Nanyang Business School
NTU 南洋 NBS

Case Report

Olympus Optical Company, Ltd. (A)

Cost management for Short Life-Cycle Products

B6012 Managerial Accounting

(Group 1)

AP Chung Lai Hong

AP Patricia Tan

By: Chen Mei
Zhang Qi
Gabriel Rüeck

1. Evaluate Olympus' current strategy.

Olympus' current strategy is three-fold:

1) **Recapture market share by introducing new products.** This is implemented mainly through Olympus' extensive product planning process whereby enormous information regarding future mix of business, current and new technological development, business environment analysis, export, domestic market and industry statistics, consumer preferences, future lifestyle change, and competitive analysis is gathered, reviewed and incorporated.

2) **Improve product quality.** Olympus' quality improvement program focuses on both the introduction of new products and the manufacturing process in general. This strategy is intertwined with the other two strategies in that high product quality enhances customers' trust and confidence in Olympus' products, hence helping it recapture market share. At the same time, improved product quality enables it to reduce production costs through decreased disruptions to the production flow.

3) **Reducing production costs.** Olympus adopts and implements a comprehensive and aggressive cost-reduction program. Its target costing system enables it to design high-quality products at low cost; it employs multiple programs to reduce unnecessary expenditures in production costs, costs of defects, capacity utilization costs and overhead expenses; it improves on product engineering to shorten production lead time and decrease inventory; it applies innovative production technology to optimize manufacturing processes; it shifts some manufacturing activities overseas to further reduce materials, labour and other costs; last but not least, it divides production process into autonomous groups and holds these groups responsible for their cost and profitability.

It can be seen that in implementing its current strategy, Olympus employs both Cost Leadership and Differentiation in competitive strategy. **Cost leadership** is evident in Olympus' aggressive implementation of various cost-reduction programs as mentioned above. By being a cost leader, Olympus can outperform competitors by making sustainable profits at lower price, thereby limiting the growth of competition in the industry and undermining the profitability of competitors. From the fact that Olympus initiates technological innovation in the manufacturing process and achieves labour saving from overseas production, we can also tell that it is pursuing cost leadership on the route to competitive productivity.

However, cost leadership strategy has a potential weakness that is the tendency to cut costs in a way that undermines demand for the product by deleting key features. This potential problem is implicit in Olympus' product design process whereby in situations when the estimated cost is more than the target cost, and when the price point could not be increased sufficiently, Olympus' research and development group would explore possibilities of reducing the functionality of the product. Their R&D staff has to be very careful in deciding what product functionality to reduce in order to decrease its estimated cost to produce. They have to make sure that no key product features are deleted that would compromise the product's quality and functionality and undermine customers' demand for it.

Differentiation, on the other hand, is a very different strategy, and can be seen from Olympus' expressed aim and demonstrated efforts to product the highest-quality products in the industry. Products of highest quality help create a unique and positive perception among consumers which in turn would allow Olympus to charge higher prices and outperform the competition in terms of profits.

A possible weakness of this differentiation strategy is Olympus' tendency to undermine its strength in quality by aggressively attempting to lower costs or by ignoring the necessity to

have a continual marketing plan to reinforce the perceived difference. Thus, when making decisions as to reducing the number of parts in each unit, or eliminating expensive, labor-intensive, and mechanical adjustment process, or replacing metal and glass components with cheaper plastic ones, Olympus has to seriously consider whether these efforts to reduce costs would result in a lower quality product and affect customers' perception about the differentiated product. If consumers believe that the perceived difference is not significant, rival products will start to appear more attractive.

Although both cost leadership and differentiation are viable strategies which may lead to firm success if adopted properly and implemented effectively, it should be noted that a firm following both strategies is likely to succeed only if it achieves one of them significantly. In other words, Olympus should try to avoid the situation of "getting stuck in the middle" as described by Michael Porter. SLR cameras, being targeted at the high-end professional photographic market, should follow a differentiation strategy through continuous innovation and enhancement in product features and functionality. Compact cameras, on the other hand, should take on cost leadership as a dominant strategy and try to sustain cost advantage through strenuous and continuous efforts in cost reduction.

2. Shift of the responsibility of product planning from R&D to marketing

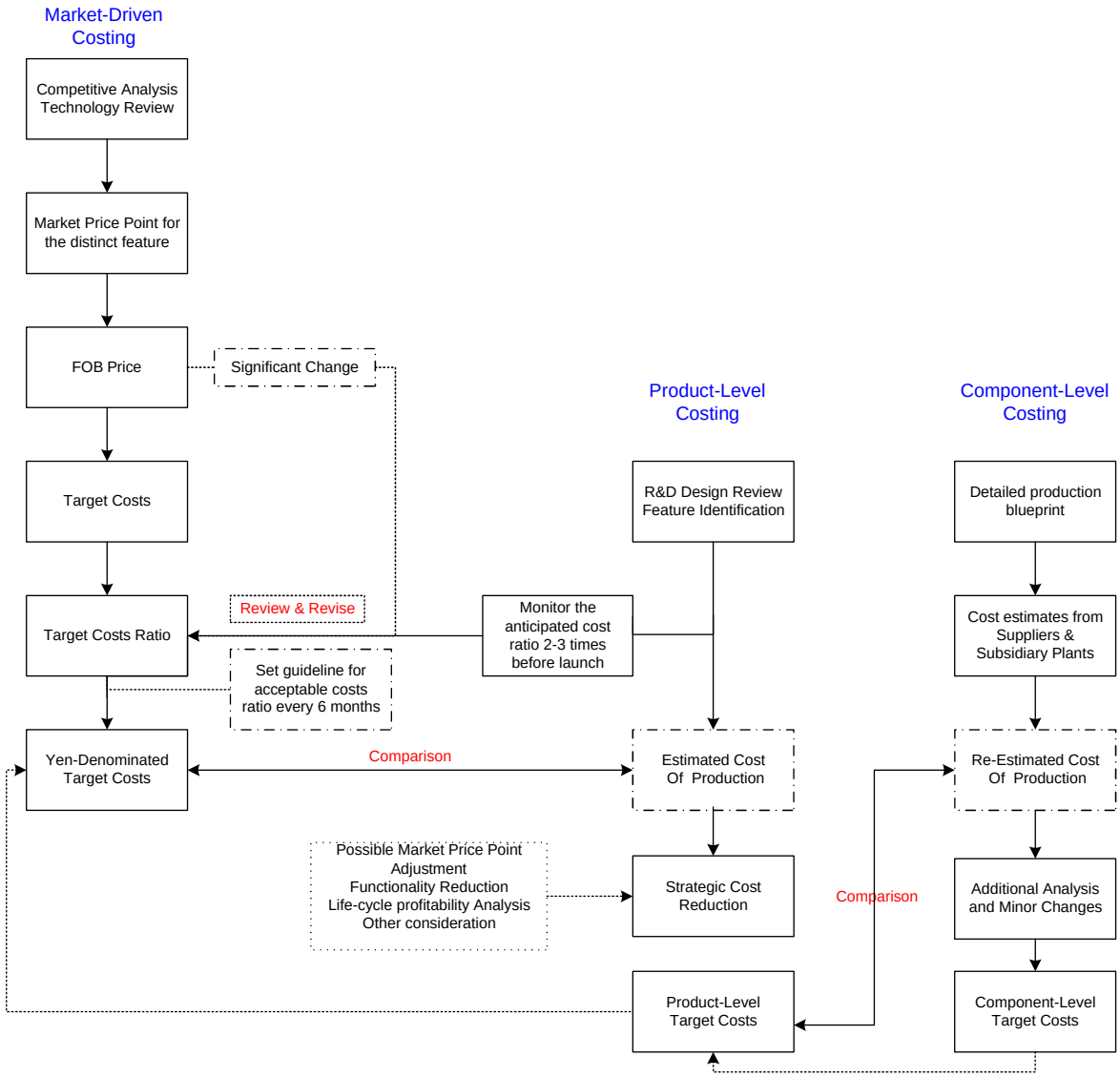
Prior to 1987, product planning function was part of Research and Development in Olympus. The company later shifted the responsibility of product planning to sales and marketing, based on the following rationales:

- The purpose of the product plan review was to balance the demands of a consumer-oriented market with the realities of research and development and production. In this sense, knowing the market situation and market demand is the foundation of the entire product planning process.

- Generally speaking, R&D staff is more inward-looking and product-oriented, whereas marketing people are more customer-oriented and tend to take an external perspective in doing things. Since market and customer information is so important in Olympus' product planning process, it's better for marketing people to take on this task.
- As part of Olympus' product planning process, tremendous information has to be collected, reviewed and analysed. Majority of the information, such as changes in the business environment, distribution channels, export, domestic market and industry statistics, consumer preferences, lifestyle trends, consumers and dealers' reactions, feedback on industry trends, and competitive information, come from external sources. Marketing people are usually more capable and competent in gathering and interpreting this information.
- Being more customer-oriented, marketing people are more motivated to speed up the pace of new product introduction, thus allowing the firm to react in a timely fashion to changes in the competitive environment and meet the needs of consumer-oriented market. It also enables the firm to gain competitive edge by adopting innovative technologies and adding differentiating features to the company's products which meet and even exceed the needs of customers.
- Last but not least, marketing staff, by knowing the market and consumers better, can identify different clusters of consumer preference and advice the company to profitably produce and market cameras designed specifically for those clusters. In this way, the acceptance level and potential profitability of the new products are largely enhanced.

3. The Firm's Target Costing System

Figure 3—1: Illustration of the Target Costing System



From the illustrated process of Olympus' target costing system; we can make reasonable judgment that the system is quite effective in controlling costs and implementing the cost-leadership strategy. In the system, design analysis and other additional analysis are used to reduce product cost by analysing the trade-offs between product functionality and total product cost. Review and revision are carried out throughout the process. Moreover, the continuous improvement and operational control are also used to further reduce costs.

However, the functionality reduction during the process will adversely affect the differentiation strategy as what we mentioned earlier.

4. Cost System

The cost system at Olympus' Tatsuno plant evolved in three major stages. In the first stage, which was prior to 1976, some material costs were traced directly to the product, but all other costs were allocated. This was a suitable approach because the differences in the cost structure of the various products were perceived to be small. The allocated costs constituted of processing and overhead costs. In 1977, the overhead costs were split up further into *procurement costs* and *other costs*. This was done because procurements costs for the required material had grown substantially over the time. The procurement costs were allocated to the products on basis of the required material charge plus the allocated processing costs. Furthermore, costs of defect products were isolated from the standard costs in order to highlight the importance of quality. The remaining costs were allocated to the production and procurement sections based on headcount.

In 1983, major changes to the cost system were done in order to improve control over production, support and administration costs. *Multiple allocation rates* were introduced and computed for processing costs and the production process was split into 10 different cost centres with different allocation rates. The single procurement rate that had existed so far was split up into a procurement rate for OEM suppliers (which provided whole sub-systems) and general suppliers in order to trace the differences in prices for OEM products and in-house production. Other costs which had previously been allocated to production and procurement were now part of support and administration costs.

The development of Olympus' cost system from 1977 onwards complemented the target cost system. In a first step, before actually developing a product, the target system set the overall

production costs for one product that had to be achieved. Already in the design phase of the new product, Olympus' cost system then performed the step of *value engineering* and *functional analysis* to identify the value of various features that could eventually be realized in new products if the resulting increase in revenue was higher than the costs of these features. While the target costs may not have been met right at the start of the production, there was a breakeven point typically after three months of the start of production. This approach whereby the total costs over the entire economic lifetime of the product are considered rather than the current production costs is called *life-cycle costing*. During the production phase of a product, the costs of production were carefully monitored, and in the course of production, these costs usually decline due to better skills of the workforce or better production processes which result in higher yields and better efficiency. After six months then, the target costs for the product were adjusted (lowered) so that savings by better processes, a reduced number of components, etc. were taken into account. This adjustment then started another six month cycle. The constant drive for lower production costs like it was done at Olympus is called *kaizen target costing*.

Olympus developed cost system also enables the firm to decide whether certain sub-systems should be produced in-house or be outsourced or whether the purchasing of components or other associated costs is reasonable. A detailed insight into the costs that different departments cause for one product also allowed Olympus to monitor these costs closely and to provide incentives to the respective department managers to reduce these costs and to improve processes in their departments. It allowed the firm to compute the exact costs for one product, including the required R&D, purchasing, sales costs so that the profitability of a product could be computed exactly. If the cost systems had not been in place, it would have been impossible to estimate which product was profitable and which product was not profitable.

5. Literature

Blocher, E.J. et al., “Cost Management”, McGraw-Hill Irwin, Boston (USA), 2nd edition, 2002.