

Success through Moderation – How a Product Division Becomes Successful Once Again During the Sales Crisis

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The first signs of an emerging sales crisis in 2008 triggered Baldwin's management to take a closer look at their FTS (Fluid and Temperature Systems) product division. One product family in particular appeared to not deliver the desired contribution to operating income. Additional options of product improvements were therefore considered in order to increase revenue. At the same time, the decision to shift part of the production to Asia was made with the intention of being present in growth markets and possibly reduce production costs. However, the last product revision with regards to modularity and interfaces was performed to be a fit for the German production and therefore, not suitable for production and logistical requirements after the relocation to China. As a result, Baldwin searched for help and support and found it in Schuh & Company.

Clarify the Basics First – Is Proceeding Worthwhile?

One fundamental question needed an answer first: Does it even make sense to continue offering the product line? To come to a conclusion, the current and so far less successful product concept was reviewed with regards to its coverage of all market requirements. It turned out that the product was actually planned relatively well and the available variants fit the market demands. A more thorough analysis of the product architecture however revealed that the product architecture did not

match the market requirements and was not suitable for the planned production in Asia (Fig. 1). Together with members of product management, technology, production and purchasing, different solution scenarios were developed and evaluated with regards to their effects on costs. A shift of production to Asia was shown to produce a slight improvement of the cost situation, but only an additional product revision with adjustments of the architecture and construction to fit the requirements of production and purchasing in Asia would help the product yield desired profits.

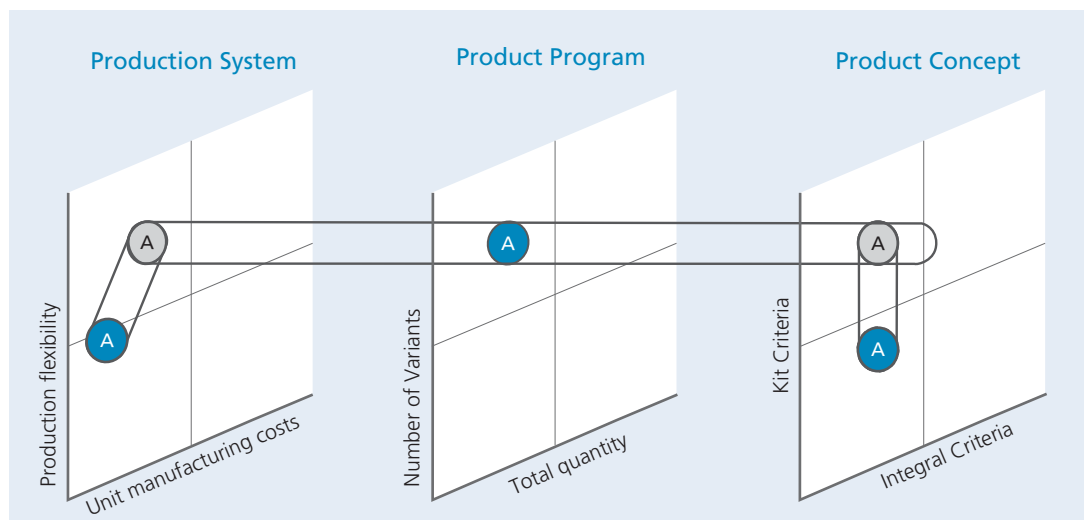


Figure 1: Program, Product and Production Have to Fit Together

The necessary capacity in the development department for this unplanned re-design had to be produced. The creation of additional capacity was out of the question so that the available development capacities had to be re-assigned. It quickly became clear that this could not work without the elimination of some of the currently offered product variants.

Parting from Products – Painful but Necessary

Consequently, the first step was to put the complete assortment of the product division to the test. As most of the time is the case, the overhead calculation pointed towards customer specific products with attractive margins. It was clear to everyone that the numbers did not correspond to reality. How the overhead costs could be split cause-fair amongst the products, however, was unknown. Together with members of development, construction, production, purchase, service and spare-parts service the generated expenditures of individual products were observed in more detail. Besides expenditures created by the development department, direct costs like complaints and rework were also explicitly assigned to each product.

A clear picture about the real contribution to operating income of every product was created step by step. During the initial overhead cost calculation, the standardized products with larger lot sizes did not look as badly as before, but the customer specific products considerably lost their appeal. As it turned out, some of the customer specific products were real profit killers that consumed large development efforts which had high warranty costs (Fig. 2).

As a result, a product evaluation checklist was developed considering purely economic aspects. Together with sales, product management and management this list was evaluated and adopted with regard to practicability and strategic feasibility. Of course, not all suggested products could be eliminated; however, approximately a fifth of the products offered at that time were eventually dropped.

Cancelling the products freed up the necessary capacities in development rapidly. At the same time, the resulting 10% turnover reduction called for process adjustments. Without an adjustment, the product line revenue would deteriorate dramatically. Through the resource adjustment, short-term revenues were improved (Fig. 3).

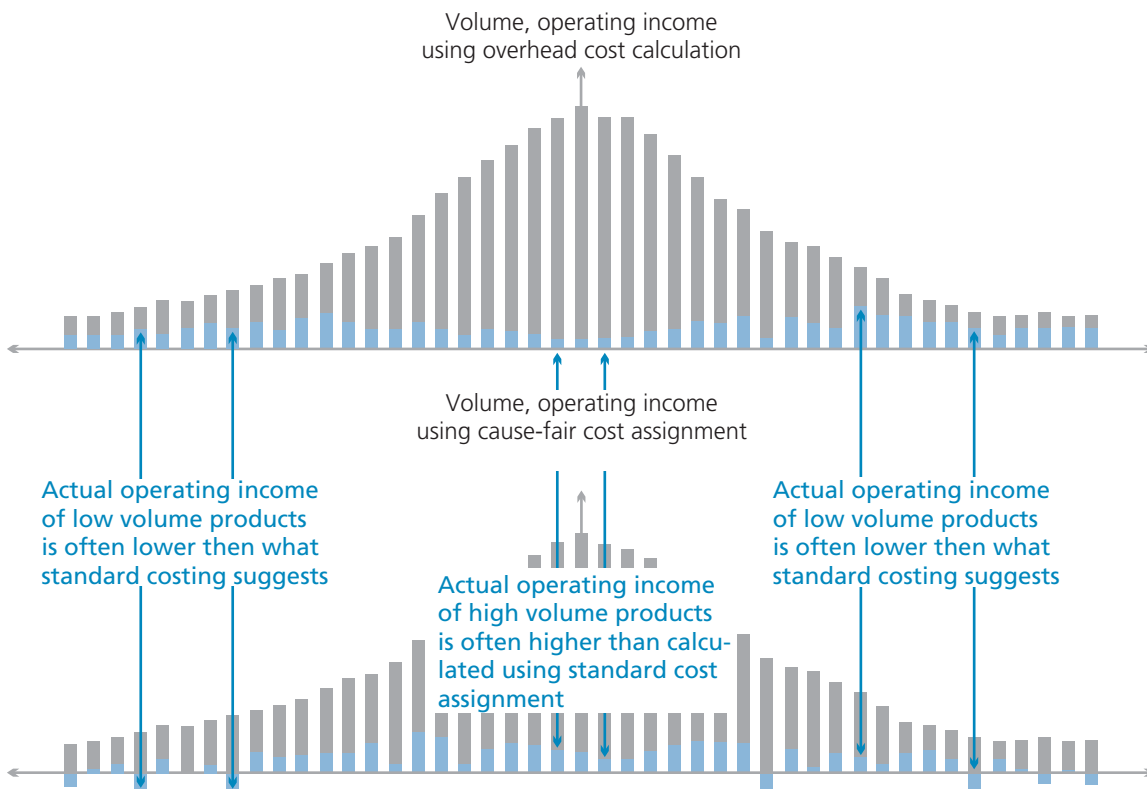


Figure 2: The cause-fair allocation of operating income and cost displays a different picture of product variety

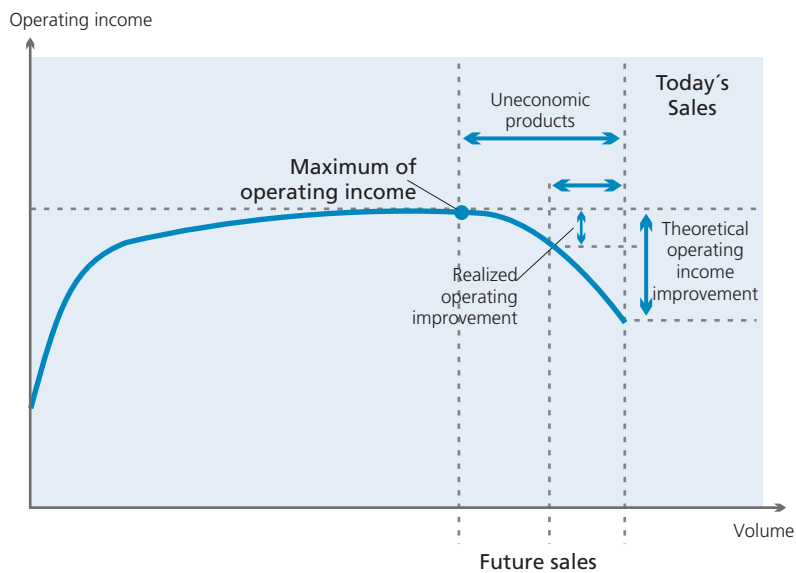


Figure 3: Improvement of operating income through targeted elimination of products and corresponding resource adjustments

With the resources that were made available in development, the topics of a new product architecture and cost optimization were tackled. Based on the initial analysis, it was already known that the market did not demand a high variance for the two high-volume products within the product range. At the same time, these items were facing extreme price erosion. The previous product architecture was designed to serve the different performance and equipment classes out of a „kit“ in a flexible and scalable manner. Likewise, the development and production efforts for the variants should be kept to a minimum. If these are the two target values, then the current product architecture was executed appropriately. On the other hand, the kit concept did not realize the aspired financial economies of scale in a satisfying scope to achieve satisfactory profits. It was proven yet again that modular kits only make sense when extreme cost or performance requirements apply to a large part of the product line (Fig. 4).

For the development team, which had been committed to the development of kits for years, challenging the previous product architecture generated uncertainty. This behavior was understandable and not Baldwin specific. Human nature dictates that a first reaction will be to prove that the new suggestion will not work. A surge of technical obstacles and the predicted rejection by the customer are thrown in front of the “rebel”. Therefore,

it is crucial to communicate the need for change before the start of loathed developments and gain acceptance of the new development objective to win with a „simple and cost-effective solution“. This understanding was also shared by management, project management and the development manager. Thus, a one-day workshop was held with all developers and designers of the business area. On the one hand, the aim of the workshop was to declare the product strategy for the product division. On the other hand, the decision and the potential of manufacturing a large part of the standardized products in Asia in the future was emphasized as well. Before the workshop it was already certain that a development project to reduce the production costs should be started soon. Together with this knowledge and the background of the event, it was necessary to build onto this momentum and carry it through the development phase. The development kick-off involved all parties to promote team building and equip everyone with consistent information right from the start. At the same time, the goals and requirements were once again discussed, analyzed and substantiated. First, creative ideas for a solution were developed. Since requirements are decisive for the product architecture design and the component development, they were also an imperative part in reaching the set target costs.

Wanting to develop an acceptable yet inexpensive product, everything has to be questioned, covering fundamentals as well as small refinements. To stimulate creativity without remaining too abstract, similar products from other industries were examined. Thought provoking questions such as “Does the ventilation grill of a water treatment device for the printing industry have to be designed to be more complex than one for the food industry?” or “Is a rivet nut a must for the screw connection of a lid, or does a nut with two weld points suffice?” were asked. If the product were to be sourced locally later on, the question may not even arise since no cost advantage would materialize when using a simpler solution. However, since manufacturing and sourcing is taking place in Asia such details can make or break the plan. Today only a limited number of subcontractors master this area of industrial engineering. The crucial point in attaining the target costs and with that the continuation of the product, was to take a step back at the right time and to find a new balance between customer benefit and costs. On the one hand the functionality and reliability have to remain high; on the other hand the construction has to become simpler. From the beginning it was obvious, that it takes some time to rethink the

Economic objective	Measures	Reasonable product architecture
Little development efforts to generate variants	<ul style="list-style-type: none"> ▪ Increase of re-use ▪ Shifting of customization ▪ Sourcing 	<ul style="list-style-type: none"> ▪ Modular product architecture ▪ High degree of modularity
Low product costs for medium and high volume units	<ul style="list-style-type: none"> ▪ Interlinking of sub-systems/integration ▪ Product specifications at optimal costs ▪ Standardization of key components 	<ul style="list-style-type: none"> ▪ Modular product architecture ▪ Low degree of modularity
High performance Or minimal price with low variety	<ul style="list-style-type: none"> ▪ Focus on performance limiting components ▪ Focus on system optimization ▪ Sequential product design process 	<ul style="list-style-type: none"> ▪ Integrated product architecture
Short development time for variety development	<ul style="list-style-type: none"> ▪ Increase of re-use of sub-systems ▪ Early interface definition ▪ Focus on the development process 	<ul style="list-style-type: none"> ▪ Modular product architecture ▪ High level of modularity

Figure 4: Generic product architecture in related to development tasks

past approach, especially if it has been practiced in such a way for the past 20 years. At the same time everyone internalized that the development was only successful if the product fulfills the customer requirements, operates reliably and achieved all cost goals. The change and development process was initiated and would continue for some additional months. In the end, this process helped Baldwin to be one step ahead of the competition, which might have taken the necessary actions just a tad too late. However, Baldwin was able to find new perspectives for its success and rid itself of inefficiencies.

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