific changes in his or her own world. Frequent meetings and progress tracking are essential to maintaining the effort. In addition to a detailed implementation plan, tracking realized benefits confirms the impact of the team's hard work.

Communication is also critical to the success of the rationalization effort considering the scope of stakeholders, both internal and external, who will be impacted by the changes. A major strategic shift may require broader communication, while select price changes or product substitutions may require that extra attention be given to key customers. Internally, it is important that functional teams understand their role in the overall program. In any case, agreement on the overall message and points of emphasis ensures that each contact point is delivering a prepared and consistent message to the stakeholders.

For implementing specific product strategies, the procedure varies. Price changes or product discontinuations might be immediate, delayed or gradual for some predetermined period of time. Depending on the size of the operating loss, taking the time to find and offer substitutes may or may not make sense. Cost reduction often occurs over a longer period of time, as it might require a revised procurement strategy, process change for reduced labor cost, or change to product design.

When price is fixed and cost reduction is limited on a strategic product, alternatives exist to reduce the overall burden. The sales team can attempt to substitute or bundle the product with more profitable products. Minimum order sizes, longer lead times or reduced service levels can reduce the burden on the overall system. Sharing such challenges with the customer can often lead to a mutually beneficial solution and a stronger overall partnership.

Although this is a one-time event, opportunities exist to reduce the chance of future proliferation. For example, sales teams are often ill-equipped or poorly motivated to determine proper pricing on new business. Consider a few options to drive change in the sales organization:

- Provide a tool that shows costing by feature – such as product type, customer type, geography, or volume – that returns an acceptable price range,
- Institute an approval process for any pricing below some predetermined range, or
- Modify sales team compensation to better align with profitability goals

Similarly, process improvements can be made in other areas of the business. Documenting misalignment between activities and cost drivers can help to identify such opportunities.

When it comes to customer rationalization in particular, managers should identify what characteristics define an “ideal” customer and gear the sales strategy towards that market. These characteristics include revenue, product mix, cost to serve, order size, order frequency, among others.

Benefits of SKU Rationalization

Successful SKU rationalization results in an increase in profitability, decrease in working capital, and improvement in customer service levels. The overall complexity of running the business will drop as the portfolio becomes more streamlined.

If done correctly, this exercise can result in a shift in behavior across the company. The product management team, with a better understanding of cost structure, will procure products that make sense. The sales team, armed with new pricing tools and accurate costing, will be more focused on profitability than on growing the top line. Finally, the leadership team, with more confidence in the reporting accuracy, can make better decisions more quickly.

Building Profitability: A Case Study

A distributor of specialty residential and commercial building and surfaces products was experiencing the severe and sustained decline in the housing market, seeing a **significant decline in revenues** from a peak of $530 million down to just over $300 million.

The Company **engaged The Keystone Group** to perform a diagnostic assessment. During this effort, Keystone identified production rationalization as a profit improvement initiative.

With Keystone’s help, the Company **realized a 37.8% EBITDA improvement**. The key drivers included:

- Discontinued 17% of products,
- Increased pricing on 8% of products,
- Moved 60% of unprofitable customers to low cost-to-serve model,
- Enforced minimum delivery quantity,
- Implemented productivity improvements that drove a 15% headcount reduction, and
- Developed a Key Account Management program to retain and grow share of spend.

For more information or to discuss how to successfully assess product rationalization opportunities at your firm, please contact Amar Shah at (404) 467-6170 or ashah@thekeystonegroup.com.

The Keystone Group is a results-oriented management consulting firm. Our small, experienced teams work with manufacturing and distribution clients to develop and execute strategy, improve operations, restructure finances, and integrate acquisitions. Our mission is to make a substantive difference in the companies we work with and the lives of the people that work for them. For nearly twenty-five years, we have been building long-term relationships with our clients by helping them identify and implement solutions to their most complex business issues.

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