The environment in which retailers, wholesalers, and manufacturers do business today is changing rapidly. Competitive trading areas have widened. Store formats continually evolve. Traditional marketing techniques have led towards targeting against specific niches (bringing along a new array of products). The consumer is ever changing—there are fewer traditional households than ever before, and technology and technological developments have provided the means for more productive manufacturing, distribution and analysis. This changing environment creates huge opportunities for proactive companies to gain an advantage by anticipating and helping to change the future.

In the past, any company could be assured reasonable success by concentrating on the quality of its products and its marketing skills. Today, however, a company must have a much broader perspective—one which we at P&G call Total Systems Efficiency. This entails working within the entire grocery and mass marketing distribution and manufacturing system to reduce costs today and to shape a more efficient system tomorrow. For the manufacturer this leads to becoming a lower cost producer of quality goods and services.

For the retailer, a total system approach helps identify the true costs of operation, which, if reduced, can lead to competitive advantages. This total system approach focuses on everything that happens to a consumer product, from the purchase of raw materials to the point where consumers purchase the product at a retail outlet. Total systems efficiency attempts to minimize the cost of handling product in all of these cost centers.

Total system efficiency is not a single focus, but a broad view of product management that includes computerized shelf management, computer-to-computer ordering, scanning analysis, and—what we will talk about today—direct product profitability and its effect on:

- Innovative Packaging,
- Preassembled Displays,
- Tray Packed Cases, etc.,

and the

- Physical Distribution System.
DPP and the Physical Distribution System

As you know by now, DPP assigns the actual handling costs to each product, as it goes through the physical distribution system. The physical distribution system is a series of cost centers surrounding the handling of products and the DPP model attempts to identify the costs in each center.

Let’s look at the warehouse in more detail. The flow of product in the warehouse begins upon receiving the order from the supplier, continues to slotting the product—to selecting orders—to loading outgoing trucks. Manufacturers can affect the handling of their products in this portion of the distribution system by changing cube, pack count, or shipment methods (back haul or drop ships to store door).

After the warehouse, product must be transported to the retail outlets. As we look at the flow of product at the retail level, we see that there are costs in receiving product; sorting, loading, moving the product to the aisle; and pricing and stocking the product. Manufacturers, retailers, and distributors have always known that these costs exist, but before DPP, have had no way to quantify them logically.

At Procter & Gamble, when we first began working with DPP ten years ago, we felt that it was the ideal tool to help us address not only future issues, but also to use today, to guide us in the redesign of packaging (primary and secondary), to understand better the true costs of alternative forms of transportation, and to streamline our own warehousing operations.

What I’d like to do next is to discuss specific manufacturer and retailer DPP inspired applications, and then to move on into an area to which we have devoted a tremendous amount of resources: using DPP as a tool to create some truly innovative packaging ideas.

Manufacturers can influence the direct product handling cost (DPC), in a variety of ways. As a rule of thumb, however, consider that the characteristics of any product that have the greatest effect on the total handling costs of that item are Cube, Pack Count, and Turns.

Cube. Prior to our recently introduced new packaging, could anybody tell me how much space Crisco Oil would occupy in its shipping cases if all the oil was emptied out of the bottle and poured into the case? Twenty-six percent. That is shocking and frightening when you consider that this means that in each case we ship, or each truck of Crisco Oil we move, we are handling 74 percent air. Another implication is that we have forced retailers to pay for these same inefficiencies. Now we probably will never force our technical packaging people to design a brick pack of oil to make it 100 percent cube efficient. The consumer might have trouble accepting it. We have, though, considerably modified the packaging to reduce cube by about 20 percent. That is a critical change when you consider that cube accounts for about 60 percent of an item’s total handling cost.

When we introduced Always Sanitary Napkins several years ago, we did not package them in the standard, bulky primary packages. By redesigning the product, we were able to reduce the shelf package cube by 30 percent which reduced the handling costs, on average, by 37¢ per case.

Another example is Tide. By using new technology to condense the detergent granules, we were able to package the product in a 15 percent smaller box, which, on average, reduced handling costs by about 25¢ per case.

Pack Count. Pack count affects turns, occupancy costs, pallet fit, etc. A case of Downy was originally packed six units to the case. We made a minor change to the bottle and, by reconfiguring the positions of the bottles, we were able to pack eight units into a slightly smaller case.

Delivery methods also affect handling costs since there are different costs for receiving product by rail or back haul, dead pile or displays. Because of DPP we have investigated the possibility of not only drop
shipments, but sequentially loaded back haul—where back haul orders are filled in the reverse order of the shipment route to the retail outlets.

**Turns.** Manufacturers can also influence handling costs by increasing or reducing turns. Strong promotion and marketing can help pull an item through the system very quickly, which in turn would reduce warehouse and store occupancy, and inventory costs. DPP has given manufacturers an incentive to lower the handling costs of their items in the retailers' systems.

**How Retailers Use DPP**

The objective, remember, is to use DPP to understand the costs so that profits can be increased to gain a competitive advantage.

One retailer has used DPP for merchandising by developing a simple quadrant analysis which places items in a category in specific quadrants in relation to the movement and DPP of the item versus the category average.

Another retailer identified the 1,000 costliest items to handle through the warehouse. The retailer went to a wholesaler to obtain a bid for the cost of supplying those items to the stores. The result was that both parties won. The retailer paid the wholesaler to handle the items at a cost lower than he could do it himself, and the wholesaler was able to increase the turns on items that were already stocked.

A third retailer identified a number of items that had weekly movement of below a half a case pack per week. The retailer then contacted manufacturers to see if there were smaller case packs available. Many had such packs, and the result was an increase in turns and a decrease in inventory costs for this retailer.

A final example is of a retailer who evaluated all products purchased in less than full pallet loads and evaluated the costs of purchasing these same products in full pallet loads. Reduction in labor costs from fewer pallet moves offset the cost of increased inventory.

For wholesalers, DPP is used to determine product mix, order quantities, slot layout, and to answer "What if" questions regarding distribution and stocking decisions. Additionally, the wholesaler can offer DPP/DPC information as a service to retail customers.

**Value Added Packaging**

This leads us into another area in which Procter & Gamble has devoted a considerable amount of resources and research, and that is using DPP to address packaging issues for shelf storage and display. Just as important, this is a very good example of joint manufacturer/retailer cooperation.

We commissioned McKinsey to conduct an industry-wide study to quantify the costs of moving products from warehouse to shelf. Using DPP, McKinsey calculated that the retail grocery industry spends $4.4 billion annually to receive, stock, sort, price, and move grocery products to the aisle.

Said another way, a retail grocery outlet doing $200,000 per week in volume, spends $166,000 per year to move product to the shelf, or $8.3 million per year for a chain of 50 stores.

Understanding this, we felt that there must be a way to give packaging a value-added benefit, far in excess of the typical product protection. This value-added benefit, or Value Added Packaging should help reduce the handling costs at warehouse and retail through reduction in cube, or by providing the opportunity for tray stocking cases on shelf, or by making it easier to display promotional product.

We feel that it is well within the realm of possibility for manufacturers to create Value Added Packaging that can ultimately shave 20 to 60 percent from that $4.4 billion labor charge incurred in moving product from warehouse to the shelf. If the industry were to do that, there would be a savings of over $2.0 billion nationally.
To put this into perspective, Value Added Packaging presents a profit opportunity that is about double the estimate for scanning benefits. Or, if we compare the opportunity to the industry average of 1.4 percent pre-tax profit, we see that Value Added Packaging has the potential of doubling the average net profit.

Considering the needs and profit opportunities, I think you'll agree that the vision of Value Added Packaging is a big idea. But how can packaging so dramatically affect the bottom line?

One method is to construct cases that allow for tray packing entire cases of product on the shelf. On average, tray packing can reduce handling costs between 10 and 15¢ per case.

Perhaps the most immediate impact of Value Added Packaging would be on the 20 percent of the volume that comes from display. Instead of constructing displays one case at a time, preassembled displays, or prebuilt displays afford efficiencies throughout the total system in handling promotional product.

Preassembled displays, or PADs, reduce handling costs by 50¢ per case, or $20 for the average 40-case display. Looked at another way, if a customer of ours who purchases 100,000 cases of Procter & Gamble annually, purchases his 20 percent of promotional volume on preassembled displays, the savings could equal $10,000 annually—a fairly sizeable chunk of pre-tax profits achieved at no additional cost. Think of the efficiencies as we look at this PAD as it would arrive directly from the warehouse—no cutting of cases, no handling of single cases—just the movement of forty cases on to the floor and it is just about ready to be shopped.

For customers whose merchandising does not lend itself to large, preassembled displays, we have begun to develop, test, and expand displayable shipping cases. We have transformed this kind of case from a vehicle designed for product protection to that of an attractive display case that has been documented to increase sales. Another benefit of displayable shipping cases is that they allow for the restocking of preassembled displays with "like" type cases and can be tray packed on shelves.

We had been experimenting with Value Added Packaging as far back as the 1960s, but with the industry acceptance of DPP, the development of technology that allowed us to quantify costs (and hence savings), and the need of the entire industry to focus on profit (due to a lack of inflation, increased competition, etc.), we took our big idea of Value Added Packaging to our customers in upstate New York for test marketing. In ongoing discussions with them we saw Value Added Packaging as a solution to a need. But like all big ideas, VAP required a partnership and changes to evolve into a viable vehicle to reduce costs and increase sales. As such, in many cases, we have continually changed case and preassembled display designs to meet our customers' needs.

We believe that VAP not only reduces handling costs and improves productivity, but it also increases sales. We also believe that we, and the industry, have just scratched the surface in using VAP to increase profitability.

Conclusion

As I mentioned earlier, big ideas are solutions to needs, but become bigger ideas through change, innovation and partnership. I believe that DPP and the ideas spawned from understanding the true cost of handling product are vital links towards a total system approach of managing the business in the future.