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Key Developments in the Food Distribution System

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Abstract

Many changes are occurring in food retailing. Forces driving these changes include the sales gains by supercenter, membership club, and convenience stores, the growing popularity of foodservice, the expansion of private label products (and the response by branded food manufacturers), and the identification of new consumer interests and concerns. These forces encouraged food processors, distributors, and retailers to improve the efficiency of the food distribution system. The Efficient Consumer Response and Efficient Foodservice Response initiatives are designed to lower the costs to move products through the system. These developments in the food distribution system have several important implications for other food and agricultural businesses.

Key words: Supercenter, Membership Club, New Products, Private Label, Supermarket, Retailing, Efficient Consumer Response, Efficient Foodservice Response, Food Spending

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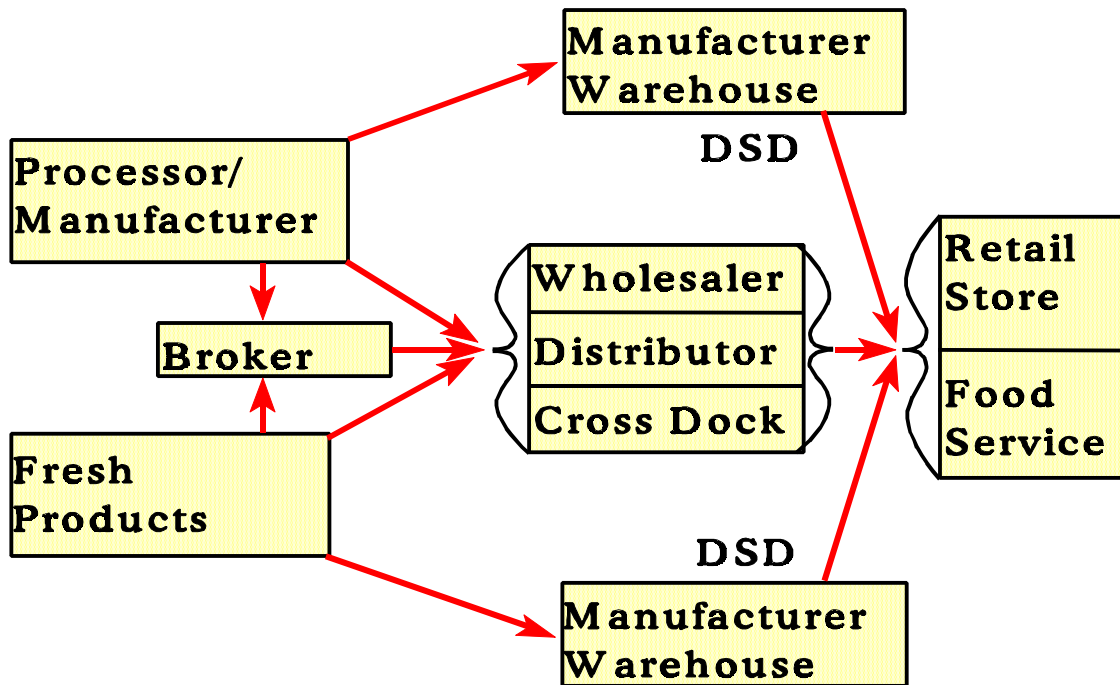
Key Developments in the Food Distribution System

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In the past, many food marketers focused nearly all their efforts on increasing volume. Firms set goals for sales growth and market share, but did not set cost objectives. When they evaluated promotions, they used an incremental volume criterion instead of profitability. Distribution inefficiencies were not a major concern. That all changed during the late 1980s when sales growth became more difficult, buyers became more price sensitive, and new competitors emerged on the scene. The food distribution system, a complex web of channels designed move food to consumers (Figure 1), was under enormous pressure to change and become more efficient. The food processing, distribution, and retailing sectors are in the middle of a rapid transformation focused on productivity and profitability. Researchers at The Retail Food Industry Center have examined many of these changes in the food distribution system from the retail perspective, looking forward toward the consumer and back through the system to the farm gate.

These recent developments can be illustrated by the invasion of new abbreviations and acronyms into the food industry vocabulary. ECR, EDLP, and others, listed in Table 1, reflect the heightened interest in lowering costs while meeting consumer needs as efficiently as possible, often with new technologies. This paper describes many developments that are transforming food distribution. Sales gains by discount merchandisers and by restaurants stimulated interest in improving the efficiency of the supply chain. The private label growth and new consumer interests and concerns generated additional changes. After reviewing these key developments, the responses by industry leaders and the implications for other food and agricultural businesses will be discussed.

Figure 1. The Food Distribution System



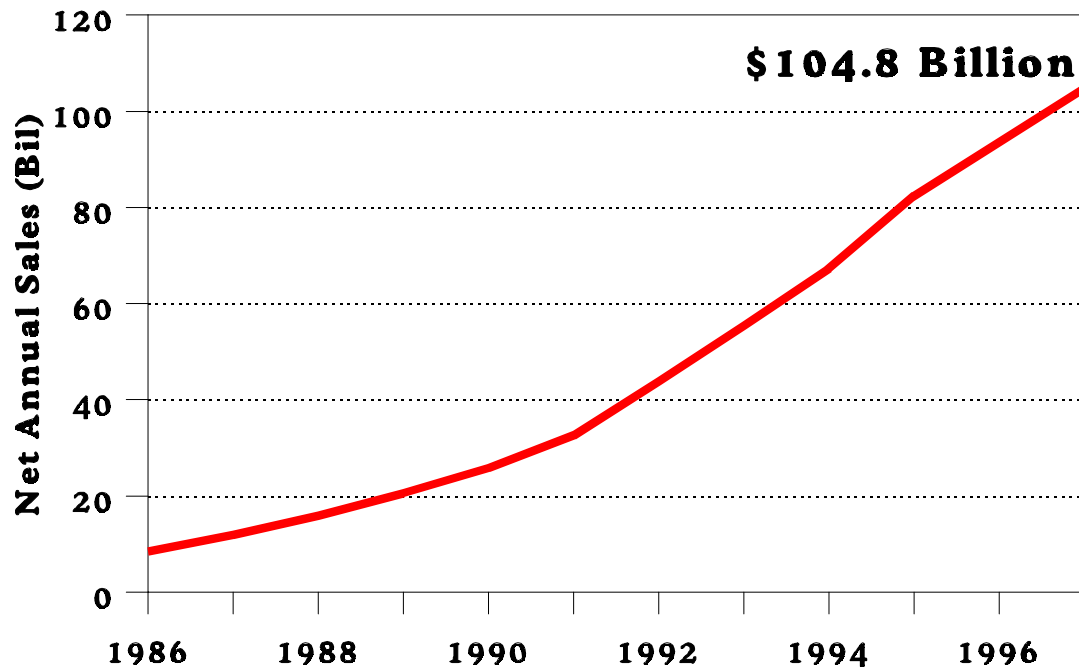
Gains by Discount Merchandisers

Wal-Mart was a leader in converting their purchasing and distribution cost advantages into lower prices. The chain also selected an EDLP (Every Day Low Price) format to highlight the prices. By responding to customer needs, they grew from 859 stores in 1985 to 2314 Wal-Mart stores and 439 Sam's Clubs as of August 1997 (Wal-Mart 1997). Wal-Mart serves more than 90 million customers per week and is the largest private employer in the U.S. (more than 687,000 employees). The growth of Wal-Mart's net annual sales (Figure 2) has been phenomenal and some experts predict their sales will double in the next five years. Wal-Mart's success encouraged traditional food marketers to examine their distribution system for inefficiencies and to consider the benefits of the EDLP strategy.

Table 1. New Abbreviations and Acronyms in the Food Industry.

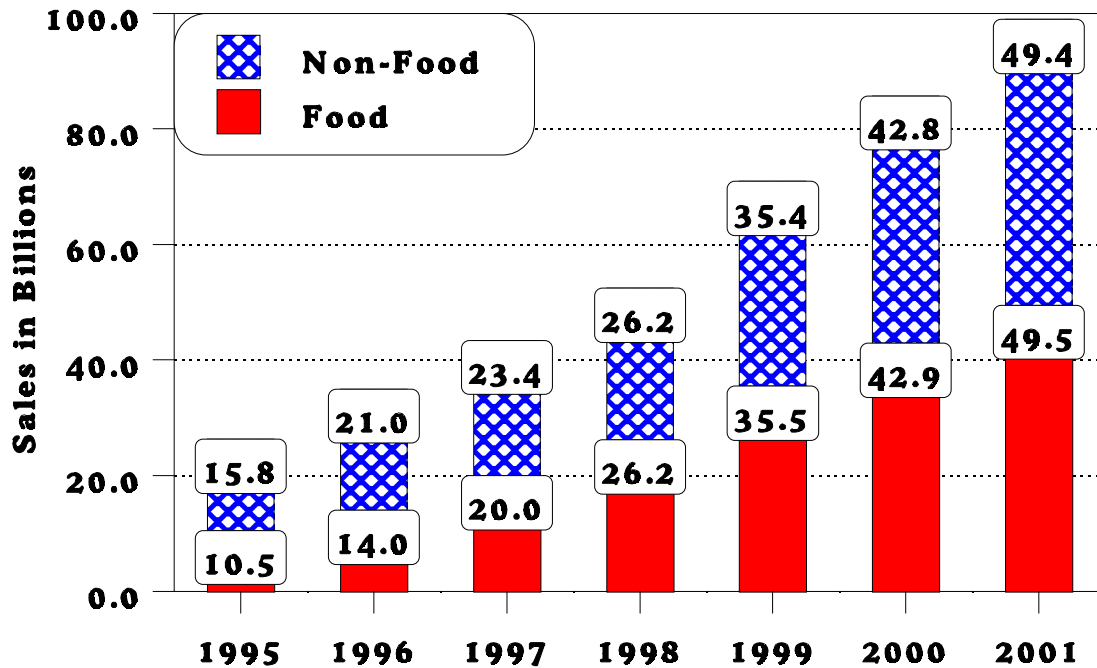
<u>Abbreviation</u>	<u>Expansion</u>	<u>Meaning</u>
ABC	Activity-Based Costing	Accounting method to help businesses understand how and where profits are made.
CAO	Computer-Assisted Ordering	System automatically generates replenishment orders when inventories drop below key levels.
CRP	Continuous Replenishment Program	System that lowers inventory costs by reducing inventory variations and by making smaller, more frequent deliveries by using POS data.
DSD	Direct Store Delivery	Process where manufacturers deliver their products direct to each store's door.
ECR	Efficient Consumer Response	Programs designed to lower distribution costs and to help manufacturers and retailers respond faster to buyer needs and provide better values.
EDI	Electronic Data Interchange	Paperless communication of information to increase speed and reduce order errors.
EDLP	Every Day Low Pricing	Marketing strategy with lower regular prices and fewer, shallower price discounts than the common hi-lo approach used by retailers.
EFR	Efficient Foodservice Response	Programs similar to ECR that are intended to lower costs in the foodservice distribution system.
EFT	Electronic Funds Transfer	Paperless transfer of payments to increase speed and reduce billing mistakes.
GIS	Geographic Information System	Technique to organize information according to geographic location.
HACCP	Hazard Analysis and Critical Control Point	Procedure to identify and control hazards in the food distribution system.
HMR	Home Meal Replacement	Completely- or partially-prepared meals designed to be consumed off-premises.
POS Data	Point of Sale Data	Typically UPC scanning data gathered at checkout.
SKU	Stock Keeping Unit	Case identifier for item, similar to UPCs.
UCC/EAN-128		New standard bar codes (UPCs) for cases and for variable-weight and date-coded products.

Figure 2. Wal-Mart's Net Annual Sales



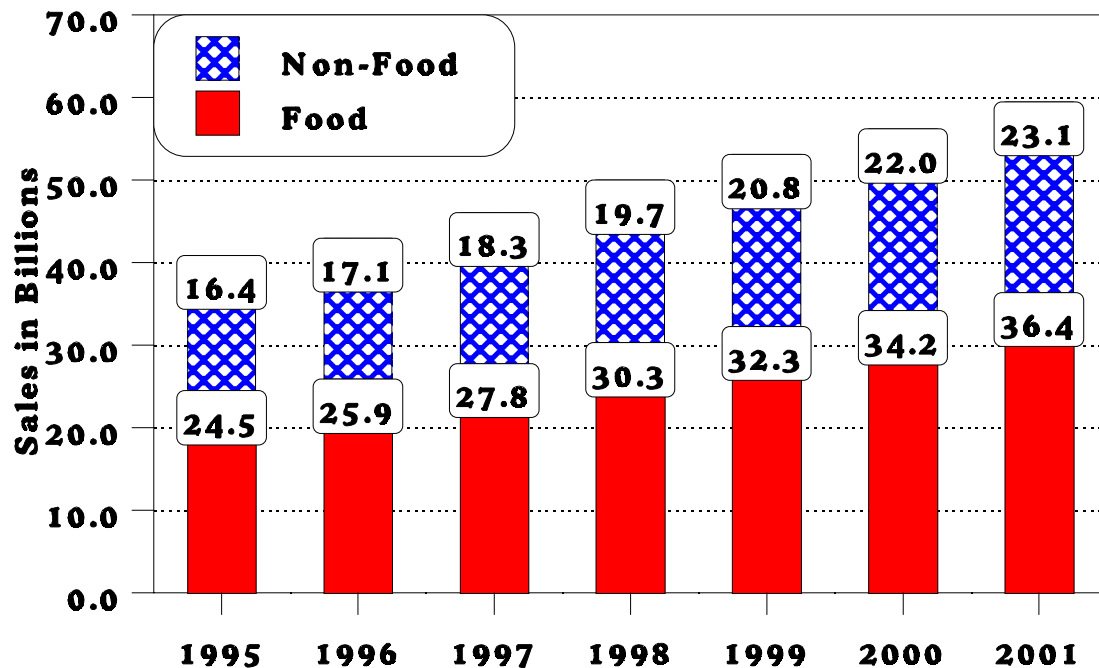
As discount merchandisers learned how to cut distribution costs, they built larger stores. Wal-Mart, Meijer, K-Mart, Fred Meyer, Target, and others developed supercenters, combining full-size discount stores with full-size supermarkets. Most have more than 150,000 square feet of floor space and have weekly sales in excess of \$1 million. Grocery products account for about 40 percent of supercenter sales. In 1994, James M. Degen and Company projected that supercenter sales would grow to \$42.4 billion by 1998 (Weinstein 1994). Their recently revised forecast (Figure 3) suggests that 1998 sales will exceed \$52.4 billion (Food Institute Report 1997b). McKinsey and Company concludes that eighteen hundred supercenters may exist six years from now, more than double the current number (Neff 1997c). These predictions are leading many food retailers to adjust their strategic plans and to focus more on customer service.

Figure 3. Supercenter Sales Forecast by James M. Degen and Company



Besides supercenters, other retail formats are growing. Before the entry of supercenters, membership club stores were perceived to be a major competitive threat for supermarkets. Items sold by club stores often have large unit sizes. Some manufacturers consider these stores to be a different class of trade because much of their sales is to other businesses. Sam's Club and PriceCostco are the two largest chains in this retail segment. James M. Degen and Company estimated club store food and sundry sales in 1996 to be between \$24.4 billion and \$27.3 billion (Food Institute Report 1997i). The number of club stores is expected to rise from 856 in 1997 to 975 in 2001 (Food Institute Report 1997c). Total retail sales are also expected to increase from \$46.1 billion in 1997 to \$59.5 billion in 2001 (Figure 4). Although supercenter sales are expected to grow faster, club stores will gain some volume from traditional grocery channels.

Figure 4. Membership Club Store Sales Forecast by James M. Degen and Company



Identifying who will lose the most sales to supercenter and club stores is difficult. Some information comes from two 1994 studies that predicted market shares for grocery business segments. Willard Bishop Consulting compared 1993 share estimates by store type and made projections for 1998 (Food Institute Report 1994a). They estimated supercenters would grow from a 1.7 share in 1993 to a 7.2 share in 1998. Formats that could lose market share included traditional supermarkets (26.1 to 20.6), convenience stores (10.2 to 9.1), warehouse stores (9.9 to 8.8), and an “other” category that included limited assortment stores (12.4 to 8.6). Salomon Brothers compared 1993 market share estimates by retail channel and made projections for 2000 (Food Institute Report 1994b). They believed chain supermarkets would grow from a 54.4 share to a 55.4 share, supercenters would grow from 1.4 to 6.9, and wholesale club stores would grow from 4.2 to 5.6.

The two remaining segments would lose market share: independent supermarkets would fall from 20.4 to 15.7 and non-supermarkets (e.g., small stores) would fall from 19.8 to 16.4. Although these studies used slightly different definitions of the grocery universe and, in hindsight, underestimated the growth of supercenters, they do imply that traditional supermarkets, particularly independents, may be the most vulnerable to supercenter and club store competition.

Discount merchandisers and convenience stores have also increased their food sales, making it easier to pickup basic food items. Capps (1997) found that if a Wal-Mart store was located near a supermarket from one chain, the supermarket's sales would be 17 percent less than expected. Discount merchandisers are trying to attract additional volume away from supermarkets. K-Mart plans to add "pantries," departments that sell eggs, milk, bread, ice cream, frozen pizza etc., to all their stores (Supermarket News 1997). Convenience stores are also trying to attract more grocery shoppers. About 65 percent of the U.S. population already visits a convenience store during any given month (Azzato 1997). Merchandise sales by convenience stores totaled \$70.7 billion in 1996, 9.8 percent higher than in 1994 (Food Institute Report 1997h). The 7-Eleven chain recently revised their pricing strategies, store designs, and business systems to compete with supermarkets (7-Eleven 1997). Many supermarkets are responding by making their stores easier to shop.

To reduce costs and to adapt faster to market changes, many firms are combining or forming alliances. Major wholesalers have merged (e.g., SuperValu and Wetterau, Fleming and Scrivner, Nash Finch and Super Foods, Ameriserve and PepsiCo Food Systems), food brokers have consolidated (e.g., Morris Alper and James A. Weaver and Chaimson Brokerage and Wright Brokerage), and large supermarket chains have combined (e.g., Safeway and Von's, Yucaipa and Ralph's and Dominick's). The Food Institute (1997) noted more mergers and acquisitions in the food

industry during 1996 than in any of the previous five years. Whether the higher concentration in the industry will promote efficiency and will benefit consumers are still open questions.

Growth of Foodservice

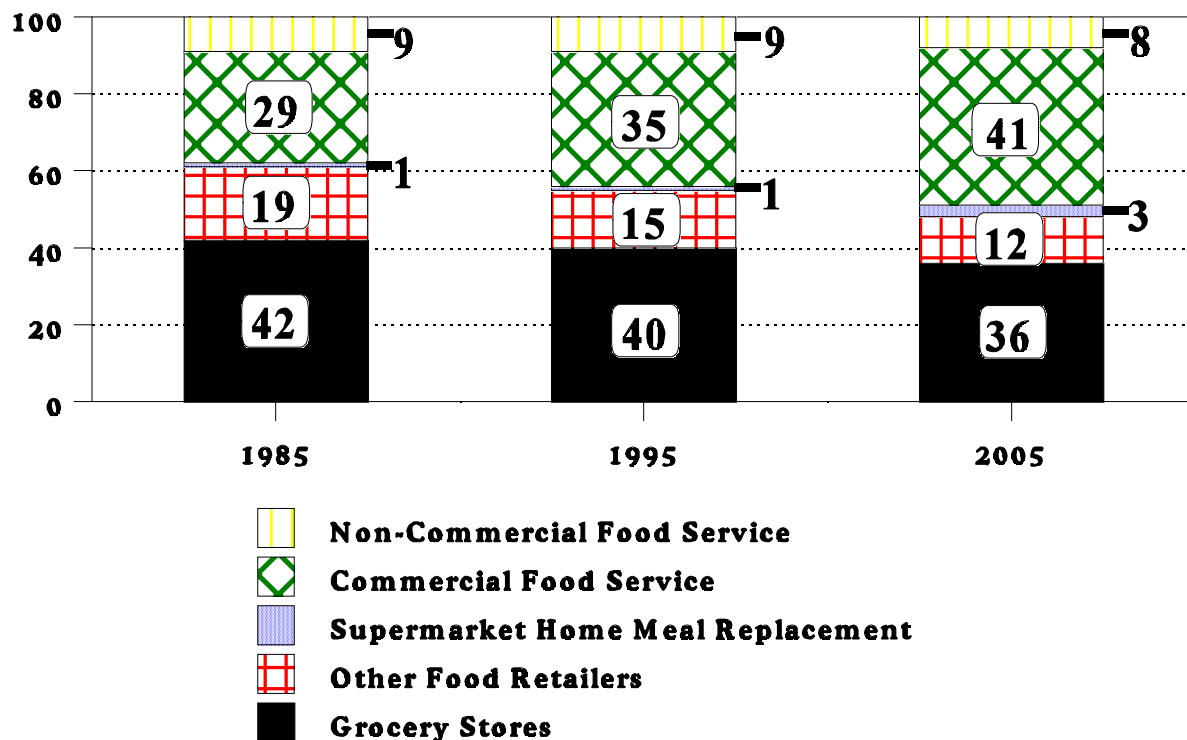
Supermarkets are also being challenged by restaurants and other foodservice operations. McKinsey and Company predicted that the share of food spending in traditional grocery outlets will fall from 40 percent in 1995 to 36 percent by 2005 (Neff 1997a). Commercial foodservice will grow from 35 percent in 1995 to 41 percent by 2005 (Figure 5). The forecasted growth of foodservice encouraged grocers to reexamine how they can meet the consumer's desire for prepared food.

Take-out food has become very important for the food industry. In 1996, for the first time, more meals purchased at restaurants were eaten off-premise than were eaten on-premise (Casper 1997). One example of this growth is the expansion of Boston Market and their home meal replacements (HMR). Boston Market had 1208 stores in July 1997. They offer well-prepared family dinners that customers can pick up on the way home. Similar chains (e.g., Kenny Rogers Roasters and Koo Koo Roo) are also expanding. Many HMR and take-out concepts are being developed. 7-Eleven is introducing "Deli Central" heat-and-eat products in their convenience stores (Harper 1997). About 82.2 percent of supermarkets plan to offer prepared foods in 1997 (Food Marketing Institute 1997). Many ready-to-heat (RTH) and ready-to-eat (RTE) items are now available in stores.

Improving the Efficiency of the Supply Chain

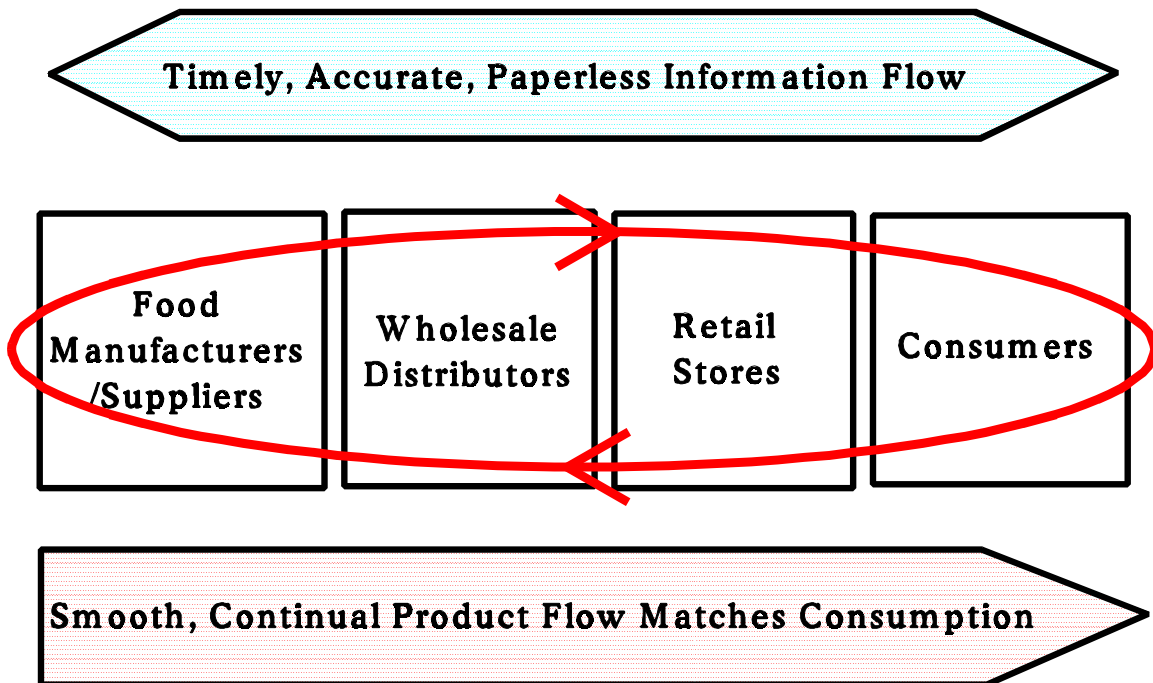
The growth by competing retailers convinced many supermarkets and manufacturers that significant cost reductions are possible through improved logistics. Food processors, wholesalers,

Figure 5. Food Spending Share Estimates by McKinsey and Company (Foodservice 2005)



and retailers developed programs to improve production, distribution, and marketing efficiency. A major initiative, called Efficient Consumer Response or ECR, intends to streamline and automate the distribution system from the production line to the grocery checkout line. The goal of ECR is for suppliers and retailers to work closely together to bring better value to the grocery customer, maximizing consumer satisfaction and minimizing costs (Figure 6). If ECR is a success, information about consumer purchases will be used by stores, wholesalers, and manufacturers. Product flows will match purchase rates. Ideally, items will reach the shelf just before the consumer arrives to make a purchase. The total savings generated from ECR was initially estimated to be \$30 billion, or 10.8 percent of consumer spending for dry grocery products (Kurt Salmon Associates 1993).

Figure 6. The Efficient Consumer Response Initiative



The ECR initiative is often divided in different ways. One approach highlights three core areas. The first deals with merchandising and marketing. By restructuring promotional deals, ECR proponents hope to reduce the forward buying of inventory and the diverting of products (i.e., buying in low-priced areas, and transporting and reselling in high-priced markets). Improved management of shelf space and variety could reduce warehouse and store costs. Better account management, customized promotions, account profitability analyses, and multi-functional selling teams may also improve system efficiency.

The second core area of ECR covers replenishment, logistics, and product flow. The intent is to coordinate and integrate the approaches used by manufacturers and retailers to speed delivery, reduce unnecessary handling, and lower costs. Recommended industry changes include joint

inventory management to minimize warehouse costs, cross-docking operations (i.e., moving cases between manufacturer and store trucks without stopping in a warehouse) to eliminate unnecessary storage locations, and packaging enhancements to reduce product damage.

The last core area of ECR includes changes in administration and technology. Standardized bar coding of cartons and pallets would help improve efficiency. A new system of bar codes for variable-weight and date-coded products called UCC/EAN-128 has been developed. Use of electronic data interchange (EDI), electronic funds transfer (EFT), and computer-assisted ordering (CAO) may help reduce order errors and billing costs.

The ECR initiative can also be divided into four strategies. The first is efficient store assortment. This strategy addresses the use of shelf space and is designed to improve store space utilization. Experts suggested that if supermarkets made store-specific category and item space allocations, made timely adjustments, and considered profit margins when making the allocations, sales increases of 8 to 10 percent could be expected.

The second strategy is efficient replenishment, providing the “right product, to the right place, at the right time, in the right quantity, and in the most efficient manner possible” (Kurt Salmon Associates 1993 p. 45). One goal of the ECR initiative is to reduce dry grocery inventories by 41 percent, from 104 days of supply to 61 days. With improved ordering (CAO, EDI, order validation etc.), better item/price/promotion maintenance, and enhanced logistics/receiving/backroom, 2.8 percent industry costs could be saved (and financial savings of 1.3 percent would be realized).

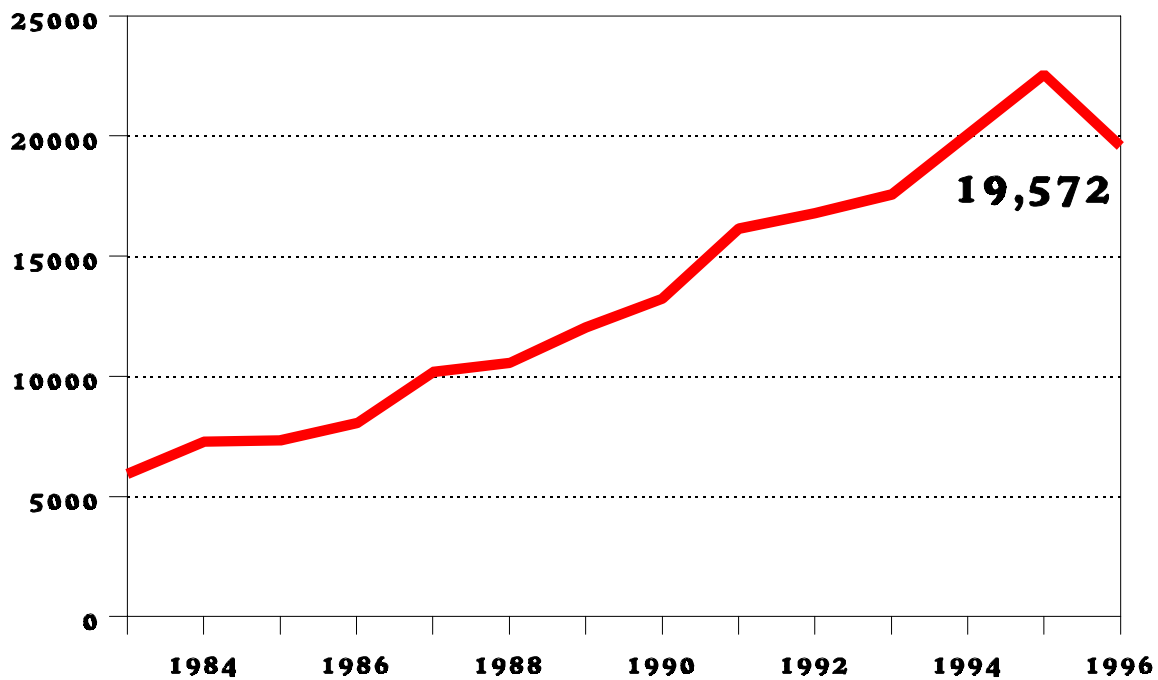
The third ECR strategy is efficient promotion. By simplifying trade promotion deals, offering alternative deals to meet distributor needs, managing consumer and store advertising,

improving in-store promotions, keeping accurate deal files, and reducing the costs to distribute and handle discount coupons, 4.3 percent of industry costs could be saved.

The final strategy is called efficient product development. The flood of new products has added large costs to the distribution system. A typical supermarket carries around 30,000 SKUs. In 1996, about 19,572 new grocery (food and nonfood) products were brought to market, more than three times the number in 1983 (Food Institute Report 1997a). Although introductions in 1996 were down 13 percent from 1995 (Figure 7), introductions during the first half of 1997 were 5 percent ahead of 1996 (Food Institute Report 1997f). Research conducted before the ECR initiative found that supermarket buyers rejected nearly 60 percent of the new products presented to them (Gerlich, Walters and Heil 1994; McLaughlin and Fredericks 1994). Even when products are accepted by stores, their odds for success are not great. Research in Kroger stores found that only 33 percent of new products (i.e., classically innovative, equity transfer, or line extension items) had year two sales rates at least 80 percent as high as in year one (Efficient New Product Introduction 1997). Product failures hurt the bottom lines of both manufacturers and retailers. Better information on consumer preferences and on product attributes could be used to improve the new product success rate.

The cost savings from ECR would affect all distribution channels. A few firms have expressed some reservations because many of the programs will initially reduce profit margins. Most of the ECR costs are immediate while most of the benefits are long-term and less certain. Others were concerned about inequities between those who bear the costs and those who reap the benefits. One consulting firm suggested that manufacturers and retailers would almost equally divide 76 percent of the operating cost reductions (Mathews 1994). Changes by suppliers and brokers would be needed to make the initiative succeed, but their cost reductions may be smaller.

Figure 7. New Product Introductions (Food and Nonfood) by Year from New Product News



If the implementation of ECR proposals is widespread, the eventual efficiency gains would affect food processors, wholesalers, retailers, and consumers.

Research by Phumpiu and King (1997) on the adoption of ECR by Minnesota supermarkets found that stores using more of the practices were more efficient. Those that adopted more of the technologies had much higher sales per labor hour, sales per square foot, and annual inventory turns. If ECR practices are responsible for the productivity gains, the cost reductions from increased use of these technologies will be very significant.

Another new industry practice is the use of continuous replenishment programs (CRP) by supermarkets and manufacturers. When retailers and processors work together as partners, they can reduce costs by planning more efficient product delivery schedules. Giant Food, a large chain based

in Maryland, worked with 20 large vendors to develop CRP. In six months, inventories for those vendors were reduced by 25.5 percent, saving Giant nearly \$1 million (Purpura 1997).

Manufacturers and retailers are also adopting category management techniques to boost their productivity further. Procter and Gamble is working to simplify their pricing and promotions and is helping supermarkets stock the items with the highest sales velocities (Neff 1997b). In 1996, General Mills reduced their inventories 22 percent by selective pruning of their least popular flavors and sizes and by improving the product flow (Food Industry Report 1997). Frito-Lay helped retailers trim SKUs by 15 percent (Food Institute Report 1997j). Cornell University researchers found that category management is changing how new products are authorized (Turcsik 1994; McLaughlin and Perosio 1996). Instead of using buying committees, supermarkets let category managers choose which items to carry. When managers are responsible for individual categories, they learn what their customers want. Given the high cost to distribute, inventory, stock, and discontinue items, improved product selection will enhance the efficiency of the food system.

Stores are learning that they do not have to carry every item in a product line. Experiments found that many consumers may not notice small reductions in duplicate brands and sizes. In one study, duplicative items (often more than 10 percent of the SKUs) in six categories were removed from the shelves of 12 test stores (Willard Bishop Consulting Ltd. and Information Resources, Inc. 1993). When compared with control stores, those that eliminated the recommended number of items had category sales increases that averaged 1.62 percent. When the shelf clutter was reduced, most customers did not notice the change and many thought that variety had increased. A major chain in Chicago, conducted their own test with one vendor (Stickel 1996). In 15 test stores, more than 25 percent of the SKUs in one category were eliminated. When compared with control stores, the test

stores experienced a 2 percent increase in category sales. These results are encouraging supermarkets to reduce the number of duplicate brands and sizes they carry.

When a supermarket drops some items, the food processor's profits do not necessarily decline. Consider a manufacturer of a large product line that uses direct store delivery (DSD). If a store dropped a few items from the line and expanded the facings for the remaining items, total sales are likely to decline (unless out-of-stocks were problem). Before activity-based costing (ABC), the processor probably would have concluded that they did not benefit from the change. If they used ABC, the company would consider any reductions in inventory needs, in delivery person time at the supermarket, and in trips needed to supply the store. They may find that cost reductions more than make up for the decline in sales revenue. This example illustrates that manufacturers can also benefit from variety reductions by retailers.

By testing shelf arrangements, supermarkets are improving product displays and enhancing sales. For example, Dreze, Hoch and Purk (1994) rearranged the shelf positions and space allocations in one chain using store-level POS data. For refrigerated juices, moving a brand from the worst to the best position along the same shelf could increase sales by 22 percent. If the brand was also shifted from the worst shelf to the best shelf, sales could more than double. The researchers concluded that profits could increase as much as 15 percent if the analysis was done store-wide.

Supermarkets also know that if products are missing from the shelf, their sales will fall. An Andersen Consulting study found that, on average, 8.2 percent of items are out of stock at any one time (Garry 1996). Out-of-stocks may lower a typical supermarket's sales by about 3 percent. To reduce out-of-stock losses, stores are expanding the shelf space for popular items, dropping slow-sellers, and developing better merchandise planning, ordering, and delivery systems.

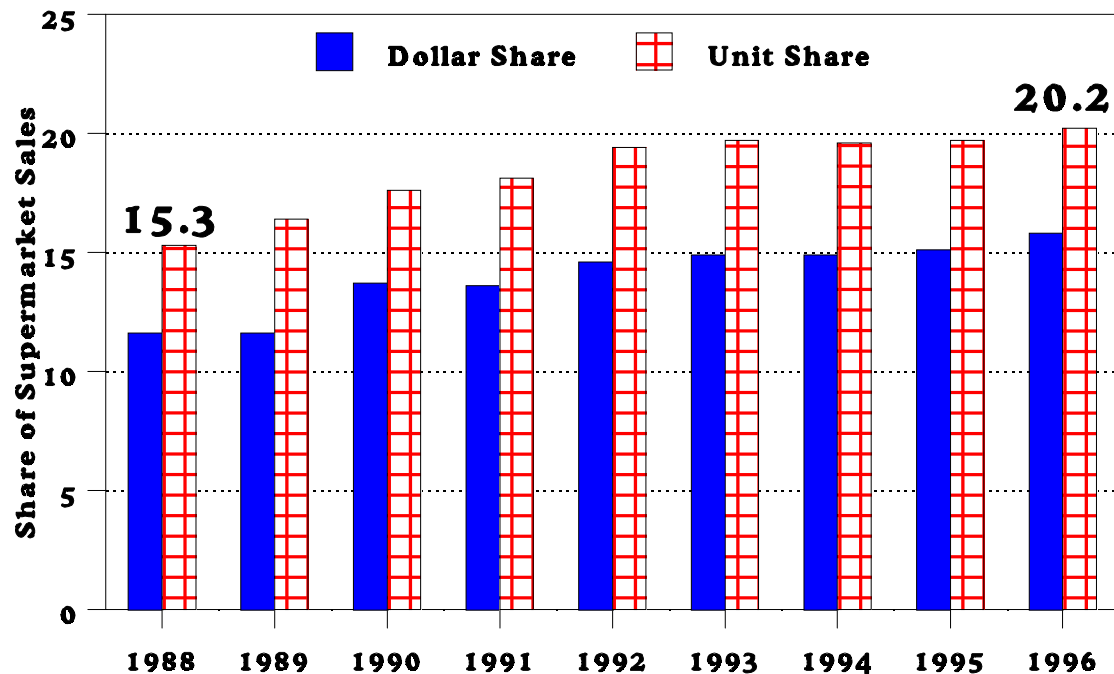
Because of the heightened interest to only stock fast-selling items and to reduce the number of new items that ultimately fail, many chains require new product producers pay slotting allowances for shelf space. One survey found that the average fee for a grocery item was \$42 per store (Progressive Grocer 1996). These fees make it difficult for some food processors to gain shelf space.

The early successes from ECR lead the foodservice industry to develop a similar initiative called Efficient Foodservice Response or EFR. By following five strategies, equitable alliances, supply chain demand forecasting, electronic commerce, logistics optimization, and foodservice category management, they hope to reduce their annual supply chain costs by \$14.3 billion (Mathews 1997). This initiative will make restaurants and other foodservice providers more competitive in the future and may lead to lower prices for consumers.

Expansion of Private Labels

Supermarkets and discount merchandisers have sold private label, house brand, and generic products for many years. In the past, private label popularity increased during economic downturns and declined during recoveries. However, private label sales continued to grow when the last recession ended in 1992 (Figure 8). Apparently consumers tried these products during depressed economic times and discovered their value. New premium-quality, private labels (e.g., Sam's American Choice by Wal-Mart, American Fare by K-Mart, and President's Choice by Loblaw) contributed to this trend. These products, with little advertising and promotional spending, usually have significant price advantages over brand-name items and are often similar or superior in quality. By 1996, private label dollar sales totaled \$33.9 billion, up 8.5 percent from 1995. They represented

Figure 8. Dollar Sales Share and Unit Volume Share for Private Label Products in Supermarkets



15.8 percent of dollar sales and 20.2 percent of unit volume in supermarkets (Food Institute Report 1997g). This compares with a 11.6 dollar sales share and a 15.3 unit volume share in 1988.

To compete with private labels, many branded-product manufacturers considered reducing their marketing spending and lowering prices. In November 1991, Procter and Gamble announced their shift toward EDLP. They cut promotion budgets and reduced wholesale prices for many products. Procter and Gamble said they would spend less on coupons and offer stores smaller price incentives for promoting P & G products, angering many retailers. Most supermarkets use a hi-lo strategy, with high regular prices and low sale prices. Because they used deal discounts to promote their stores and build customer traffic, they said P & G was limiting their ability to differentiate their stores (Promo 1992). Instead of returning to the old deal structures, P & G expanded their EDLP

strategy to additional products (Lawrence 1993). Other manufacturers have adjusted their marketing strategies to be consistent with the new market environment. For example, instead of following a price increase by Kellogg's, General Mills shifted toward EDLP. They cut promotional spending by 30 percent, a reduction of \$175 million, and lowered prices on major cereal brands by 11 percent (Chisholm 1994). P & G and General Mills continue to promote and advertise with less intensity than in the past. The shift by some manufacturers toward EDLP encouraged retailers to explore options that could enhance their efficiency and to develop new marketing techniques.

Whether supermarkets can benefit by adopting the EDLP format is debatable. Although many discount merchandisers such as Wal-Mart and several food retailers have successfully used it, researchers found sales increases and profit declines when some supermarkets shifted to EDLP (Hoch, Dreze and Purk 1994; Mulhern and Leone 1990). These studies and others suggest that EDLP may be more effective in some markets than others and for some categories than others. By focusing attention on the relationships between promotions, prices, and profits, the EDLP debate may help improve the marketing efficiency of both food processors and retailers.

New Consumer Interests and Concerns

Besides noting the renewed interest in lower prices, consumer surveys have found other preference changes. The consumer attitudes reported by surveys often lead behavior by many years. Several of these attitude trends are important for food suppliers as well as retailers. For a long time, shoppers have expressed interest in healthier products. The recent successes of Healthy Choice and Snackwell products suggest that behavior may be shifting and consumers may be starting to buy healthier products. Some shoppers are choosing foods with medical benefits, “nutraceuticals” or

what Popcorn and Marigold (1996) call “foodaceuticals.” Nabisco, maker of Knox gelatin, is one of the first major companies to promote this new “nutraceutical” category (Pollack 1997).

Consumers are demanding more convenience and freshness and appear willing to pay for these product attributes. The popularity of precut produce is a good illustration. Eastwood (1997) used POS data from one supermarket chain to illustrate that the introduction of precut carrots dramatically reduced traditional carrot sales even though the precut products were typically priced over 50 percent more per pound.

Some foodservice firms are trying new methods to distribute prepared foods. For example, McDonald's has small, satellite “McSnacks” restaurants inside about 70 Wal-Marts. At the checkouts in 35 Wal-Mart stores, customers can order McDonald's food and have it brought to them while the rest of their store purchases are totaled (Food Institute Report 1997e). In Colorado, McDonald's developed a superfast drive-thru system with five windows (Waters 1997).

Manufacturers are searching for small niches of consumers with unique needs and are customizing products for them. Environment-friendly products interest consumers (Speer 1997). However, most shoppers are not yet willing to pay large price premiums for “green” items. Although consumers have similar basic nutrition needs, buyer taste segments appear to be fragmenting. Both traditional and foreign foods are increasing in popularity. These trends toward “green” products and exotic foods may spread and affect food production in coming years.

Recent media attention may have lowered shopper confidence in the food distribution system. Publicity on the accuracy of scanned prices has lead to increased government oversight of supermarket practices. News stories of questionable food handling practices in supermarkets and restaurants have reduced customer trust. Illnesses caused by bacteria-contaminated hamburger,

strawberries, apple juice, raspberries, alfalfa sprouts, ice cream, and other products further shook consumer confidence (Morganthau 1997). New techniques for finding pesticide residues in foods may lead to greater public scrutiny. For example, tests on General Mills' cereals revealed that the oats had been treated with pesticide that was not labeled for use on oats (House 1994). One pesticide applicator's interest in cutting his chemical expenses cost General Mills an estimated \$147 million when they could not sell the products. Publicity of similar problems may lead to further regulation unless organizations can reassure the public that the food they buy is safe.

Many consumers are already concerned about chemical residues. A regional survey of 534 households found that 71 percent believed that residues in food present a serious or moderate health hazard (Underhill and Figueroa 1996). Between 1991 and 1995, organic food sales nearly doubled (Miller 1996). If organic and other non-conventional producers start marketing their products, sales could increase even faster. Reicks, Splett and Fishman (1997) conducted in-store experiments and found that, for some organic products in discount/warehouse stores, sales increased 233, 555, 1225, even 2260 percent above control store levels when they used point-of-purchase signs. Major food processors such as Gerber are starting to market organic foods (Food Institute Report 1997d).

Business Responses to Consumer Trends

Businesses are responding to these consumer attitude changes. Consumer concerns about food safety and firm concerns about product liability have increased the interest in ways to reduce hazards. One approach being considered is called Hazard Analysis and Critical Control Point or HACCP (Unnevehr and Jensen 1996). The seven steps of HACCP are: 1) identify hazards and assess risks at each phase in the process, 2) determine critical points where hazards can be controlled,

3) establish criteria and limits for each critical point, 4) create procedures to monitor critical points, 5) establish corrective actions when needed, 6) start record keeping for the system, and 7) verify system effectiveness. Many restaurants, supermarket HMR departments, and food processors are already using this technique and the HACCP process may be required to increase meat and produce safety and to reduce consumer concerns.

Food manufacturers are rethinking their product strategies using the consumer's point of view. For example, between 1991 and 1996, Procter and Gamble cut the number of items it sells in the U.S. by one-third, in part to simplify consumer choices, and Nabisco announced it was trimming its product line by 15 percent (Schiller 1996). Campbell's developed frozen foods for people on particular diets and ships the products directly to the households (Weber 1997). At many food processors, new product research is focused on areas with high consumer interest. Manufacturers are working on reducing sodium, adding fiber, and changing the types of fats and oils in foods. High barrier films are being tested to improve product shelf-life and package recyclability is a high priority.

With all the changes in the marketplace, new marketing techniques are being considered. More firms are using database marketing to customize their promotional offers to individual households. Household demographics by neighborhood, values and attitudes reported in surveys, and product preferences are being merged with customer lists. Marketers are using another technology called Geographic Information Systems or GIS. By including spatial information in the analysis, food retailers have discovered dramatic variations in price and promotion sensitivity within urban markets (Hoch et al. 1995). Some grocers are developing different marketing programs for each zone in a city to meet customer needs better.

Agricultural commodity organizations are also responding to marketplace changes. They are testing consumer promotions for less-processed foods to balance their marketing mix and improve spending efficiency. Given consumer concerns about food safety, more branding of meats and produce can be expected. Besides differentiating products, brands can become a quality signal, increasing the perceived value of foods.

A step beyond database marketing is “loyalty” marketing where promotional offers are directly tied to customer purchases. Shoppers who have never bought an item may receive a trial incentive. Regular buyers are given repeat purchase incentives. Early tests of “loyalty” programs by manufacturers found that they increased sales, but at too high a cost. Research on shopping patterns found that supermarkets lose between 25 and 50 percent of their customers each year and that the top 20 percent of a store’s shoppers account for 64 percent of sales, fifty times as much as the bottom 20 percent (Woolf 1994; 1996). These findings surprised many grocers and encouraged them to develop loyalty or frequent buyer programs, modern versions of trading stamps. Many of these systems include customer purchase databases and offer rewards whenever shoppers purchase key items or surpass purchase thresholds. For example, the best customers at Dick’s Supermarkets are mailed customized shopping lists that highlight products they are likely to buy given their purchase histories and offer special purchase incentives (Spethmann 1997). In the future, if grocery managers notice surpluses of some items or a particularly attractive promotion, they may check their database for heavy buyers and mail special offers to those households.

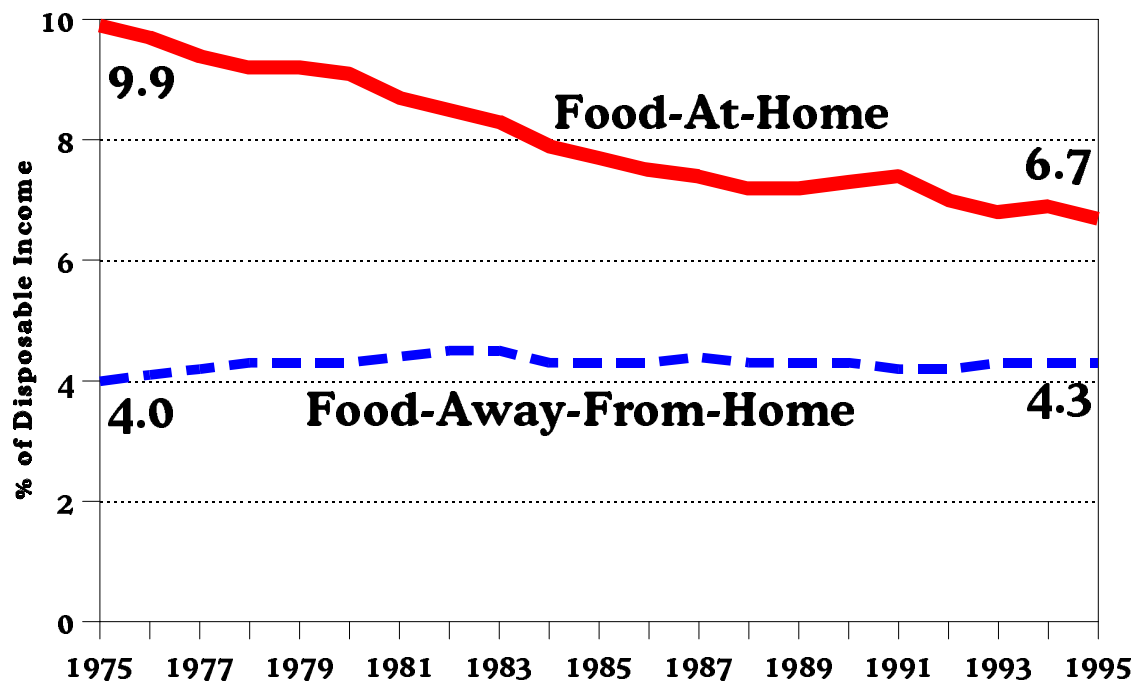
A few may conclude that these developments, these new abbreviations and acronyms, are altering what had been a fairly stable industry. However, the forces driving the recent changes started surfacing many years ago. During the 1980s, thousands of grocery stores closed and chains became

more important in the industry. The share of supermarket sales that belonged to chain stores (i.e., an operation of 11 or more stores) increased from 61 percent in 1976 to 78 percent in 1996 while independent operations lost 17 share points (Progressive Grocer 1997). The decline in food ingredient purchases also began many years ago. In 1975, 65.5 percent of the food dollar was spent on food for consumption at home. By 1985, this had fallen to 58.3 percent and, by 1995, it was down to 53.8 percent. Food-away-from-home represented to 46.2 percent in 1995 (Food Institute 1997). Looking at this U.S.D.A. data in another way (Figure 9), in 1975, the average household spent 13.9 percent of their disposable income on food, with 9.9 percent for food-at-home and 4.0 percent for food-away-from-home. By 1995, only 11.0 percent of household income was spent on food. Food-at-home had fallen to 6.7 percent and food-away-from-home had increased to 4.3 percent. Improved efficiencies in the food production and distribution system have allowed consumers to spend more of their incomes on other goods and services and on convenient, prepared foods. From this perspective, the transformation of food distribution system started over twenty years ago. Changes during the next twenty years are likely to be even greater.

Implications for Food and Agricultural Businesses

Many of the developments in food retailing will affect agricultural producers, suppliers, food processors, and distributors. The interest in reducing inventories at the warehouse may translate into storing more products near their raw form. Soucie (1997) suggests that better logistical coordination may be needed between the farm gate and the processor to meet just-in-time (JIT) delivery requirements. More storage capacity for raw farm commodities and more reliable transportation systems may be needed in the future.

Figure 9. Percent of Disposable Income Spent on Food-At-Home and Food-Away-From-Home



Retailers are searching for new ways to distinguish their products from competitors. Some may wish to develop store labels with very high quality standards or unique product genetics. Manufacturers are also seeking new ways to differentiate their brands from others. Further consolidation by manufacturers and retailers will heighten their interest in supplying exceptional products. New techniques to identify special varieties and breeds and new grading schemes will be developed to meet the demands for consistency and quality. More contract farming of specific crop varieties and animal breeds for processors and retailers can be expected.

As shoppers choose to purchase more convenient products, the percentage of their food spending going to farmers will diminish. This means that movements in commodity prices will have less impact on food prices. Because consumers are the driving force behind more of the decisions

by manufacturers and retailers, consumer preference changes will affect farm gate demand. Farmers may revise their crop and livestock production plans more often in the future. Leading farmers may start tracking consumer trends almost as often as they check the commodity markets. Decisions by large food retailers about which products to carry and which ones to promote may have significant impacts on commodity sales. International sourcing of commodities will add to the price risk facing the grower. These changes will increase the incentives for farmers to form cooperatives to bargain with processors for better contract terms.

Some have suggested that cooperatives may move forward in the food distribution system and become processors, adding more value to their crops. Several groups have successfully marketed juices, nuts, and dairy products through retail channels. As supermarkets reduce the number of SKUs they carry and become more cautious about adding new products, these processing cooperatives will either supply manufacturers who already have shelf space and marketing expertise or become skilled consumer marketers to gain and sustain retail distribution of their products. Alternatives for processing cooperatives include working with supermarket chains to produce private label products (a type of vertical integration) or developing items for foodservice channels.

Increased consolidation and vertical integration of firms in the food distribution system may have other effects on agricultural producers (and researchers). Stevens and Ward (1997) described how the recent increases in retail concentration may be limiting the transmission of price signals to the live beef market. They also found higher retail concentration increased the difference in the rates of transmission when prices were rising and when they were falling. This could slow the production adjustments by independent livestock producers when consumer meat demand decreases, creating excessive production capacity and larger price reductions in the future. Kinsey and Senauer (1997)

suggest that information will become more difficult to collect by public and private entities as more prices, quantities, and other contract terms become privately negotiated. Without high quality data from these reporting services, farmers may have difficulty evaluating alternative contracts, managing risks, and planning future production.

These developments in the food system suggest several lessons for other producers of food. Because sectors of our economy are becoming more interrelated, it is important to broadly scan the environment. Changes in consumer needs may signal new opportunities and should be reviewed. For example, firms that reacted before their competitors to the growing consumer interest in healthier, good-tasting items and in high-quality private labels have prospered. Consumer preferences for variety and convenience may hasten the development of alternative crops and marketing techniques. Tracking consumer concerns may also be important. When pesticides are being evaluated, those with the least detectable residue at harvest may be preferred in the eyes of consumers. If more food retailers start testing their produce for residues, farm chemical manufacturers and farmers can expect major changes in their businesses.

Changes in the food distribution system may also suggest lessons that producers of primary products and their suppliers may want to consider. Anticipating new competition is important. Few grocers planned for the entry of supercenters or membership club stores into their markets. Many veterinarians are feeling threatened by “category killer” pet stores just like supermarket managers who face supercenter competition (Lipton 1995). Agricultural machinery dealers need to prepare for Internet competitors who stock every item farmers need and ship parts overnight directly to farm shops. Some supermarkets are already facing competition from companies that take grocery orders over the Internet and deliver to the customer’s home. Leading firms in this “virtual grocery store”

field include Peapod, Shopper's Express, Streamline, Netgrocer, and Wal-Mart. Perhaps improving customer service and developing "loyalty" marketing programs now would be good preparation for this potential source of competition. Other firms are considering entry into agricultural business sectors. For example, Wal-Mart and Home Depot have explored entering the farm supply business. One way to stay ahead of the competition is by learning from other industries. If initiatives like ECR and EFR or strategies like EDLP are beneficial for firms in one sector, they may be profitable for others. Perhaps food manufacturers, wholesalers, and retailers who developed superior techniques to manage their inventories, handle orders and bills, plan promotions, or transport products could help other businesses benchmark their systems.

If food marketers had focused on profit instead of volume, much of the waste in distribution and marketing budgets could have been eliminated. The recent development of partnerships and alliances between suppliers and customers has considerable merit. By working together, food manufacturers and retailers are lowering their costs. Evaluations of marketing mix and spending levels may be helpful. Too many marketers copy competitors who they mistakenly believe know how much to spend and how to spend it. The practical price promotion planning and evaluation techniques proposed by Larson (1996; 1997) may help many food and agricultural business marketers. Without evaluations, inefficient marketing techniques tend to be repeated and replicated.

Strategy experts recommend that firms should plan for change. Successful firms should try to build on their strengths today in order to further distinguish their products in the future. Smart business leaders should also prepare for additional abbreviation and acronym invasions. The letters may mean different things and the technologies may vary, but change is inevitable and good planning will help reduce the surprises to a manageable number.

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