Harvard Business School

9-195-126

March 31, 1995

Procter & Gamble: Improving Consumer Value Through Process Redesign

Procter & Gamble Worldwide (P&G) is one of the largest manufacturers supplying grocery retailers and wholesalers and a leader in designing how branded consumer-goods manufacturers go to market. P&G's process innovations are driven by its focus on improving consumer value by eliminating nonvalue-added processes in the channel. Changes at P&G in organization, systems, procedures, and policies affected both the company and the entire channel. These changes were governed by the recognition that manufacturers, distributors, and retailers have to cooperate in creating industrywide approaches to drive inefficiency out of the grocery distribution system.

Many changes leading to organizational and channel transformation were initially viewed as information systems innovations (e.g., developing systems to automate existing practices). Breakthrough change came with the realization that the success of P&G brands depended on eliminating all processes that didn't deliver value to brand- loyal consumers. The promotional frenzy of the late 1970s and 1980s that characterized the retail industry had produced a backlash among brand-loyal consumers, who felt they weren't getting fair value day-in, day-out. P&G studies showed that less than half of their promotional dollars were passing through to the consumer and that swings in price were creating variability and massive inefficiency, not only in P&G's manufacturing and distribution systems but throughout the entire grocery supply chain.

As a result, P&G redesigned how it went to market as a branded consumer-goods maker. Its actions fell into two broad categories: participation in industrywide efficiency improvements, and pricing policy changes, both necessary to improve the value of its brands. As its new pricing strategy was implemented, P&G also took a leadership role in working with the grocery industry—including other manufacturers—to significantly accelerate the adoption of more efficient systems, policies, and practices in the grocery channel (**Exhibit 1**). These industrywide changes resulted in dramatic improvements in P&G's and retailers' effectiveness in delivering value to the consumer.

Research Associate Theodore H. Clark prepared this case under the supervision of Professor James L. McKenney as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.

Company and Industry Background

P&G's sales of $30 billion in 1993 were evenly divided between the United States and the rest of the world. P&G had developed a reputation for aggressive and successful "world-class" development and marketing of high- quality consumer goods over more than 150 years of operations. Throughout its history, the company focused on providing superior performing brands that gave consumers good value.

P&G's post-World War II growth came from three sources: acquisitions, development and marketing of new brands, and international expansion. Its acquisitions included: Duncan Hines and Hines-Park Foods (food products), W. T. Young Foods (peanut butter and nuts), J. A. Folger (coffee), and Clorox Chemical Co. (bleach). In 1957, the U.S. Federal Trade Commission (FTC) sued P&G to force the divestiture of its Clorox subsidiary. This effectively terminated the growth by acquisition strategy for two decades, forcing P&G management to grow through new-product development and international expansion.

P&G's international strategy was to take core U.S. businesses—soap, toothpaste, diapers, and shampoo—and replicate them to the rest of the world. International sales increased from virtually zero in 1953 to $4 billion in 1985. During this expansion period, new geography was conquered for existing brands, and P&G rotated managers to different locations between the U.S., Europe, and Asia. During the 1980s, P&G international shifted to developing and marketing products tailored to the needs of each market. This increased focus on understanding and meeting consumer needs worldwide enabled P&G to expand international from about $4 billion (31% of sales) in 1985 to $15 billion (50% of sales) in 1993. Ed Artzt, president of P&G International from 1983 to 1990, was appointed CEO of the company in 1990.

By 1993, P&G's product lines included a wide assortment of products, with the company organized into five product sectors: Health/Beauty; Food/Beverage; Paper; Soap; and Special Products (e.g., chemicals). Each sector was organized into product categories, and each category was responsible for a group of brands. Most new-brand introductions were based on improvements or extensions of existing products. Several new products, such as Pampers disposable diapers and Pringles potato chips, were developed to meet basic consumer needs not yet served by existing products. Extensive market research, low-cost and effective advertising, and aggressive R&D investments enabled P&G to increase sales in the U.S. market from $1 billion in 1955 to almost $9 billion by 1985.

Competition for most of P&G product categories was concentrated, with two or three branded product producers controlling more than 50% of total branded product sales in each category. This concentration for the top three brands in any product category was typical for other manufacturers as well, although increasing sales of private- label products were eroding market share for the major brands in some categories. For some products, such as soaps or diapers, P&G and one competitor controlled more than 70% of the market. The strong consumer pull for P&G products provided the company with an advantage in dealing with retailers and wholesalers.

P&G products were sold through multiple channels, with grocery retailers, wholesalers, mass merchandisers, and club stores the most important in product sales volume. While relationships with retailers and wholesalers had not always been harmonious, P&G management recognized the need to serve the needs of both the consumer and the channel in order to be successful in the market. Demand for P&G products was primarily driven by pull through the channel by end consumers, rather than by trade push, with the trade frequently carrying P&G products because of consumer demand and competitive necessity rather than due to the trade's strong loyalty to P&G as a channel partner. Relationships between P&G and the trade through 1980 had primarily been

based on negotiations over short term initiatives and promotions. Increased use of promotions was part of the trend during this period, with P&G competing with other manufacturers for retail shelf space and promotional displays through various types of periodic promotions. Forward buying of promoted merchandise by 1985 had become the norm of the industry, with many brands stocked with over three-months' supply.

Pricing and Promotions

Product promotions had existed to a limited extent for decades but expanded dramatically during the 1970s, partly due to President Nixon's imposition of price controls in 1971 as part of an attempt to reduce inflation. The combination of high inflation, relatively low interest costs, and large promotional discounts made the economics of forward buying very attractive for chains. Product procurement cost depended upon so many different allowances and other incentives provided by manufacturers that the actual cost of a single product at any one time on the shelf was impossible to determine. Inability to understand costs and the discounts and allowances available from aggressive purchasing resulted in a focus in the channel on "buying for profit" rather than "selling for profit."

This reliance on a multitude of promotional programs coupled with forward buying increased retailer inventories and required manufacturers to also maintain large inventories in order to be able to meet the high demand artificially created by forward buying during these promotional periods. Variation in consumer demand was increased by store promotions, and variation in manufacturer demand was further increased by retailer forward buying activities, making changes in demand difficult to forecast accurately for manufacturers. This uncertainty about total demand and large fluctuations in periodic demand not only increased manufacturer inventory requirements but also resulted in higher manufacturing costs than would have been possible in a direct pull through demand environment.

One of the objectives of channel-transforming innovations in the 1990s was to develop more collaborative and mutually productive relationships with channel partners, replacing negotiations with cooperative efforts to better serve consumer needs efficiently. By combining consumer loyalty with improved channel efficiency and relationships, P&G believed that market share for P&G products would increase and the cost to serve the channel and the end consumer would decline, enabling all members of the channel to benefit.

Retail Distribution Channels

Retail grocery was the most important channel for the sale of P&G products and consisted of manufacturers, distributors, and retail stores (**Exhibit 2**). Approximately half of all retail grocery sales volume went through chains of stores which provided their own distribution and warehousing of products, and half through wholesalers who primarily served small chains and independent retail stores.

Profit margins for grocery retailers were low, typically 1-3% of gross sales before tax. With low unit prices and high volumes, store operating profits were highly dependent on providing efficient operations. Total sales volume per store and per square foot of retail space were critical factors influencing retailer profitability. Since advertising was a significant cost for most retailers, regional market share was a critical factor influencing retailer profitability by leveraging the fixed costs of regional (e.g., newspaper) advertising.

Mass-merchandise (e.g., Wal-Mart) and club-store (e.g., Sam's Club) retailers supplied a limited assortment of P&G and other grocery-channel products at low margins, enabling them to offer attractive prices to consumers. These formats grew rapidly during the 1980s. Even though club stores offered a limited product selection and provided less service than traditional grocery retailers, a significant segment of consumers was willing to replace grocery-store shopping with club-store purchases, with the attraction of lower prices at the club stores more than offsetting the inconveniences involved. A McKinsey study of alternative distribution channels for grocery products, published by the Food Marketing Institute in 1992, demonstrated that the more efficient distribution and merchandising of these alternative formats enabled them to offer lower prices to consumers than traditional grocery retailers. This study served as a wakeup call to the grocery industry, suggesting that existing processes needed to be improved to enable it to meet the challenge of these rapidly growing alternative formats.

Improving Channel Efficiency and Service

In the mid-1980s, P&G management launched several projects to improve service and reduce costs across the channel. The first effort focused on improving supply logistics and reducing channel inventory via a process that eventually was called continuous replenishment (CRP). The second was a project to revise the ordering and billing system to improve total ordering and service quality for channel customers.

The Early Logistics Improvement Trials

In 1985, P&G tested a new approach to channel logistics for replenishment ordering with a moderate-sized grocery chain. This test involved using electronic data interchange (EDI) to transmit data daily from the retailer to P&G on warehouse product shipments to each store. P&G then determined the quantity of products to be shipped to the retailer's warehouse by using shipment information rather than shipping based on retailer-generated orders. Product order quantities were computed by P&G with the objectives of providing sufficient safety stock, minimizing total logistics costs, and eliminating excess inventory in the retailer's warehouse.

The results of this initial trial were impressive in inventory reductions, service level improvements (e.g., fewer stockouts), and labor savings for the retailer. Besides other savings, the retailer was able to eliminate several buyer positions through this process restructuring. However, the benefits for P&G were unclear, and the new ordering process was more costly for P&G than the old one where the retailer determined order quantities.

The second test of the new ordering process was with a large mass merchandiser. In 1986, P&G approached this retailer's management with a proposal to dramatically change the way diapers were ordered and distributed in an effort to reduce retail store stockouts, lower product acquisition costs, and minimize total inventories. Limited warehouse capacity forced the retailer to purchase P&G diaper products in small quantities to be delivered directly to each retail store. Retail stores had frequent stockout problems, and the cost of these small orders delivered directly to the store was high for both P&G and the retail chain. Diapers were an important product category for this retailer, and it wanted to price diapers lower than other retailers in their markets. Unfortunately, the distribution system used for procurement resulted in higher acquisition cost for diaper products than many of its competitors (e.g., supermarkets), who were able to order in truckload quantities.

P&G proposed that the retailer inventory diaper products in the chain's distribution warehouse, provide P&G with daily data on warehouse orders received from the stores, and allow P&G to use the daily warehouse shipment data to determine warehouse replenishment volumes needed. This new replenishment process would limit the retailer's warehouse inventory to acceptable levels, eliminate costly LTL (less-than-truckload) shipments, and reduce stockouts for retail stores. Both P&G and the retailer would benefit by reducing costs and increasing sales. Sales increases would result from lower retail prices enabled by lower costs and from providing better service to consumers through greater product availability.

The new replenishment process resulted in substantially lower product acquisition costs through truckload volume purchases, enabling lower retail pricing. Without increasing inventory levels or stockouts, the retail chain was able to expand P&G's diaper SKUs in the stores. The combination of lower prices, reduced stockouts, and expanded SKUs in the stores dramatically increased P&G's diaper sales through this retailer's stores. This new process represented a major change in channel ordering and logistics and established the basic principles of what eventually became known as CRP (continuous replenishment program). This second trial demonstrated the potential for logistics innovations to offer mutual benefits to retailers and manufacturers by reducing channel costs and increasing consumer sales.

In early 1988, top executives from P&G and another mass-merchandise chain met to discuss ways to improve logistics in the channel. The retailer was warehouse constrained due to rapid growth and was relying heavily on costly LTL shipments to meet demand. LTL shipments were expensive for both partners, and made it difficult for the retailer to increase diaper sales. During the meeting, the CEO of the mass-merchandise chain suggested that P&G simply ship products on a just-in-time basis when needed using the retailer's actual sales data. Deals and promotions would be replaced by a constant allowance that resulted in an equivalent net-price for the retailer to remove forward-buy incentives.

A multifunctional team worked together for the rest of the conference to work out many of the details of implementing the new process. With top executives from both companies committed to rapid adoption, and building on P&G's experience with two other retailers, implementation of CRP took less than two months in total. In April 1988, P&G began shipping products based on retail demand data, placing orders automatically for the retailer. Information on demand was transmitted via fax and phone until EDI links were established.

Expanding the CRP Innovation

The success of the CRP program with leading mass-merchandisers generated interest from other retailers in the new process. By 1990, most large mass-merchandisers had fully implemented CRP. In 1990 and 1991, three grocery chains adopted CRP with P&G, and the innovation proved highly successful in reducing inventory and stockout levels for these early grocery pioneers. CRP adoption started with diapers and then expanded rapidly to other products as the potential for mutual cost reduction was demonstrated across the channel. CRP's success with early partners led the head of the diaper product group to commit $1.5 million in development funding during 1991 to expand the initial CRP system into a more robust production system that could be expanded to as many customers as needed. The increased sales and profits from the initial adopters of CRP were enough to justify the entire development cost being funded by this single product category!

The diaper product group then used CRP as a tool in selling an expanded diaper product line (boy and girl diapers) to retail chains. The new product line doubled the total number of SKUs in an already crowded product category but was needed to better respond to customer needs and meet competitive pressures. CRP enabled the diaper product sales force to offer customers a solution that

managed the increased number of SKUs while reducing both inventory levels and stockouts for the retailer. Since a barrier to expanding product SKUs was the resulting increase in inventory required, CRP proved helpful in marketing the new diaper product line.

During 1992, 14 additional grocery chains implemented CRP with P&G, and existing CRP customers continued to expand CRP usage to new product lines. During 1993, an additional 15 new grocery chains or divisions of grocery chains adopted CRP. By July of 1994, a total of 47 channel customers had adopted CRP with P&G, and more than 26% of P&G sales volume was ordered via CRP. As these customers expanded use of CRP to new product lines and across multiple distribution centers, total CRP demand from these customers alone was expected to increase to 35% of P&G sales by the end of 1994. Ralph Drayer, VP of customer services, expected use of CRP to reach 50% or more of total US product shipment volume by the end of 1995.

Increased retail sales were an important benefit of the CRP program for P&G and its distributors. Sales of P&G products through CRP retailers increased 4% more on average during 1993 than sales through non-CRP retailers. Although some of this difference could be attributed to faster-growing retailers adopting CRP, Drayer believed that some of the gain was due to sales gained from competing products due to reduced stockouts, lower retail pricing, and expanded product selection in the store. However, even if only 1% of the 4% sales increase was due to competitive share gains, this represented a huge competitive and economic gain for P&G. One food division manager said he would "gain more market share by expanding CRP than through [product] line extensions."

The Role of EDI

When P&G began expanding the use of EDI with retailers to improve ordering efficiency, problems with order quality increased significantly. The sales representative or customer service representative in the manual process was often able to catch some of the problems and manually adjust retailers' orders to work in the P&G systems. Some of these adjustments later resulted in errors in the collections phase, but at least the order was entered and shipped. Removal of this human buffer created problems for most EDI orders could not be processed without manual intervention. These early EDI trials with customers increased costs for P&G instead of providing savings since most orders had to be manually reworked and rekeyed into the OSB system. Without process redesign, using EDI for ordering offered little benefit for P&G or customers, although it did highlight problems and misunderstandings.

EDI represented an important part of P&G's strategy to improve the efficiency of the ordering process and was essential for CRP implementation, but EDI alone was not viewed as particularly important in the effort to improve efficiency and order quality. One P&G manager described EDI as "an enabling technology" that, if implemented without changes in Interorganizational processes and policies, represented little more than "a fancy electronic fax." Another manager explained: "EDI is simply an electronic envelope, not a system. It does not fix anything and, by itself, is not a solution. However, when implemented in parallel with process and systems reengineering, it can become a powerful tool."

An important role for EDI at P&G was to provide an essential platform for CRP operations. One manager described CRP as "two-way EDI with tight links into the systems of both companies." Of course, CRP required more than system changes, but the degree of interconnection with the systems of each organization was much tighter with CRP than was required for EDI with non-CRP customers. This linkage between systems across the two companies, enabled by the EDI link, resulted in error-free interchange of large amounts of data automatically between the companies. CRP dramatically increased the amount of data shared by companies in the channel, which made

EDI essential for effective operations. Although early CRP trials had used fax and phone for data transmission, several P&G managers expressed the view that CRP without EDI was not viable:

The problem [with manual entry of data] is that any error would probably result in an out-of-stock condition. The risk of [data entry] keying errors in an non-EDI environment is just too great. You also have a lot of data that need to be entered, which would require extensive manual support. CRP without EDI is just not viable.

EDI offered companies economic benefits by reducing transaction costs, which encouraged EDI adoption, even without making the commitment to CRP. Although the potential benefits from CRP were much larger than the benefits from EDI ordering alone, the challenges in shifting to CRP were greater than many retailers were willing to face. EDI provided an easy first step for companies that wanted to be technologically prepared for the new era without committing to the management and policy changes required to implement CRP.

Drayer observed that successful implementation of CRP required both senior management commitment to the innovation and a relationship of trust between management at the two organizations linking their systems:

> Companies that have made the choice to be interdependent will move to CRP. You can't remain independent with CRP. . . . This is not something you can just connect between customers and suppliers. You need to understand the management changes required.

The Ordering, Shipping, and Billing Systems

In 1987, P&G management approved a major rewrite of the entire ordering, shipping, and billing (OSB) system, which took several years and cost tens of millions of dollars to complete. The systems in use at the time had been developed during the 1960s and had been upgraded many times. The batch processing system was both inefficient and ineffective; upgrading it was considered a competitive requirement for P&G to be able to provide the level of service required by customers. The OSB system supported all P&G activities in serving channel customers, including pricing, ordering, shipping, invoicing, and separate credit systems. The OSB project integrated many separate systems that did not work well together across functions and product sectors, enabling P&G to improve consistency and overall service levels.

The charter of the OSB development team was to understand how the business worked and then to automate the existing processes with sufficient flexibility to meet the various needs of the different sectors and functions. In some cases, standardization was allowed to simplify design and improve practices to a common level across the organization. The system absorbed a lot of the complexity of the existing processes which contributed to the cost of development, and was designed to eliminate manual processing steps but not to redesign the existing processes.

The rewrite of the system and the simultaneous upgrade of the hardware infrastructure were necessary but significant additional performance improvement opportunities remained because of complex pricing and promotion practices. The process and performance levels in 1988 (prior to OSB rewrite) are shown in **Exhibit 3**, with comparable data for 1992 (after OSB rewrite) shown in **Exhibit 4**. Invoice deductions by customers were still quite large in 1992, although the new system had helped some in this area. Although the new system did improve order shipment quality, problems with the existing pricing and promotion policies and processes still created deductions. It was clear that the front end of the OSB system, which involved pricing and promotions policies, needed to be revised.

Redesigning the Complete Ordering Process

P&G managers realized they needed to improve the total ordering process, starting with pricing policies and practices. Improving ordering quality required a simpler pricing structure that customers could both understand and track in their systems. A new pricing structure, introduced by Durk Jager, EVP responsible for all U.S. operations, dramatically simplified expansion of the new OSB system capabilities and represented a significant change in corporate strategy and policies. Pricing policy changes were critical for improving consumer value and building brand loyalty and facilitated expansion of the OSB systems to allow improvements in billing accuracy and reductions in invoice deductions. The combination of pricing policy changes and systems improvements benefited both P&G and channel customers.

The standardization and simplification of processes and policies across the organization accelerated under the leadership of Artzt and Jager. Challenging traditional practices and policies became acceptable and welcome, as long as suggested changes could be shown to improve consumer value by eliminating processes or costs that did not add value to the channel or products. One manager observed:

Jager made it okay to make change happen faster. The ideas were bubbling in the organization and the pace of change accelerated dramatically.

Redesigning the ordering process involved a combination of systems and business process changes which had to be carefully integrated. A key element of the new ordering process was the development of common databases for product pricing and product specifications. This shared vision of business simplification and a common database was solidly grounded in the philosophy of "simplify, standardize, then mechanize." The common databases developed to support simplified pricing were designed to provide data directly to the customer's own system electronically. This resulted in dramatic reductions in invoice deductions for retailers using the new pricing database to verify or confirm purchase order information.

The combined changes in systems, strategy, organization, and policies resulted in a dramatic improvement in total order quality at P&G (**Exhibit 5**). Billing errors decreased by more than 50% from 1992 to 1994, and the percentage of billing disputes resolved in P&G's favor increased by more than 300% during the same period. The first-year savings from increased collections on invoices alone were enough to pay for the entire cost of development of the new pricing systems. P&G's customer teams were also able to concentrate on providing better service and marketing new products instead of spending time resolving billing problems. P&G's redesign of the total ordering process required fundamental changes in its structure, policies, and systems but yielded dramatic benefits in cost reduction and quality improvement. In addition to reducing invoice deductions, the redesigned business process allowed P&G to reduce costs throughout the entire ordering process.

Radical Restructuring of Pricing

The long-term strategic goal of increasing consumer value and brand loyalty, CRP's need for simple and stable pricing, and the need to reduce pricing complexity to improve quality in the ordering process all supported the decision to replace existing pricing structures with a simplified "value-pricing" program. This new pricing program was introduced initially for dishwashing liquids, where this new pricing approach was accepted, generally without much resistance. As the pricing change became accepted generally, although not universally, value pricing was gradually

implemented for more products (**Exhibit 6**). By late 1993, almost all P&G products were on some form of value-pricing plan.

The shift to value pricing represented a radical change in policies and was driven mostly by concern that frequent and complex promotions were eroding the value of P&G's brands. Brand loyalty declined in the United States during the 1970s and 1980s, due to the wild price swings that came with constant promotional activity. Frequent promotions rewarded only those consumers most sensitive to price and acted as a disincentive to brand-loyal consumers. Value pricing eliminated incentives for retailer forward buying and essentially offered constant procurement costs combined with some flexible allowances or funds provided for retail store promotions.

Value pricing offered important benefits for CRP customers, encouraging increased CRP adoption. Implementation of CRP with the first few customers required prototyping new net-pricing terms that eliminated variable discounts and promotions in order to remove incentives for forward buying. There was little benefit in trying to improve channel logistics efficiency while using a pricing structure that encouraged inefficient purchasing practices (e.g., forward buying). Until P&G restructured pricing, efforts to extend CRP were constrained because it lacked a standardized pricing structure that would eliminate forward-buying incentives.

Implementation of value pricing reduced the number of pricing changes at P&G from 55 per day in 1992 to less than 1 per day in early 1994. In July 1994, all remaining variable promotional allowances were eliminated for the last few product categories using these incentives, and geographic pricing differences were eliminated as well. Temporary price reductions or special promotions were allowed only to meet significant competitive threats to P&G brands, and they had to be approved by Jager.

There was considerable resistance to the change in pricing philosophy from some P&G senior managers, in spite of the obvious advantages, since this was completely the opposite of the high-low pricing strategies many executives had used to create new brands and strengthen P&G product market throughout their careers. Jager noted that the new pricing did cost P&G sales over the period, but that this incremental revenue actually cost P&G more to generate than the income created by the promotions. Thus, while sales were lower than would have been possible using promotional pricing, profits were stronger, and the company was better positioned to build a future based on value-priced products for brand-loyal consumers.

Leading the Grocery Channel Transformation

Working with retailers, wholesalers, other manufacturers, industry trade associations, and consulting firms, P&G participated in the development of the Efficient Consumer Response (ECR) vision of channel innovations that would enable grocery chains to compete effectively with low-cost alternative retail formats. ECR became a banner for a wide variety of innovations in the grocery channel that would improve efficiency (**Exhibit 1**). Various joint industry ECR committees were established in a coordinated effort to explore opportunities for channel process improvement.

CRP was an important element of the ECR vision. The ECR report by Kurt Salmon Associates, published in January 1993, suggested that 38% of the $30 billion in savings projected from implementing ECR in the grocery industry could be realized through more efficient replenishment ordering. Many grocery channel members were able to realize significant savings immediately by adopting CRP without waiting for the remainder of the ECR proposals to be fully

developed. P&G was a clear leader in the implementation of CRP and other ECR programs and wanted to increase the pace of ECR and CRP adoption in the industry overall.

The Change from Brand to Category Management

In the late 1980s, P&G management made a significant change in its brand management structure to improve coordination and efficiency. Multiple brands were combined into product categories, under the responsibility of a category manager, who managed individual brands as part of the overall category portfolio. For more than 50 years, the brand management approach had served P&G well, and the company had been recognized as the benchmark for excellence in brand management. The introduction of category management was a dramatic shift for a company that had pioneered brand management in the 1930s.

The category management approach provided more flexibility in restructuring the P&G product line. Brand restructuring or consolidation would have been more difficult to achieve under the prior structure. Brand managers maintained responsibility for advertising and limited promotional programs, but category managers established overall pricing and product policies, which enabled P&G to eliminate weaker brands. For example, the elimination of the White Cloud brand by merging the product into the Charmin line would have been resisted by a White Cloud brand manager but was strongly supported by the toilet-tissue category manager, who reported to the paper products sector manager. Category management also avoided conflicts between similar branded products in the same channel for advertising and distribution resources.

The shift to category management was consistent with the company's efforts to simplify and standardize operations and product lines. Many unnecessary SKUs were eliminated when SKU differences did not provide significant incremental value to the consumer. At the same time, new SKUs were added as new products and innovative extensions of existing product lines were developed. In total, the number of SKUs P&G offered remained about the same during the early 1990s, but the restructuring of SKUs provided consumers with greater choice of products that were specifically tailored to their needs, and eliminated a proliferation of product variety that was based simply on labeling or packaging differences.

Manufacturing and Planning Improvements

Although the initial benefits of CRP were reductions in inventory, stockouts, and handling and transportation costs, increased adoption of CRP by P&G customers offered dramatic cost saving opportunities for production and raw-material purchasing. P&G managers estimated that at least 10% of the cost of production for paper products was the cost of excess capacity required to handle product demand variations. Value pricing reduced demand uncertainty by eliminating forward-buy distortions, and CRP further reduced demand uncertainty and allowed almost instant feedback on demand resulting from product innovations or pricing changes.

The potential benefits of CRP for production cost and inventory savings were quite large. Savings in inventory or production were not automatic, but the shift to a more stable environment enabled P&G to negotiate more attractive pricing with suppliers and to use internal production capacity more efficiently. In some cases, the efficiency gains from value pricing, rationalized product lines, CRP ordering, and dramatic improvements in process reliability resulted in sufficient excess production capacity to eliminate entire production plants. During the 1990s, many P&G plants were expected to close as a result of improved operations due to the new policies and processes. In 1993, P&G took an extraordinary charge of almost an entire year's profits to reflect the

actual and expected costs of closing unneeded plants and reducing total employment levels for the company (**Exhibit 7**).

The CRP savings for diaper production were estimated based on experiences of multiple plants with different levels of CRP ordering by customers. The results of this analysis are shown in **Exhibit 8** and represent the early results of CRP adoption on the production process. Paper product managers believed that further costs savings could be realized as P&G teamed to better use the improved information about demand that was available through CRP ordering data. Through more effective negotiating with vendors and better use of actual demand data for planning and scheduling, additional savings could be realized in production.

Customers and Category Management

The second most important aspect of the joint industry ECR vision was the retailers' shift from buyers to category managers that was taking place among leaders in the industry during the early 1990s. Although the cost savings from this shift were not as dramatic or easily quantified as the savings from CRP adoption, the potential profit improvement of the shift to category management could easily exceed the cost savings from CRP. Category managers in retail chains were ideally responsible for the entire profit of a product category across all stores. Replacing buyers, who were primarily focused on cost or promotional deals, with category managers responsible for both profits and meeting consumer needs required new skills and capabilities. The shift from buyer to category manager represented a new mindset, for both the individuals in the role and the overall organization. Few buyers were able to make the transition to the new role, and few organizations could make the shift in procurement and merchandising strategy without a strong CEO vision and mandate for change.

The shift to category management benefited both retailers and P&G Category managers were better positioned to understand the true costs and profits generated from each product in their category. P&G customer teams were able to use solid economic analysis with category managers to demonstrate that their brands should be given additional shelf space or variety because the retail profit per unit of shelf space for P&G brands was higher than most other products in the category. In addition, category managers were able to appreciate the storage and handling savings provided by P&G's simplified pricing policies and logistics programs.

Sale of the CRP System to IBM

In late 1993, P&G announced the sale of their CRP system to IBM's Integrated Systems Solutions Corporation (ISSC) subsidiary. The P&G CRP system was to be offered by IBM to all manufacturers as a service provided by IBM, with P&G outsourcing support and operations of their CRP systems to ISSC. Within two weeks, Ralston Purina signed up as IBM's first customer, and five other manufacturers had become IBM CRP clients by mid-1994. Many other large manufacturers had expressed interest in the IBM service offering, which offered manufacturers CRP systems capabilities quickly, at low cost, and with experienced operating personnel. This IBM CRP service offering allowed retailers to interact with multiple vendors in a common format, creating a powerful force in the industry for standardization. The availability of the IBM CRP service also increased the attractiveness of CRP for manufacturers and retailers by reducing barriers to CRP adoption.

The decision to sell the CRP system to IBM was primarily based on strategic, not economic, justification. The net benefits to P&G and its customers of implementing CRP increased as the total number of customers and other manufacturers using CRP increased. Therefore, it was more important

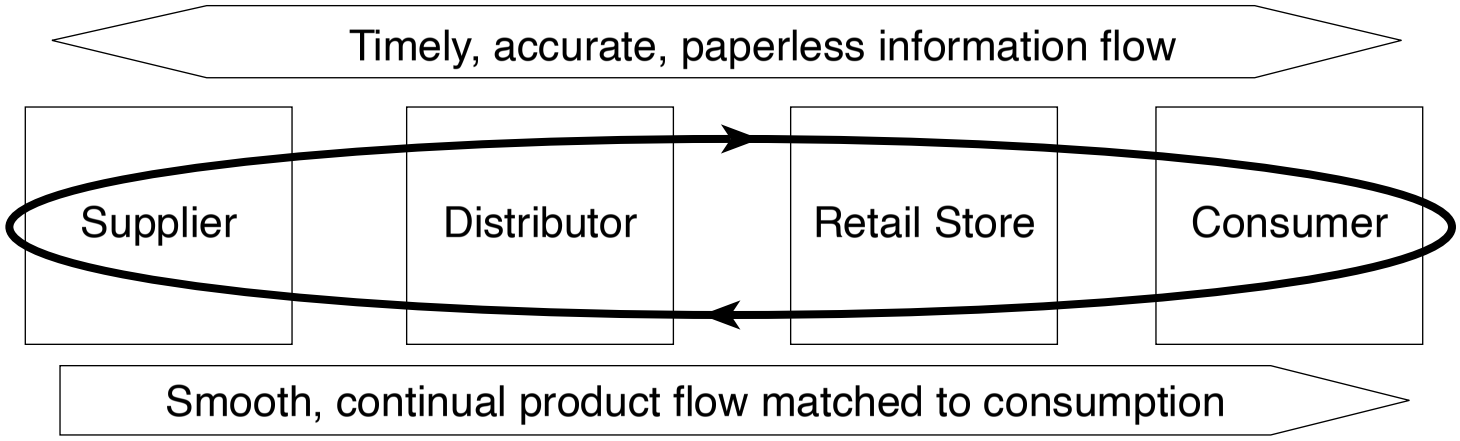
for P&G to be sure this innovation was rapidly adopted by the industry overall than to try to gain advantage from being the technological leader of the innovation. The sale to IBM increased the probability of other manufacturers adopting CRP by providing them access to a complete CRP service offering with quick start-up capability.

In addition, the agreement with IBM reduced P&G's cost of operating the CRP system, since the IBM service contract cost was less than the cost of operating the system using P&G's internal staff and systems. IBM planned to run the applications using excess capacity at the Kodak operations center that IBM was managing under an IT service contract. Thus, IBM was able to operate the outsourced CRP operations on capacity that would otherwise be underutilized from another outsourced MIS operations client. The outsourcing of CRP services to large manufacturers also gave IBM an opportunity to demonstrate the potential benefits of MIS services outsourcing to multiple potential clients, who might be interested in further outsourcing services that could be linked with the CRP applications over time. In summary, P&G's sale of CRP systems to IBM offered important strategic and operational benefits for both companies and provided the credibility of a third-party platform offering to increase the attractiveness of CRP for the industry.

Jager believed that any technological advantage P&G lost by selling the proprietary CRP system to IBM would be more than offset by the benefits for consumers and for the company of having the grocery industry fully embrace CRP. Increased adoption of CRP by P&G's customers would allow the company and its customers to improve internal processes and reduce costs. Jager explained:

> By eliminating nonvalue-added processes, we will ultimately win in the market by providing the best product to the consumer at the lowest cost through the channel.

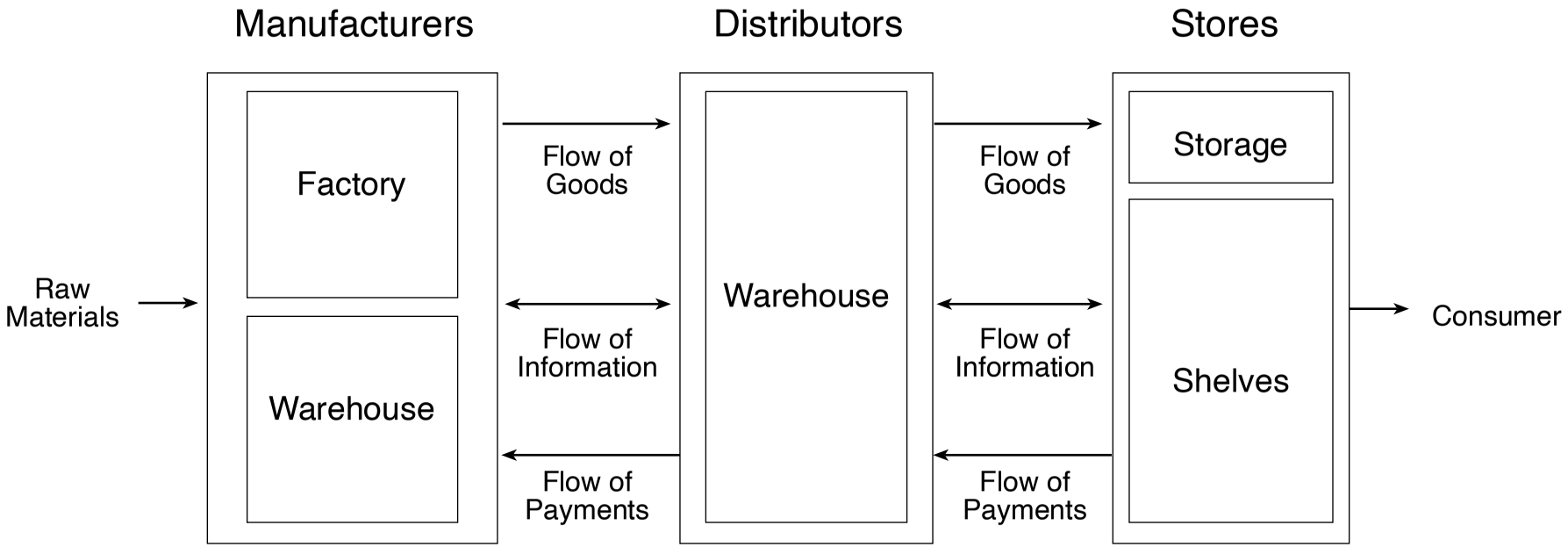
Exhibit 1: The ECR Vision – A Continuous Channel Process



ECR STRATEGIES	ECR OBJECTIVES
Efficient Store Assortments	Optimize productivity of retail space and inventory
Efficient Replenishment	Optimize time and cost in the ordering process
Efficient Promotions	Maximize total system efficiency of promotions
Efficient Product Introductions	Maximize effectiveness of new product development

Source: Company

Exhibit 2: Simplified Grocery Industry Functional Value-Chain

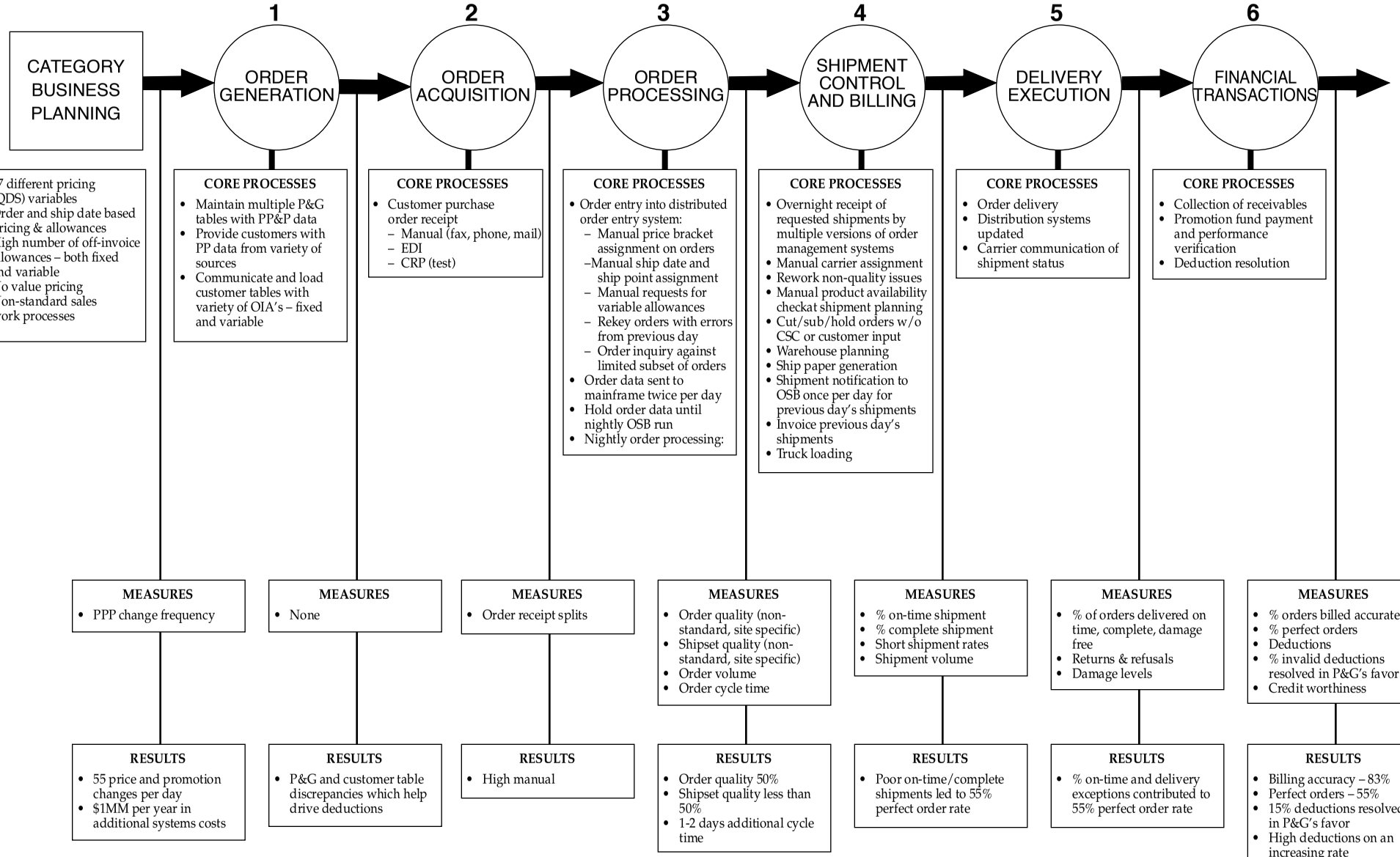


Flow of goods is frequent and high-volume and may be provided by trucks owned by one of the channel members or by a third party.

Flow of information was minimal for most channel members in the early 1990s, mostly conducted via voice telephone, paper mail, and face-to-face communications.

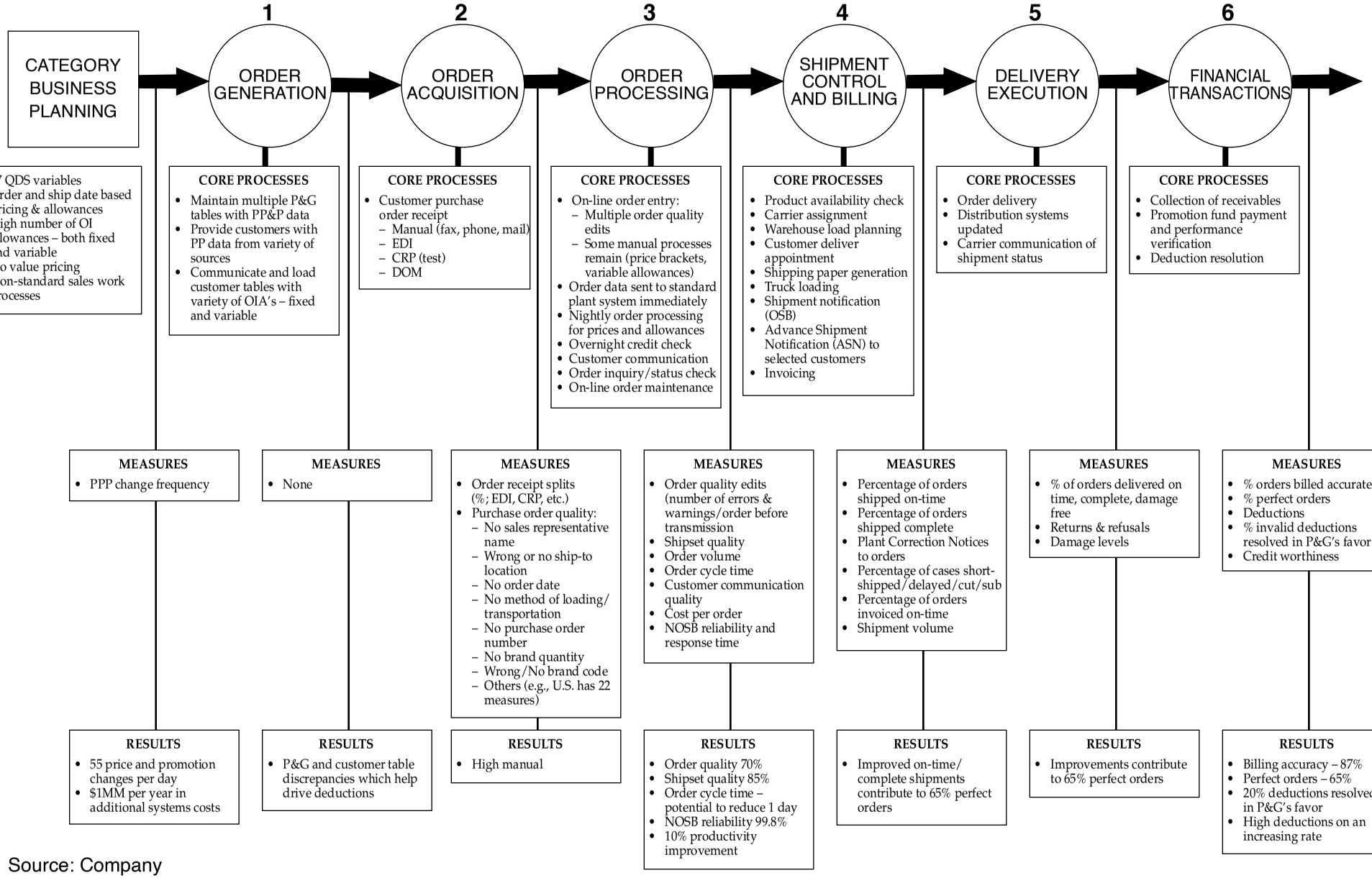
Source: Company

Exhibit 3: Total Order Management Process Before New OSB (1988)



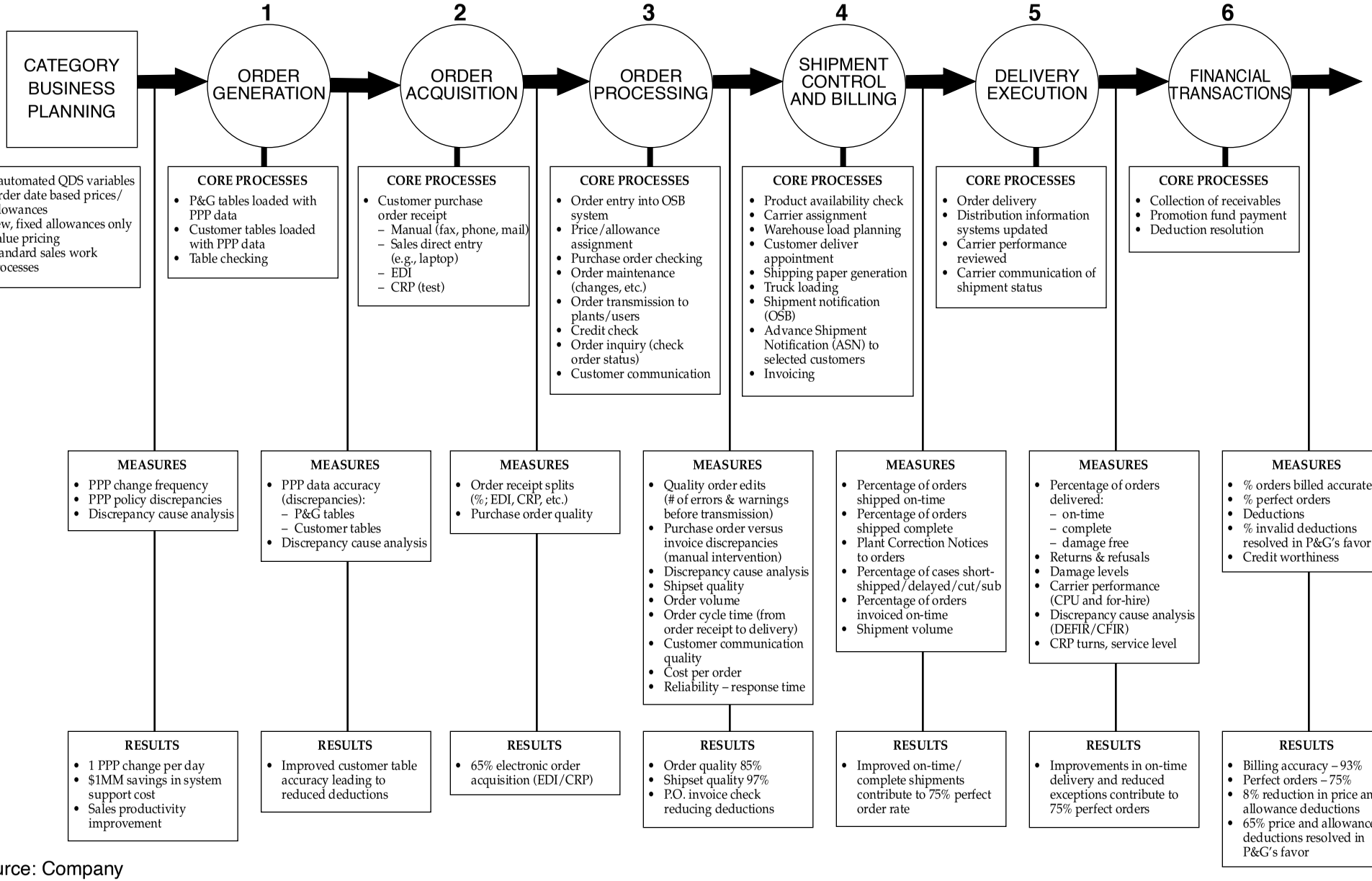
Source: Company

Exhibit 4: Total Order Management Process After New OSB (1992)



Source: Company

Exhibit 5: Total Order Management Process After Redesign (1994)



Source: Company

Exhibit 6: Value Pricing Timing and Product Volume

VALUE PRICING INITIAL DATE	PRODUCT BRANDS OR CATEGORIES	% OF TOTAL P&G SHIPMENT VOLUME
July 1991	All liquid dishwashing products, some bar soap products, some Duncan Hines products	8.2%
August 1991	Metamucil	0.6%
November 1991	Bold, Liquid Bold, Solo, Cascade, Liquid Cascade, all Bounce products, Downy Sheets, all Comet products, Mr. Clean, all Spic and Span products, Top Job, Lestoil, Gain, Ivory Snow, Dash, Dreft, Oxydol	11.3%
February 1992	Pantene, Liquid Safeguard	1.0%
April 1992	Luvs, Pampers	7.0%
July 1992	Old Spice Deodorant, Downy Ultra and Regular, Secret, Sure, Bounty	12.8%
October 1992	Always, Attends (retail)	2.0%
November 1992	Liquid Cheer, Liquid Tide	4.3%
January 1993	Prell, Cinch	0.5%
March 1993	Tide Powder, Cheer Powder, Era	10.2%
May 1993	Puffs	1.0%
July 1993	Head & Shoulders, Charmin/White Cloud, Scope	8.9%
August 1993	Hawaiian Punch	1.3%
Total product volume with no off-invoice allowances in August 1993		69.1%

Source: Company

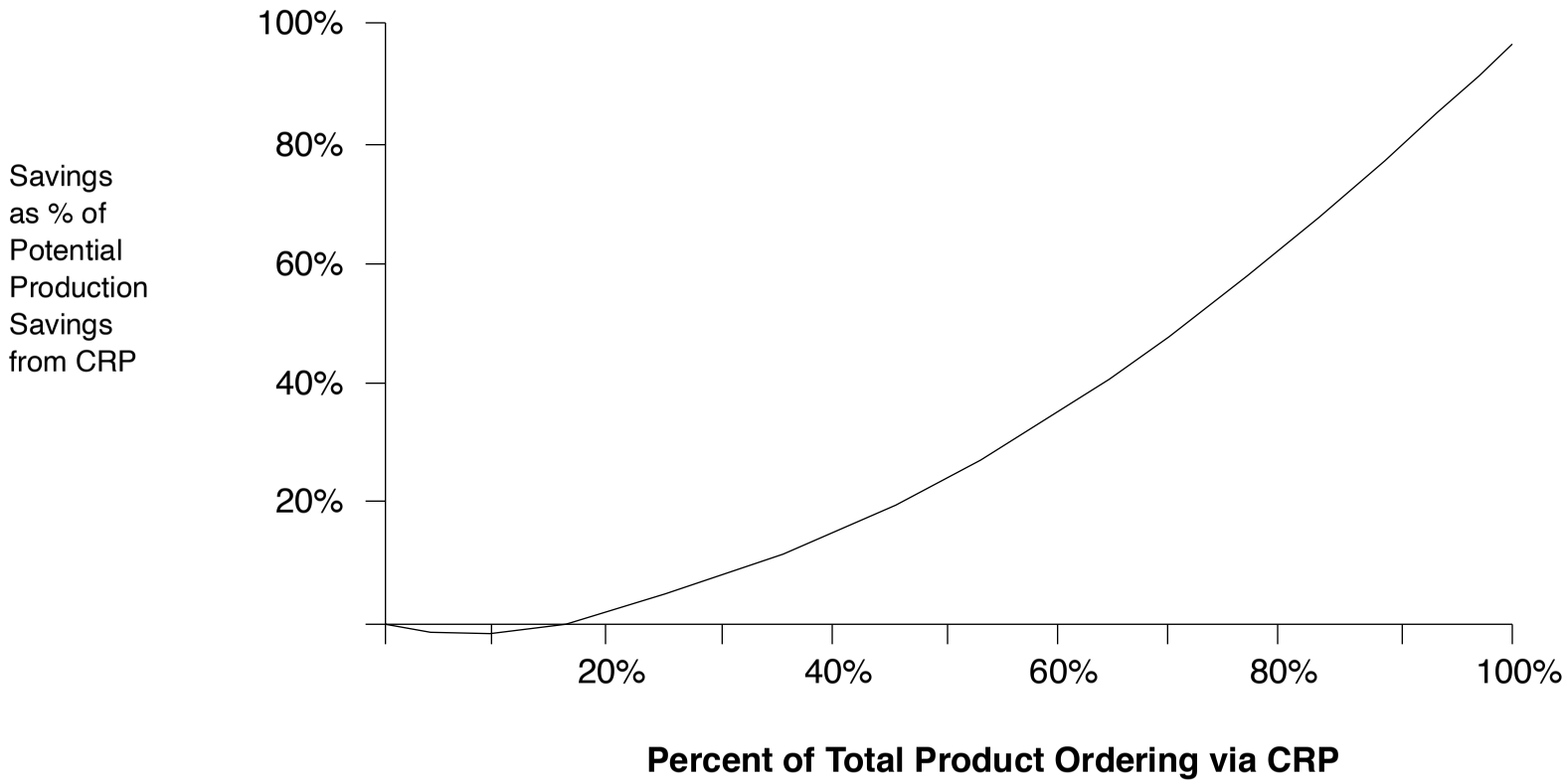
Exhibit 7: Selected P&G Financial Statistics

	1987	1988	1989	1990	1991	1992	1993
Net Sales	$17,000	$19,336	$21,398	$24,081	$27,026	$29,362	$30,433
Net Earning	$786	$1,020	$1,206	$1,602	$1,773	$1,872	$2,015
Net Earnings Per Share	$1.13	$1.49	$1.78	$2.25	$2.46	$2.62	$1.87
Net Earnings as % of Sales	4.6%	5.3%	5.6%	6.7%	6.6%	6.4%	6.6%
Dividends per Common Stock	$0.68	$0.69	$0.75	$0.88	$0.98	$1.03	$1.10

Note: These numbers exclude extraordinary charges of $459 in 1987 and $1746 in 1993 for costs of restructuring (plant closings and staff reductions), and a charge of $925 to reflect accounting changes in 1993.

Source: Company

Exhibit 8: Projected Manufacturing Cost Savings using CRP Ordering



Source: Estimates based on interviews with P&G manufacturing and product category executives