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From Supply Push to Demand Pull

Agribusiness Strategies for Today's Consumers

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In the early 20th century, most types of farm products were sold as commodities on the open market. Sellers brought their hogs or cattle to centralized terminals, or their grain to country elevators, where current prices were paid on the spot. The rule of the day was "pushing" large volumes of standardized commodities through the supply chain, which kept costs down. This system worked well as long as consumers sought basic staples for cooking meals in their own kitchens.

Today, many consumers demand and have available a wide assortment of prepared foods, including complete meals purchased at restaurants and supermarket deli counters. Changing U.S. demographics—more mature consumers, greater ethnic diversity, and larger incomes—are driving changes in consumer demand for food products. Today's time-pressed consumer is using his or her higher level of income to purchase more convenience, while looking for quality, variety, and value.

Changing consumer preferences, along with technological advances and other changes in the economy, offer agribusiness companies new opportunities. Understanding the diverse preferences of consumers moves to the forefront and "pulls" products through the supply chain. Communicating consumer preferences back through the food system to prompt the needed adjustments in a cost-effective manner becomes the challenge.

Dana Rayl West, USDA/ERS

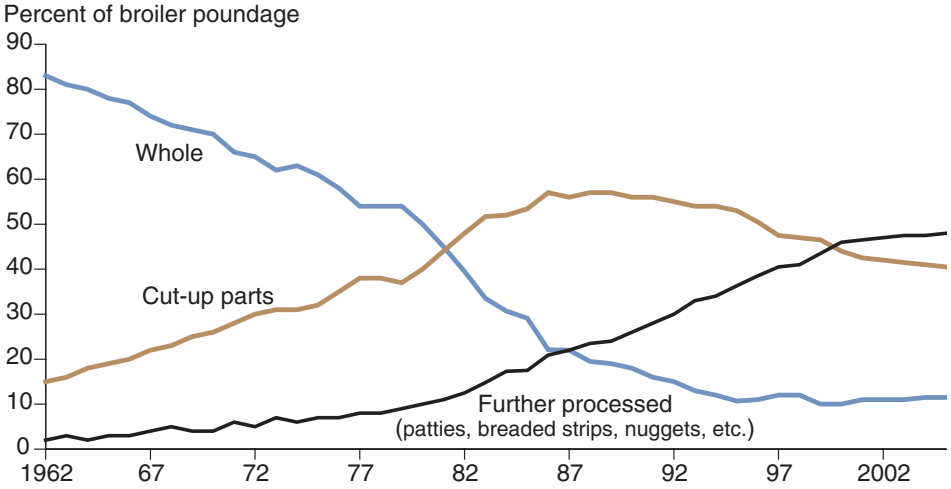
Catering to Today's Consumer

So what does the modern consumer want in terms of food? Convenience is clearly important for many of today's consumers. Food products, such as bagged salads and grab-and-go breakfast sandwiches, demonstrate Americans' desire to get food on the table (or into the car) fast. For example, the poultry industry has prospered in recent decades, in part, by providing convenience (see box, "The U.S. Broiler Industry"). The National Chicken Council reports that in 1974 only 6 percent of broilers were marketed to foodservice operators and retailers as further processed products (e.g., patties, breaded strips, and nuggets). By 1989, the share of further processed products grew to 24 percent and increased to 46.5 percent in 2001. Also, chicken sold cut-up in pieces—a more convenient product as opposed to whole roasters—rose from 28 percent of broilers marketed in 1971 to 42.5 percent in 2001.

Fully prepared meals, either from the supermarket deli or a foodservice establishment, are the ultimate in convenience. Spending on snacks and meals prepared by foodservice establishments now accounts for about half of total U.S. food spending, and is expected to grow more quickly than spending for at-home foods over the next 15 to 20 years. The supermarket deli has also been a fast-growing outlet for prepared meals and snacks in recent years. In 2000, 81 percent of supermarkets had delis; sales at delis increased by 6.1 percent in that same year to $13 billion.

However, today's consumer wants more than just convenient foods. He or she is also looking for ethnic variety. Thus, while Swanson sparked a cultural phenomenon by introducing the foil-covered TV dinner in 1953 (turkey, cornbread dressing and gravy, buttered peas, and sweet potatoes), today's selection of "TV dinners" includes chicken quesadillas and potato skins in a microwave-ready container.

Value-added chicken products satisfy consumer preferences for variety and convenience



2002-05 = Projected
Source: William Roenigk, National Chicken Council.

Retailers are responding to the desire for diverse cuisines in a number of ways. For example, Nash-Finch Company, a Fortune 500 food retailer and distributor, is developing a new Hispanic-oriented supermarket concept for four pilot stores in the upper Midwest. However, marketing of ethnic foods is not limited to niche retail outlets. Many supermarket chains, such as Safeway and Shoppers Food Warehouse, often have whole or partial aisles devoted to Hispanic and Asian items.

Another consumer segment seeks out organic and natural food products. The Natural Marketing Institute reports that sales of organic foods reached $7.8 billion in 2000, a 20-percent increase over sales of $6.5 billion in 1999. Specialized retailers, such as natural food supermarkets, are benefiting from this trend. Natural food supermarkets offer less-processed foods and more foods free of preservatives, hormones, and artificial ingredients. Natural food supermarket chains, such as Whole Foods Market and Wild Oats Markets, grew rapidly in the 1990s through mergers and acquisitions.

Variety is showing up in the fast food segment of the restaurant industry as

Forty years after its introduction, the "TV dinner" remains popular, with offerings as varied as the U.S. population.

The U.S. Broiler Industry: A Historical Account of "Consumer-Driven Agriculture"

Courtesy of the American Poultry Historical Society

In 1948, A&P's "Chicken-of-Tomorrow Program" went national. Forty finalists from 25 States competed for the contest's $5,000 first prize.

The U.S. broiler industry got its start in the 1920s. After World War I, the practice of dining out increased and provided the impetus for higher class eating places to add variety to their menus. Featuring broilers (young chickens), especially in the winter, became common practice.

The typical poultry meat in the first third of the 20th century, however, came from rather tough-meated older hens and young roosters that were byproducts of raising chickens for egg laying. The widespread practice of allowing birds to range in the barnyard hardened muscle fiber, yielding meat that was dry and strongly flavored. Also, much of the supply in some seasons were birds stored frozen in the "New York dressed" state—a bird bled and plucked, but with head, feet, and organs intact. Upon thawing, drainage from these birds and conditions surrounding their evisceration in the meat market or at home were quite unappealing to consumers and handlers.

Red meat rationing during World War II provided the spark needed to propel the industry forward. Poultry was not rationed, and broiler production increased to fill the void left by red-meat rationing. Broilers soon demonstrated their potential as a money-making business. After the war, as red meats returned to normal availability, a period of intense activity and investments ensued to develop strains of chickens bred for their meat qualities. Rapid technological advances in the 10-year period following the war lowered retail chicken prices by 30-40 percent from the 1920s to the mid-1950s, compared with price increases of 75-90 percent for red meats in the same period.

The "Chicken-of-Tomorrow Program," a contest for breeders sponsored by the Great Atlantic & Pacific Tea Company (A&P), illustrates the intense interest in quality improvement through genetics. A&P was aware of the profit potential from chickens bred for their meat qualities, emphasizing yield from breasts, thighs, and drumsticks. Starting in 1945, these annual contests reinforced the efforts of leading breeders, with an eye on designing a product for the consumer.

Supermarkets that featured pre-packaged meats, low prices, and advertising replaced many butcher shops. Featuring broilers at sensationally low prices had much to do with the broadening of the market. In addition, the ease of handling eviscerated chickens made broilers a highly convenient item for both retailers and consumers. By the mid-1950's, the chicken industry had moved from a specialty item targeted to the dining-out market to a mass market for everyday home meals.

A rise in the number of families with two wage earners prompted consumers to seek quick and tasty food. The chicken TV dinner featuring fried chicken became increasingly popular. In line with the Nation's desire for fast, inexpensive food with consistent taste, the introduction of fast food reshaped the broiler industry. In 1963, Henny-Penny Corporation, which had 250 chicken take-out franchises, had enough volume to begin requesting certain product specifications from its suppliers. By 1971, Kentucky Fried Chicken, whose first franchised outlet opened in 1952, had 3,500 franchised or company-owned outlets worldwide.

By the early 1970s, companies had become dissatisfied with the wide price swings of commodity chicken production and stepped up their production of further processed items. As women continued to enter the workforce, the demand for easy-to-cook products continued to grow. From 1970 to 1990, the share of broilers marketed as whole birds fell from 70 percent to 18 percent.

Throughout its rather brief history, the broiler industry has remained primarily consumer oriented, moving further from chickens that were primarily a byproduct of egg laying to flavorful whole roasters, cut-up parts, and a wide variety of further processed products.

Sources: Tobin, Bernard F., and Henry B. Arthur. *Dynamics of Adjustment in the Broiler Industry.* Boston: Division of Research, Graduate School of Business Administration, Harvard University, 1964. Strausberg, S.F. *From Hills and Hollers: Rise of the Poultry Industry in Arkansas.* Arkansas Agricultural Experiment Station Special Report 170. Arkansas Agricultural Experiment Station, University of Arkansas, 1995.

well. For example, McDonald's began as a fast food concept in 1948. The menu had just six products—hamburgers, cheeseburgers, fries, soft drinks, coffee, and shakes. Says the company, "this limited menu concept triggered the 'fast food' concept, because focusing on just a few items that were prepared with standardized procedures made food service a model of efficiency." Today, the company still aims to be efficient, but restaurants affiliated with the chain now tend to offer over four dozen foods, including yogurt parfait, grilled chicken salad, and bagels.

Efficiency allows food companies to give consumers something else they are demanding—value. Some consumers need or want good price deals on their groceries and away-from-home eating and will search for lower prices. This means the food system must not only supply the foods in demand but also seek efficiencies to control costs.

Behind the Scenes of a Consumer-Driven Marketing System

Many important changes in the food system are not directly visible to consumers. Instead, these changes are reflected in the variety, quality, and quantities of food products available. Companies not only have to develop and produce a larger number of goods but must also get the right products to grocers and foodservice establishments on time, in the right quantities, and at economical prices.

Wal-Mart was one of the first firms to implement supply chain management techniques to efficiently handle large product volumes targeted to consumer preferences. These cost-cutting and information managing techniques helped the chain lower its prices and grow into the Nation's largest general merchandise retailer. In 1988, it entered food retailing with the opening of its first supercenter, combining a large discount general merchandise store with a self-contained supermarket. By bringing its business strategy to the food sector, the company quickly became a leader in food retailing. Based on their buying clout, companies such as Wal-Mart and McDonald's wield a heavy influence on the business practices and products of their suppliers and rivals (see box, "The Wal-Mart Factor").

To emulate the success of nontraditional formats such as the Wal-Mart supercenters, traditional grocery retailers launched the Efficient Consumer Response (ECR) initiative in 1993. The goal of the program is to better serve the consumer and hold down costs through better information sharing and inventory management.

Serving today's consumers is a challenge for both grocers and their suppliers. About 10,000 new food and beverage products were introduced in 2002. Retailers must decide which new products to make room for and keep on their grocery shelves. For example, according to The Food Industry Center at the University of Minnesota, the yogurt section of a typical supermarket stocks more than 50 individual products, each product being a different combination of brand, flavor, and package size. To minimize spoilage and stock the items that consumers want, retailers must choose the right assortment of yogurt products for each store.

ECR initiatives emphasize information sharing and collaboration between grocers and their suppliers. Retailers work with suppliers to select the optimal mix of products to display on store shelves. To replenish store shelves, retailers inform suppliers as soon as goods leave a store, which helps suppliers to better manage store inventory. New products are jointly

High-speed conveyor belts and high-tech inventory tracking allow food companies to efficiently handle large volumes and hold down costs.

Photo courtesy of Wal-Mart Stores, Inc.

The Wal-Mart Factor

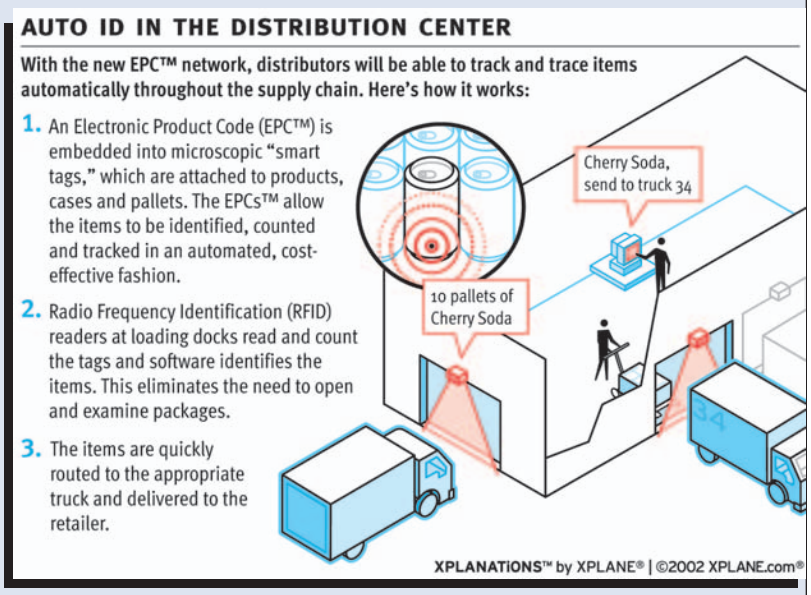
Leading food companies can influence their suppliers' business practices and products and are often imitated by their rivals. Wal-Mart, the Nation's leading grocery retailer, has made two requests of its suppliers in recent years.

All of Wal-Mart's supercenters feature only case-ready meats, which are packaged, priced, and labeled by the processor for store display. This retail strategy has eliminated all in-store meat-cutting operations. Wal-Mart has also set specific quality and safety requirements for its meats. Target and Kmart have done the same. In response, leading traditional food retailers such as Kroger have placed similar requirements on meat producers to meet protocols for safety and quality, in addition to case-ready packaging.

According to InformationWeek.com, by January 2005 Wal-Mart will require 100 of its key suppliers to collaborate in tracking pallets of goods by using radio-frequency identification. For instance, Kraft will need to affix tags on pallets of macaroni and cheese going to Wal-Mart. Each tag will contain a chip with an antenna that is activated by a reader to send or receive information. An advantage of tags over bar codes is that tags can be read when the item is not in sight allowing reading of large quantities rapidly. For example, placing a reader at the entrance to a distribution center or stockroom will make tracking easier and more automated.

McDonald's, one of the largest purchasers of beef, chicken, and pork in the United States, was among the first companies to establish its own set of animal welfare guidelines. To limit confusion associated with multiple company-specific guidelines and ease compliance, supermarkets and chain restaurants established uniform guidelines for the humane treatment of poultry, beef and dairy cattle, and swine. Recently, KFC (formerly Kentucky Fried Chicken), the world's largest chicken restaurant chain, became the first restaurant to adopt these uniform guidelines.

More recently, McDonald's announced a global policy requesting that its meat suppliers phase out growth-promoting antibiotics that are used in human medicine by the end of 2004. Suppliers that directly control animal production, such as Tyson Foods, must certify compliance with the policy and maintain records of antibiotic use for audits and review. Indirect suppliers, including most beef and pork suppliers, are required to certify compliance and maintain records of antibiotic use if they wish to be considered as preferred suppliers.



developed by manufacturers and retailers to improve the chances of product success.

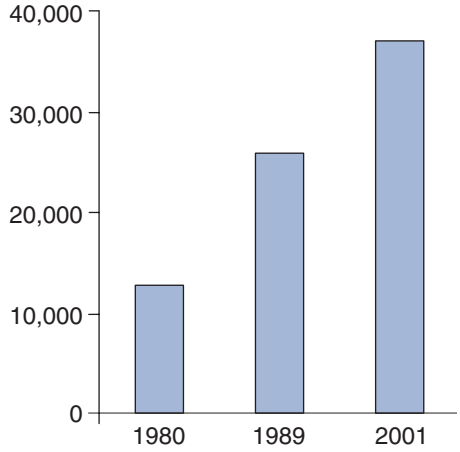
ECR initiatives continue to evolve as issues of trust and information sharing are worked out. A newer initiative, referred to a Collaborative Planning, Forecasting, and Replenishment, shares many of the same goals as ECR. In concept, retailers share data from retail scanners with manufacturers instantaneously, often over the Internet, and enter into inventory replenishment agreements. Manufacturers and retailers use the data to forecast sales and jointly tailor orders and deliveries. Via scan-based trading, manufacturers also receive instantaneous information on product sales and adjust deliveries to keep store shelves stocked. The manufacturer owns the products on retailers' shelves until the products are sold, which frees up the retailers' capital.

In a competitive food market, foodservice companies cannot rest on their laurels. They launched their own program of supply chain management initiatives, the Efficient Foodservice Response (EFR), to reduce supply chain inefficiencies. The most widely publicized EFR objective is promoting the use of standard product identification codes, especially in the form of bar codes—a practice already common in food retailing. Longrun plans for EFR include the adoption of many initiatives also being explored by food retailers, such as electronic sharing of inventory data between restaurants and their suppliers.

To keep costs low, companies may also adjust the size and scope of their operations. For example, many traditional retailers, such as Safeway and Kroger, are building larger supermarkets to supply more goods and services. In 2001, the median number of items stocked by supermarkets was 37,000, compared with 13,000 in 1980. While convenient for consumers, these larger stores also have high costs for overhead and labor. To successfully compete with discount retailers, such as Wal-Mart and Costco, traditional food retailers must hold down the average cost of handling products. Mergers and acquisitions may give traditional retailers the sales volumes necessary to negotiate price reductions and enter into long-term agreements with suppliers. Larger chains can also spread costs, such as advertising and developing store-branded goods, over more products and more stores, reducing the average cost of the investment per store and per product.

Mergers and acquisitions in the retail grocery industry have resulted in larger chains that command a greater share of total industry sales. The nationwide market share of the four largest grocery chains reached 31.9 percent in 2001, compared with 18.4 percent in 1987.

Median number of items carried by U.S. supermarkets on the rise



The Business of Agriculture

Today's farm operations are mirroring the dynamics of the food system it serves. Keeping pace with the diverse needs and preferences of their customers has become a daunting task. Farms now specialize in the production of certain types of agricultural products, using the newest technologies.

Present-day farmers must deliver products in the quantities and with the qualities required to meet the needs of large-scale processors that produce branded products and foodservice ingredients. Several meat processors now offer case-ready, branded meats to satisfy large-scale retailers. To achieve product uniformity, many processors seek greater control over breeding and raising animals. For example, genetics affects the uniformity of hog size, weight, and specific quality attributes required for branded products, such as Smithfield's *Lean Generation* pork. Farmers who grow hogs for Smithfield are required to use hogs bred from a particular genetic line, National Pig Development (NPD), the name of the company that originally developed the breed. NPD hogs are the leanest hogs in U.S. large-scale production.

Similarly, growing potatoes for fast food french fries requires an assured supply of high-quality potatoes, which require more irrigation, fertilizer, and other chemicals than many other crops. McCain Foods, the world's largest french fry processor, employs an agronomist to work with contract potato growers to improve the quality and yield of their crops.

A growing consumer segment cares not only about what's produced, but how it's produced. A proliferation of guilt-free, or eco-labels, on food products appeals to these consumers' quest for products that make them feel good about themselves. Consumers pay a premium for an eco-label, which is a seal or logo indicating that a food product has met a set of environmental or social standards. Examples include "dolphin-safe" tuna, "environmentally-friendly" pork, and the increasingly popular Fair Trade Certified coffee, which means that more coffee profit goes to small farmers.

Seed companies are developing seeds that produce crops such as corn, soybeans, canola, and tomatoes with improved taste, health benefits, and freshness. For example, Monsanto plans to introduce seed that produces corn and canola fortified with omega-3, a fatty acid beneficial to human health. These developments make identity preservation and separation imperative, which places additional costs on the marketing of farm products.

Worldwide concerns over food quality and safety call for the ability to "trace-back" the sources of, or ingredients in, food products. These concerns place pressures on food companies to provide more complete information about the sources of inputs in their products. In response, new technologies are being developed to electronically identify animals. For example, Global Animal Management, Inc., has tested microchips that can track hogs from birth to slaughter.

Open markets may be less efficient for exchanging products that are differentiated or require maintaining the specific identities of buyers and sellers. To meet the new and diverse needs of their customers, farmers may align with specific trading partners through contracts, alliances, or perhaps vertical integration. Vertical integration entails common ownership of farm production and processing stages by a single company, such as Cal-Maine Foods, which owns chicken feed

Photo courtesy of Monsanto Company

Farmers striving to give consumers crop and animal products with specific qualities often need unique seed and other inputs.

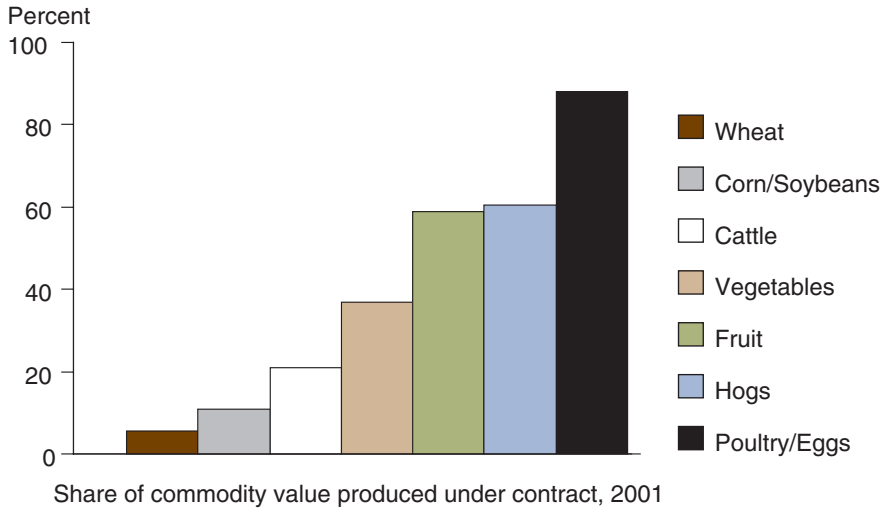
manufacturing facilities, and egg production and packing operations.

In some industries, such as hog, cattle, and grain production, contract arrangements are becoming increasingly important as closer relationships are formed. Solving quality problems and ensuring traceback capabilities may require processors to monitor production, receive third-party certification, or control production inputs. For example, it is difficult to identify and verify by visual inspection the genetic strain of an animal, how it was handled, whether it was fed organic grain, and other quality attributes. Consequently, processors may enter into contracting arrangements to gain additional control over animal production.

Farmers are also banding together to control food production through more than one stage of production and marketing, usually through some level of processing. These so-called "new generation" cooperatives allow farmers to respond to consumer demands and capture returns from further processed products. The Dakota Growers Pasta Company began as a new generation cooperative formed by wheat growers in North Dakota, Minnesota, and Montana. The company owns a plant that processes durum wheat into flour and pasta. Other examples include Iowa Quality Beef Supply Cooperative, Prairie Farmers Cooperative, and Prairie Farms Dairy, Inc.

Our food system brings new challenges and risks to the farm sector and to food processors and distributors. With these challenges come an abundance of opportunities as diverse as the demands of today's consumers.

Contracting gives processors more control over quality and safety



This article is drawn from...

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