SKU Rationalization for Improved Return on Assets

If your company is like most consumer goods companies, you probably have 20% to 30% of current assets in inventory. Unfortunately, because the deployment of the inventory asset is not usually optimized, this inventory is tying up cash, thereby driving down your Return on Total Assets (ROTA).

To ensure that your inventory investment **maximizes** ROTA, your Stock Keeping Units (SKUs) must contribute to profitability. At Dechert-Hampe & Company (DHC) we use an SKU rationalization process that has proven to be one of the best methods by which to evaluate your SKUs in terms of profitability. **SKU Rationalization** is an operations-based examination of the cost and profit contributions of individual items in the SKU base. It is a process by which a manufacturer's goals, metrics, profitability and product strategies are regularly evaluated against the items it sells.

Justification for SKU Rationalization

Because SKU Rationalization focuses your entire organization on the demonstrated SKU winners in your offering, efficiency and profitability are generally maximized when a solid SKU Rationalization process is put in place.

Chart 1 is a profit-by-SKU analysis for a leading national brand in its category. The data indicates that 5% of the SKU base is generating 49% of the gross profit dollars, while the bottom 80% of the SKU base generates only 13% of the profit dollars. This may appear to be a slight exaggeration of the Pareto principle, but it is fairly typical of most consumer goods companies.

Chart 1: A TYPICAL MANUFACTURER'S PROFIT-BY-SKU ANALYSIS

Description	Percent of SKU Base			Totals
	5%	15%	80%	
SKU Count	33	98	488	619
Sales Dollars ($MM) Percent Sales Dollars	$556 49%	$449 39%	$141 12%	$1,146 100%
Gross Profit ($MM) Gross Margin	$136 49%	$108 38%	$36 13%	$280 100%
Production (MM Cases) Percent of Cases	16.3 55%	10.4 35%	3.1 10%	29.8 100%

SOURCE: DHC Analysis

This profit-by-SKU analysis may make cost accountants nervous, because the indirect costs are allocated on a SKU-specific basis. In many client operations, we have found that the typical allocation of indirect costs will only make the above situation worse. Standard cost systems will normally force an allocation of activity costs, driven by low volume items, into high volume items within your SKU base. Therefore, profits of high volume items are understated while the profit of low volume items is overstated.

Because the impact of a full-scale SKU Rationalization process will be felt both inside and outside your business, your own numbers can provide plenty of justification for a SKU Rationalization project. The benefits of this process are improved profit, reduced complexity, and a positive impact on the prosperity of your SKU base.

The Cross-Functional Team

Proponents of SKU Rationalization have said that it is a process, not a project or an event. It should simply be a part of the corporate culture to examine your SKU base from a cross-functional standpoint on a regular basis. Of course, if you are performing the SKU Rationalization process for the first time, the best approach may be to view it as a project, with the establishment of a cross-functional team as the first step.

Sales, manufacturing, marketing, control and logistics all have an interest in the direction in which the SKU base is going, and therefore will all have a place on the team. Only by working together may each individual group realize the benefits of SKU Rationalization. Good team practices, such as management sponsorship, team leadership, appropriate team membership, and clearly communicated objectives and time frames, should be in place. This cross-functional team will eventually develop a unique database of SKU-level metrics for analyzing the product line.

For the team to be effective, the following roles need to be filled:

- **Control** – to evaluate standard costs, allocated home office and factory costs, gross profit by SKU and margin
- **Logistics** – to evaluate inventory and inventory carrying costs, distribution metrics and order entry metrics
- **Operations** – to evaluate indirect factory costs
- **Marketing** – to evaluate new product initiatives, brand positioning and strategy
- **Sales** – to evaluate existing distribution and competitive position

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The DHC SKU Rationalization Process

Step 1: Establish the SKU Database – Most companies' databases are already set up with reference to the item number. Standard costs and margins, order processing, inventory, sales and marketing all start with the SKU or item number. These are just a few examples of the information that is necessary to support SKU analysis.

Chart 2 illustrates a typical "slice" of what might be seen in the initial SKU database for every SKU in the system. Additional information such as manufacturing metrics (e.g., process levels, make vs. buy indicators) or distribution metrics (e.g., introduction date) may be added, and estimates may need to be made.

Chart 2: **INITIAL SKU DATABASE**

Item #	Brand	Avg Invt ($M)	Price	Std Cost	# of Orders	Demand (M Units)	# of Customers	Activity Cost ($M)	Prod Runs
A1004	Xyz	$371	$18.00	$12.72	13,107	914	896	$378	38

SOURCE: DHC Analysis

Step 2: Estimate Activity Costs – As the SKU data is assembled and the groupings begin to emerge, the team must begin to examine activity costs. Many cost centers of a typical operation are driven by the SKU base. As a general rule, complexity equals cost, and SKUs increase complexity. Chart 3 is an example of data that must be developed to analyze activity costs.

Chart 3: **DATA NEEDED TO ANALYZE ACTIVITY COSTS**

Carrying Cost %	15%
Cost per Order	$ 10
Lines per Order	16
Cost per SKU per Order	$0.625

SOURCE: DHC Analysis

The team must now estimate the activity costs driven by the SKU base in each functional department. For instance, because the cost basis of the various business support groups is highly influenced by the SKU base, it is vital to have a finance-based member on the cross-functional team. Chart 4 below illustrates the level of activity driven by SKUs as estimated by department managers of a major manufacturing operation. Depending on the starting point, this information could change as more accurate data becomes available over time.

Chart 4: **SKU-DRIVEN ACTIVITY COSTS BY DEPARTMENT**

Other Cost Areas	SKU Driven Costs ($MM)	% of Total Department Costs
Sales	$13.7	50%
Marketing	$2.7	15%
Finance/Ops. Management	$6.0	12%
Info. Services	$4.6	15%
Research	$8.5	35%
Engineering	$6.0	35%
Corporate Services	$5.8	50%
Logistics	$12.1	75%

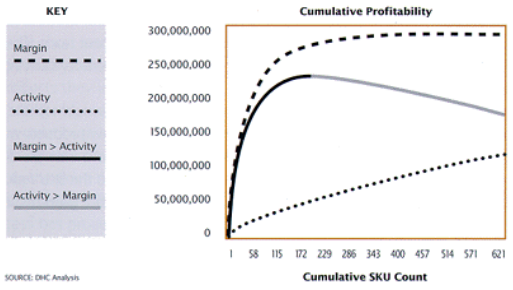
SOURCE: DHC Analysis

Most companies have a good handle on the direct costs associated with the SKU base; since standard cost systems do an adequate job of estimating unit costs for the purposes of pricing. However, the same may not be true for activity costs and for the hidden

costs of SKUs. In most standard cost systems, these indirect costs are allocated based on hours, units, or direct labor costs. This is inaccurate at the SKU level, and makes decisions based on SKU-level margins and costs difficult. These costs can be significant and should not be overlooked as the team models the overall cost/profit structure.

Step 3: Load and Apply the Tool Kit – The SKU Rationalization process developed at DHC includes a simple tool kit to help manufacturers with their evaluations after the first two steps of the process are completed. The high level data is entered into an Excel-based computerized model that maps the cost-benefit relationship. Chart 5 illustrates an example of the output using the DHC Tool Kit.

Chart 5: **A LEADING MANUFACTURER'S SKUs USING THE DHC TOOL KIT**



Gross profit is loaded into the model by SKU. The black dashed line represents incremental profitability by SKU. As is often seen, total profitability flattens out significantly with the last 60% of the SKU base. The solid black/gray line indicates the break-even point between SKUs which more than offset their activity costs with gross profit. In this case, around 200 of the 621 SKUs offset their activity costs and positively contribute to overall profit. The black dotted line indicates the activity costs per SKU as estimated for the business by the team.

This model now becomes the basis for SKU review and rationalization. As is often the case, business strategy may require the support of SKUs that do not offset their activity costs. Category management, item optimization, new product introduction, and other factors of the marketplace may require loss leaders to maintain and justify an assortment. However, fully two-thirds of the SKUs for the manufacturer in this case study do not offset their activity costs. Clearly, there is a significant opportunity to reevaluate the SKU base in regard to its impact on profits/operations.

Step 4: Establish Hurdles – The setting of hurdle rates for key cost drivers of the business is an important component of the DHC SKU Rationalization process, and will therefore involve the entire cross-functional team. In this way, the business may establish goals for the SKU bases such as gross profit dollars, margin percent, sales dollars, manufacturing capacity, turns, etc. Generally speaking, the team will choose multiple hurdles against which to test the SKU base.

Executive management must accept, modify, and ultimately endorse the hurdles as recommended by the team. This puts the goals of the business into the forefront of the SKU Rationalization process. If these hurdles are not met by a particular SKU, the rationalization team will need to review it. New products are excluded from the rationalization process until they have been established in the market. They will normally have their own hurdles, via the new product development process, that evaluate their worthiness to launch.

Step 5: Execution of the Rationalization – Finally, the rationalization is applied to the business. The execution of the SKU Rationalization plan will involve the whole organization. Sales and marketing need to maintain retail shelf space; control needs to pursue activity cost details; manufacturing needs to produce the remaining SKU base in a more efficient manner; and logistics has to manage the inventory of eliminated SKUs.

The data and tools presented above must be evaluated against all the objectives of the business. SKUs will be defended, hurdles challenged, business metrics applied, and senior management tested in its support for the SKU Rationalization process. If actions are taken against the SKU base, reduction in activity costs must follow.

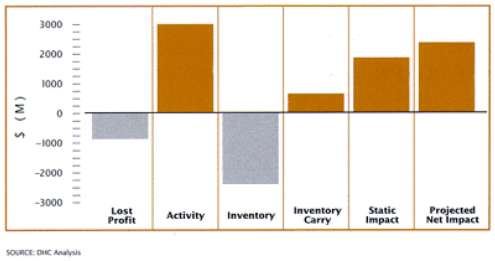
Impact of the SKU Rationalization Process

SKU Rationalization may be applied to a distribution or manufacturing operation. Chart 6 shows the results of an SKU Rationalization study completed for a typical client. Over 2,500 SKUs were examined, and over 25% did not meet the hurdles set by the management team. The projected lost profits are more than offset by a reduction in both activity cost

and inventory carrying cost for an estimated static impact gain of over $1,800,000.

The true dynamic situation that the team would put in place would include sales programs to replace lost SKUs at the account level and/or introducing planned new products without added expense. The replacement SKUs will provide a higher average gross profit than the deleted SKUs. In this case, the team estimated that 50% of the projected sales lost due to the SKU reduction would be replaced via their programs. Therefore, the projected net impact goes to a **gain** of $2,200,000.

Chart 6: NET IMPACT OF RECOMMENDATION



SOURCE: DHC Analysis

Conclusions on SKU Rationalization

The DHC SKU Rationalization process focuses your organization on the demonstrated SKU winners in your offering. The efficiency and profitability of a manufacturer are maximized when an SKU Rationalization process is put in place, justifying its importance as a regular review process.

World-class operations implement this SKU Rationalization process concurrently with a market-oriented, retail-driven item optimization program in an integrated marketplace management approach. Although they may be applied separately and still improve your business, together they represent the paradigm shift many organizations seek.