Part I

Understanding Product Development
in Today’s Food Industry
Chapter 2

HOW DID THE FOOD INDUSTRY GET (FROM THERE) TO HERE?

Diane Toops

Why Read This Chapter?

Diane Toops was an extremely productive food journalist for over 24 years. She passed away in 2012 while still being a productive writer for Food Processing magazine.

This chapter provides a valuable historical perspective for the journey of the food industry in America from the turn of the last century until early 2000s. This wonderful overview of the key benchmarks in the history of the food industry will provide the reader with a rapid way to see that innovation is not new – but a path the food industry has been on for years and years and years.

This is a beautiful valentine that Diane has left for the rest of us! Thank you, Diane.

This chapter discusses the events, technological innovations, trends, and consumer needs that led the food industry from “there” in the late nineteenth century to “here” in the twenty-first century. It also touches on the challenges and opportunities for product developers.

I track trends looking to the future, but looking back over the past 115 years has been quite an education and surprising as well. Some things never change; the overriding trends have been, and continue to be, convenience and good health.
A 1950s child, I remember that my mom wore a dress and high heels while preparing dinner. She spent her entire day going to the butcher and grocer to buy fresh ingredients, cook them from scratch, and have a balanced meal ready precisely at 6:00 p.m. when my father arrived home from work. Fortunately, feeding my family is a great deal more convenient today.

We know the food industry does not lead trends, it responds to world events and consumer needs by developing innovative technologies and foods that solve problems and deliver what the consumer wants. That is as it should be.

**Turn of the Century**

Before the turn of the twentieth century, America was a rural, farm-based economy. Seventy percent of the population, some 60 million Americans, farmed the land and most of them ate the vegetables they grew and livestock they raised (Food for Thought, 1998, pp. 1–8). Today, almost 294 million Americans (USDA, 2004) can purchase an incredible variety of inexpensive foods at their local supermarket. Food processors, retailers, and a sophisticated distribution chain make that possible. In fact, American families last year spent just 10% of their disposable income on food (USDA, 2004). That’s probably the lowest percentage in the world.

**Looking in the Fridge**

Let’s compare the contents of the fridge today to those in 1918 (Frigidaire, 2003). Redefining home convenience, Frigidaire introduced the refrigerator in 1918. A peek inside shows everything is fresh, homemade, and nutritious and will quickly spoil (Table 2.1). Today’s mom has options; foods have a longer shelf life and are more conveniently packaged, and many foods no longer have to be refrigerated. Eggs are in both refrigerators, but today they might be organic, free-range, brown or white, pesticide-free, or enhanced with omega 3s. Certainly, they will not spoil as quickly.

American food professionals should pat themselves on the back. Through their innovations, products have extended shelf life, and foods are safer, more affordable, and available to people all over the world. That said, let’s go back for a quick study of how we got from “there to here.”

**1889 to 1899 – New Options for Mom**

In the late 1890s, millions of immigrants poured in from western and eastern Europe, bringing new cuisines and recipes. The first transcontinental railroad transportation system was completed. To accommodate the needs of a growing population, manufacturing plants proliferated. As more people spent
their day at work, entrepreneurs realized there was an opportunity to feed them, first from horse-drawn lunch wagons and later from restaurants and general stores. Convenience was the driving need.

Food technology was the vehicle. Mechanical refrigeration became possible because of a machine that liquefies air (Matranga, 1997). Canning improved when Campbell Preserve Co. invented a way to condense liquefied foods. Southern Oil Co. chemist David Wesson developed a new method for deodorizing cottonseed oil. “Wesson Oil” revolutionized the cooking oil industry (Bellis, 2004a–c). Processed foods with longer shelf life began to appear in specialty grocery stores, and consumers enthusiastically embraced them.

As consumers sought reliability and quality from prepared foods, branding became important. National Biscuit Co. was formed, and the Uneeda Biscuit, the first branded cracker, was introduced. Campbell’s canned soups debuted with striking red and white labels, in honor of the uniform colors used by the Cornell football team. Lawyers B.F. Thomas and J.B. Whitehead persuaded Atlanta pharmacist Asa Chandler to let them bottle his Coca-Cola fountain beverage in a uniquely shaped bottle (Food for Thought, 1998). Meanwhile, Caleb Bradham put together his secret ingredients for Pepsi-Cola. The Kellogg brothers used direct-mail marketing to sell their “healthy” corn flakes and Entenmann’s delivered baked goods directly to a customer’s door. In a nutshell, mom wants convenience, technology solves the problem. She is satisfied with the brand and becomes a repeat customer.

1900 to 1910 – Optimism and Prosperity

In fast-expanding cities, commercial food manufacturing and restaurant openings boomed. Eating abundantly meant you were prosperous, and the middle class beefed up on beef, chicken, and desserts.
As often happens, there was a reaction to this perceived gluttony. The Kellogg brothers and C.W. Post began a pure foods movement, saying that protein was not healthy and whole grains were the secret to mental and physical well-being.

In early 1900, William Fletcher, a doctor, and Sir Frederick Gowland Hopkins, a biochemist, separately discovered that certain foods were important to health and a lack of nutrients can make you sick.

British chemist William Normann developed the hydrogenation process for oil (Bellis, 2004a–c). Hydrogenation converts mono- and polyunsaturated fatty acids from their fluid state to a harder fat, which raises the melting temperature and slows rancidity, resulting in foods with a longer shelf life.

Convenience drove innovation. Drip coffeemakers debuted, Hills Brothers began packing roasted coffee in vacuum tins, and instant coffee was invented. Canned tuna was first packed in San Pedro, California; Milton Hershey introduced the innovative Hershey bar; and Jell-O, everyone’s favorite dessert, was available to all.

We leave 1910 with mom’s desire for convenience still the main driver, technology that provides longer shelf life, and the awareness that the foods you eat affect your health.

1911 to 1920 – Gearing Up

Two of the first home refrigerators appeared in Fort Wayne, Indiana, where in 1911, General Electric Co. introduced a refrigerator invented by a French monk (History of the Refrigerator, 2004). The first “Guardian” refrigerator – a predecessor of the Frigidaire – was manufactured in 1916 by the Guardian Frigerator Co., which was acquired by General Motors Corp. in 1919, giving it the capital to grow (Frigidaire History, 2004). The introduction of refrigerators for the home meant that mom did not have to shop for food every day. By 1928, more than one million households owned a refrigerator.

Continuous cooking and cooling equipment was developed (Food for Thought, 1998). Process cheese in tins was produced by J.L. Kraft & Bros. Co. in their first cheese factory. Polish scientist Cashmir Funk named the special nutritional parts of food as “vitamine” after *vita*, meaning life, and “amine” from compounds found in the thiamine he isolated from rice husks.

With the outbreak of World War I in 1914, food manufacturers changed gears and focused less attention on convenience for mom. They were busy increasing production to feed the troops. New awareness of proper nutrition for soldiers led to the fortification of foods.
Immigration was at an all-time high, bringing new flavors to the kitchen – ethnic infusions of Italian, German, Jewish, Chinese, and Eastern European foods and flavors. Old El Paso began canning Mexican foods. LaChoy Food Products started manufacturing Chinese foods in Detroit. Hobart Manufacturing patented the first electric mixing machine. The modern timer pop-up toaster was invented in 1919. All the new technologies were eventually used to make new processed foods for mom. Procter & Gamble gambled that Crisco, the first solidified shortening product made entirely of hydrogenated vegetable oil, would be a hit. They were correct. The shortening stayed solid year-round, regardless of temperature.

But the food industry needed a place to showcase these new foods. Memphis-based Piggly-Wiggly became the first supermarket chain.

The war and changing demographics were the driving needs of this decade. Technology made it possible to feed the troops with portable, healthy foods, and later helped mom fill her refrigerator and cupboard with convenient food products that were innovative in their time.

1921 to 1930 – Shaken but Not Stirred

Conspicuous consumption was the mantra during the 1920s. The war was over and the stock market was up. Consumers had money to spend on refrigerators, gas stoves, the new electric stove, and gadgets. The decade also began the lifelong love affair with America’s coffee cup – along with soda pop – the result of Prohibition. The ban on public drinking didn’t dampen enthusiasm for alcohol; instead, consumption increased. Most of the drinks we know today, such as the martini, were concocted in speakeasies (Oliver, 2004).

Convenience took center stage. Clarence Birdseye and Charles Seabrook developed a process for flash – freezing cooked foods under pressure. Frozen foods in packages were introduced with trade name Birds Eye Frosted Foods. Dupont’s waterproof cellophane permitted prepackaging of meat, potato-peeling machines made mass production of potato chips possible, and Clapp’s Vegetable Soup, the first commercial baby food, hit the market. KOOL-Aid powdered fruit drink, Jiffy biscuit mix, Hostess Twinkies, and Kraft VELVEETA processed cheese were introduced. Continental Baking Co.’s Wonder presliced bread was a boon for mom.

During this decade, technology flourished to satisfy the continuing need for convenience, mass production, and expanded shelf life. But the stock market crash of 1929 and subsequent Great Depression made mom tighten her wallet, influencing new product development for the food industry.
1931 to 1940 – Less is More

Mom was cooking from scratch to save money, and she used inexpensive ingredients to prepare one-pot meals, such as macaroni and cheese, chili, and meat loaf stretched with filler. Easing her duties were the electric blender, the first automated kitchen appliance, by Waring Co. and the first pressure cooker by National Presto Industries Inc. Dupont debuted Teflon for easier pan cleanup and Cryovac invented the deep-freezing process (Matranga, 1997).

Kraft introduced Miracle Whip salad dressing at the 1933 Chicago World’s Fair. Kraft Macaroni and Cheese Dinner was introduced with the advertising slogan of “Make a meal for 4 in 9 minutes.” Instant coffee was marketed commercially by Nescafé in 1938.

On the health front, Pet Milk Co. introduced the first evaporated milk products fortified with vitamin D, using the irradiation process. Meanwhile, in Germany, Rudolph Wild founded Wild Flavors. His goal was to produce beverages entirely from natural ingredients. And General Mills made the decision to officially listen to mom. Betty Crocker was introduced to respond to consumer inquiries and to create the brand. Her appearance may have changed over the years, but her task remains the same.

One could sum up the 1930s with this slogan: Use it up, wear it out, make do, or do without (Matranga, 1997). Convenience and health were important for mom during this decade, but the most important innovation of the 1930s was Dumont Co.’s television for the home – it changed our lives forever.

1941 to 1950 – Out of the Kitchen, Into the Fire

World War II brought great advances in the food industry. As men marched off to Europe and the South Pacific, women marched out of kitchens and into factories. At home, most foods were rationed, so rather than cooking, civilians began to regularly eat out in restaurants.

The food industry was hard at work innovating to feed the troops. It produced dehydrated potatoes, converted rice, Minute Rice, and Spam, the staple with a shelf life of seven years. Frozen foods took off as manufacturers sought alternatives to metal cans during the war years. New frozen products were introduced, including puff pastries, hors d’oeuvres, soups, entrees, french fries, Mexican cuisine, whipped topping, meat pies, seafood, and pizza.

When the war was over in 1945, America was poised to use its production power and forge the greatest period of growth in its history. After years of rationing, consumption of meat, poultry, and dairy products soared to record levels. So did consumption of baked goods – many prepared with cake mixes developed by General Mills and Pillsbury. Reynolds Metals Co. used surplus aluminum from World War II to make Reynolds Wrap aluminum foil.
Tupperware resealable food containers were invented by Earl W. Tupper. Polyethylene terephthalate (PET) plastic was patented in the UK, and it changed the packaging of both food and beverages.

Refrigeration and the rise of suburbia are responsible for the creation of supermarkets, where all food stuff can be found under one roof. New food products were introduced: Nestlé instant tea, and Reddi-Whip the first major US aerosol food product. Foil was used to package frozen foods. The process of condensing and freezing orange juice was developed.

Nutrition concerns spurred Congress to begin the National School Lunch Program, mandating minimum nutrition standards. Manufacturers brought Italian, Asian, Mediterranean, and Hispanic products to market in response to America’s exposure to international cuisines, and sales of spices skyrocketed.

In 1945, Percy LaBaron Spencer at the Raytheon Co. accidentally discovered that food could be cooked by microwaves, when radar waves melted a candy bar in his pocket. His observations led to development of the microwave oven. Raytheon patented the microwave cooking process and sold the first commercial oven in 1947. Raytheon licensed its technology to the Tappan Stove Company, which led to an unsuccessful 1955 marketing attempt for the home, a large wall unit microwave priced at $1295 (Microwave Oven, 2004).

Watching television became the leisure activity of choice, and a remote-control device, appropriately called Lazy Bones, was invented by Zenith. Consumers spent more time in front of the television and less time in the kitchen.

Convenient on-the-run foods for the troops were the driver for the food industry in the early 1940s, and the industry used those innovative technologies to develop convenient foods for mom, who still wore her high heels in the kitchen.

1951 to 1960 – **Burger in Every Hand**

The 1950s brought renewed vigor and money flowed. The building of the national highway system brought about better distribution of food products and the rise of fast food chains. Ray Kroc purchased the franchise rights from Richard and Maurice McDonald, setting his dream of feeding millions at McDonald’s restaurants in motion.

Mom had been out of the house for the duration of the war, and she found it difficult to go back to the kitchen. Advertising for appliances and prepared foods promising to “free her from the kitchen” proliferated. Tuna noodle casserole, sloppy joes, and frozen fish sticks were popular fare. Lever Bros. debuted Imperial Margarine, which had a longer shelf life than butter, Tropicana Products produced the first chilled, pasteurized fruit juices.
Powdered nondairy coffee cream was developed. Kraft introduced the first commercially packaged sliced process cheese and Cheez Whiz pasteurized process cheese spread. Weber Kettle Grill began to take its place in everyone’s backyard, giving dad the first opportunity to don his toque.

In 1953, Swanson’s introduced the first TV dinner packaged in an aluminum tray (Bellis, 2004a–c). The shift away from traditional family dinners (Fig. 2.1) continued and today, more than 66% of American families eat meals while watching television. The airline industry started to use frozen foods.

At the end of the 1950s, jet travel came in, and Paris was suddenly only seven hours away. Container ships proliferated, bringing intriguing foreign goods to our dinner tables (Trager, 1992).

On the R&D front, work was beginning on calorie restriction, more the result of a sugar shortage than health concerns. Sweet’n Low saccharin was introduced. But when sugar became plentiful again, consumers went back to it; they forgot it had calories.

The most notable innovations were in packaging. Modified atmosphere packaging (MAP) increased shelf life; milk was sold in plastic milk containers; and Seabrook Farms’ boil-in meal bags appeared (Kevin, 2004). Commercial use of aluminum cans for food and beverages started, bringing new portability.

So, the 1950s brought us international flavors, more convenient on-the-go packaging, and a less-active population.
1961 to 1970 – Sizzling Sixties

John Fitzgerald Kennedy was in the White House, and First Lady Jackie hired a French chef to preside in the kitchen, bringing international flair and glamour to her dinner parties. Young housewives were enthralled and rushed out to buy Julia Child’s cookbook, *Mastering the Art of French Cooking* (Child et al., 1961), and their first Cuisinart.

But in the average home, the desire for convenience foods and shorter preparation time for meals continued. Frozen pie crust was introduced. Convenience products, such as Shake’n Bake and Cool Whip nondairy whipped topping from General Foods Corp., were on mom’s shopping list (Johnson, 2004). General Mills’ Hamburger Helper stretched a pound of hamburger for a family of five. Kellogg introduced Pop Tarts, starting a snack foods boom across the United States.

On the research and development front, high-fructose corn syrup, a substitute for sugar, was developed by Clinton Corn Processing Co. It is easy to transport; it is just piped into tanker trucks. This translated into lower costs for food producers. Pull-tab openers for cans, patented by Ermal Cleon Fraze, revolutionized the beverage industry. Resealable plastic bags were introduced.

Two of the things the food industry does best are to make the supply chain more efficient and create products and technologies that cost less. Then it uses its marketing expertise to show consumers the added value of the product.

The Immigration Act of 1965 opened our doors to millions of Asians. Exotic restaurants sprang up in even the most homogenized neighborhoods. The first were Szechuan, known for hot and spicy cuisine.

The late 1960s brought social unrest, growing tension over the Vietnam War, and hippies with an unquenchable hunger for unprocessed, proletarian food made from scratch. The late 1960s also brought the introduction of the first popular home model microwave, the Radarange by Amana, at a price of $495 (Microwave Oven, 2004).

As we leave the 1960s, convenience and bottom-line constraints for manufacturers lead the way. Couch potatoes are getting more comfortable sitting and eating in front of the television, but a new age of communication is on the horizon.

1971 to 1980 – Dawn of Enlightenment

Hungry for more spice and flavor, Americans feasted on Hunan and Vietnamese specialties. Many experts say that’s when America’s love affair with heat began. The American palate had finally been unleashed. Happily, mom was unleashed too – from wearing heels in the kitchen. In fact, she was free to stay out of the kitchen all day by using her Rival Crock-Pot slow cooker.
From her famous Berkeley, California, restaurant, Chez Panisse, Chef Alice Waters fueled a revolution. She reintroduced the idea of cooking with natural, seasonal ingredients, an almost forgotten concept because of the prepackaged food boom. Mom’s new mantra was fresh food, simply prepared.

It was the beginning of the natural/organic category, one of the fastest growing segments in the mid-twentieth century. Baker/Beech-Nut introduced “natural” baby foods, herbal teas began to appear, and Perrier bottled mineral water flowed into the United States.

Americans spent more time in front of the television and gained weight. The industry responded with the “lite” movement, including Slim Fast meal replacement powder and Miller Lite beer. Meanwhile, USDA developed the first standard nutrition label.

The first supermarket scanner was introduced at Marsh Supermarket in Troy, Ohio, and Universal Product Codes, or UPCs, were developed for all supermarket products. Eventually manufacturers could track what, where, how many, and how often mom was buying.

The Apple computer came into the marketplace in 1976, heralding the beginning of a new technology phase. By the late 1970s, purchase of microwave ovens started to grow due to improved technology, which lowered prices. In 1978, the microwave oven was added to the consumer price index sample.

In the 1970s, health and disease prevention caught up to convenience, tracking consumer purchase behavior became commonplace, and the computer technology revolution began and would soon impact every facet of manufacturing and consumers’ lives.

1981 to 1990 – Shape-Up Time

Nouvelle Cuisine, small amounts of food with a high price tag and served on a large plate, became the cuisine du jour of food aficionados. Actually, eating smaller portions was a great idea, but on October 19, 1987, the stock market plummeted 508 points.

As with the crash of 1929, restaurant spending skidded to a halt and Americans ran for cover. Simple comfort food such as chicken fried steak, mashed potatoes, meat loaf, and pasta became the new rage. Boston Market (then Boston Chicken) started up in Massachusetts. General Mills introduced Pop Secret, the first microwave popcorn to accompany homebound television viewers. Extra pounds settled around collective midriffs from all that comforting food and the sedentary lifestyle of couch potatoes.

The food industry was ready. Monsanto Corp.’s NutraSweet division introduced Simplesse fat substitute, and soft drink makers replaced sucrose with NutraSweet sugar substitute to lower calories. Joining the fat revolution were
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Yoplait Breakfast Style Yogurt, Stouffer’s Lean Cuisine low-fat frozen entrees (Johnson, 2004), and ConAgra’s low-fat, low-salt, and low-cholesterol Healthy Choice line of frozen entrees.

Consumers also felt they deserved a little luxury. Howard Schultz bought and expanded Starbucks coffee shop chain nationwide. Small affordable luxuries in a comfortable, stylish setting caught on.

The mid and late 1980s saw the end of beef tallow for use in frying by McDonald’s and Burger King. These fast food companies began to provide nutrition and ingredient information. Snapple hit the market with bottled iced tea opening the market to ready-to-drink tea beverages. Oscar Mayer introduced Lunchables.

By the end of the 1980s, microwave ovens were in almost every home, and the industry responded with a tremendous variety of frozen meals in plastic containers designed for microwave cooking. Today it is estimated that nearly 95% of households own a microwave oven, with some models available for less than $100.

Health and obesity concerns and response by industry to bring low-calorie products to consumers in a convenient way sums up the decade.

1991 to 2000 – We Know Better

The 1990s brought change to the workplace. More women than ever joined the workforce, with close to 60% of married women working, as compared with 46% in 1973.

Microwave ovens became a primary technology; other technologies adapted to perform with microwave applications. Packaging was designed to simulate conventional ovens for slow-cooking and browning. Browned surfaces and crispy crusts on baked goods were achieved through packages designed with shielded layers of metal foil to concentrate and direct microwave energy.

The federal government decided they would do a better job planning our diets. The USDA introduced the first Food Guide Pyramid in 1992 to guide food consumption (Fig. 2.2). In 1994, Congress approved a standard nutrition label that, for the first time, outlined label claims including low fat, low sodium, and light. FDA dietary guidelines endorsed vegetarian meals and moderate alcohol consumption.

Food companies rolled out nutraceutical and functional food products, energy bars, fortified drinks, and such. Two new cholesterol-lowering margarines were approved by the U.S. Food and Drug Administration as “foods”: Benecol (McNeil Consumer Health Care) and Take Control (Unilever) (Apgar, 1999).

Food companies also found ways to make everything fat free, low fat, or reduced fat. Nabisco debuted its Snackwell line of reduced-fat and fat-free
baked goods. But try as we might, most of us didn’t lose weight. We fooled ourselves into believing that because we were eating fat-free and low-fat foods, we could guiltlessly binge. We forgot to count total calories. Procter & Gamble’s fat substitute Olestra was approved in snacks, but it was too late. Consumers had given up on fat-free and gobbled up their Ben & Jerry’s Cherry Garcia ice cream once more.

As consumers had less and less time to spend in the kitchen, a new category began to emerge at the end of the decade. The new industry buzzword became Home Meal Replacement (HMR), meals that were preprepared,

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**Figure 2.2.** Pyramid power unleashed in 1992 (from U.S. Department of Agriculture and the U.S. Department of Health and Human Services).
partially cooked, or ready-to-eat (RTE), and sold from restaurant and grocery outlets. Sales for HMR meals hit sales of $89 billion in 1998, according to Packaged Facts, the New York-based market research firm. Mom could now pick up a fully cooked meal on the way home from work.

2001 to 2005 – Tragedy Makes Us Rethink Our Options

When terrorists attacked the World Trade Center on September 11, 2001, America was forced to rethink its isolationist politics. Violence was on our doorstep, changing us forever. Would we ever feel safe again? We began to cocoon, spending more time at home. We again craved comfort foods, as if those meal choices would make everything all right again.

Boston Market debuted Home Style Meals in the frozen food aisle. Nestle’s Slow Fire Classics and ConAgra’s Home Style Bakes became the new comfort foods. But as obesity concerns intensified, Americans flocked to the Atkins and South Beach low-carb diets. In fact, in 2001, some 352 low-carb products debuted. Sales of fresh bread, particularly white bread, plummeted. Low-carb product introductions peaked in 2004 (there were 1900 new low-carb products between April and September) and began to slow and lose their luster in 2005.

Mad cow disease appeared in 2003 in Canada, but Americans seemed unconcerned. We continued our love affair with meat. The $44.5 billion red meat market posted an 18% increase between 2002 and 2004, reports market research and analysis firm Mintel. Today, 9 out of 10 Americans continue to eat beef. In fact, as of July 2005, only 22 percent of Americans worry about mad cow disease, according to the New York City-based NPD Group.

We became obsessed with the big squeeze – with products such as Yoplait’s GoGurt yogurt squeeze product, ConAgra’s Squeeze’n Go Portable Pudding, and Skippy Squeez’It. Convenience, especially portability for eating anywhere, continued to be in the forefront of new product development. Campbell’s Soup at Hand and Snapple’s Snapple-A-Day meal replacement were perfect products for on-the-go consumers.

Americans were ready to have some fun and food manufacturers responded. Procter & Gamble introduced Pringles Prints, an innovative snack that features a unique, fun design printed on every crisp, Snicker’s Popables bite-sized treats, and Ritz Chips, combining toasted crunch with a taste reminiscent of Ritz crackers.

The slow cooker, an icon of the 1970s, was reintroduced with retail product offerings that featured super convenience – ConAgra’s Banquet Crock-Pot Classics – frozen components including meat or poultry in a stand-up pouch that cook all day in the slow cooker – and General Mills’ Slow Cooker Helper – just add water and meat. Jennie-O-Turkey Store revolutionized
turkey preparation with Oven Ready Whole Turkey. Cleaned and preseasoned, the turkey is packaged in a proprietary Fool-Proof oven roasting bag and goes directly from freezer to oven.

On the health front, Minute Maid introduced Heart Wise, cholesterol-reducing orange juice containing plant sterols. Dreyer’s Grand Ice Cream launched Dreyers/Edy’s Slow Churned Grand Light, using its proprietary technology that reduces fat by 50%. In 2005, Nabisco rolled out 100 Calorie Packs, portion-controlled snacks. Cocoa Via, from Mars, debuted after 15 years of research. Just two servings a day of this chocolate can reduce LDL cholesterol and promote healthy circulation to maintain heart health.

The new Food Guide Pyramid, an interactive pyramid with a more individualized approach to improving diet and lifestyle, debuted on April 19, 2005. It emphasizes whole grains, variety, moderation, and physical activity. Unfortunately, many consumers find it unwieldy.

The government’s emphasis on increased consumption of whole grains has spurred new products from food manufacturers. Lean Cuisine debuted Whole Grain Spa Cuisine, with added fiber; Unilever’s Knorr Lipton introduced dry wholegrain side dishes, as did Uncle Ben’s; General Mills debuted whole grain Cheerios; and Sara Lee launched Sara Lee Soft & Smooth, wholegrain bread with the look, aroma, and texture of regular white bread. In Q4 2004 to Q1 2005, the number of wholewheat prepared foods grew a whopping 168%, wholegrain pasta stirred up gains of 27.4%, wholegrain cereal snapped up 8.3%, and bread and baked goods rose 7.4%. Whole grains are the latest buzz, and it can be anticipated the trend of new wholegrain products will keep food-product development scientists busy for the foreseeable future. Also on the front burner are products containing zero grams of trans fats.

**Challenges for the Future**

On the regulatory front, the industry can expect continued influence from the USDA’s Food Guide Pyramid and changes in dietary guidelines. It is anticipated that labeling standards will be developed for low-carbohydrate and organic products as well as for food supplements and herbal ingredients.

Food companies are facing economic realities for competition in the global marketplace. Consolidation within the food industry continues within the food manufacturing and supplier companies, through acquisitions and mergers and consequent downsizing, which affects new product development (Table 2.2).

It is notable that most mergers and acquisitions occurred from 1998 through 2001. Many of those acquired were functional food companies.
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Pepsi bought SoBe and Quaker, Cadbury acquired Snapple, Kraft bought Balance Bar and Boca Burger, General Mills bought Small Planet Foods, and Kellogg acquired Worthington Foods. Retailers continue to merge. In 2003, there was a flurry of acquisitions of U.S. firms by Canadian and other foreign-owned companies (Food Institute, 2004).

Fewer dollars are being spent on R&D, and consolidation means fewer employees must do more work. At the same time, there is a push to get new products to market sooner, resulting in shorter product-development timelines. A new product is expected to achieve market success immediately; there is no time to build brands, and companies have less advertising and marketing money available. Shareholder demand for increased bottom-line profits adds to the pressure. Meanwhile, brands are under fire from less expensive, private-label brands.

Consumers face new economic realities as well. They have less disposable income to try new products and less time to shop. Multitasking moms are more likely to buy the same products over and over. In fact, the average supermarket carries 40,000 SKUs, while an average family gets 80% of its needs from just the same 150. That means they ignore 39,850 items in the store. Some 10,000 new products are introduced in the United States every year, but more than 90% fail. How do you get consumers to try your new products? Differentiating products and services is the key, and knowing your consumer, according to marketer Jack Trout (Trout, 2000).

Opportunities for the Future

New opportunities for the food industry include:

- tailoring products for America’s new immigrants from Mexico and Asia
- marketing products to fit the obesity paradox (healthy vs indulgent)

Table 2.2. Food business mergers and acquisitions: 1997–2003.

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Acquisitions of U.S. firms:

- Canadian: 13 10 10 13 7 15 18
- Foreign: 23 13 40 50 34 39 36

• organic, wholegrain, and natural products
• nutraceutical/functional products with value-added attributes
• foods marketed to generational niches
• foods that solve the needs of an aging population
• portion-size packaging
• foodservice foods

Today, aging Americans may watch what they eat to improve their health, but let’s not forget they also suffer from dietary schizophrenia. Give them healthy, but give them indulgent products as well – conveniently, if you please.

Mom’s needs haven’t changed much in 115 years – health and convenience are at the forefront. But the one big change is instant communication around the world. Yes, consumers and technology may lead trends, but computers and cell phones allow food companies to respond almost immediately. Kraft, Unilever, and General Foods had low-carbohydrate foods introduced into the market faster than one can pronounce carbohydrate.

The food industry, even with all the constraints, is still a great industry to participate within. Even pharmaceutical companies want to have products that are food related. The food industry continues to innovate with convenience, longer shelf life, food safety, and improved textures and flavors. New types of refrigerated product offerings present new opportunities as well as challenges for food-development scientists and new convenience for consumers. Developing food products with healthier value-added attributes will keep food labs busy.

Consumers want products that say what they do, and do what they promise. Mom not only wants foods that cook themselves in 15 minutes or less, she wants healthy foods that make her and her family look good, feel great, and live to a ripe old age.

As always, the most important attribute of a food product is good taste. Taste is No. 1; everything else falls far behind. If it doesn’t taste good, dad will complain and spit it out, junior will dump it in the trash, and mom won’t buy it a second time.

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Frigidaire. 2003. Website (www.frigidaire.com/).


Further Reading


Hydrogenated fats: A more technical explanation (www.cyberparent.com/nutrition/hydrogenated1.htm).


Pop quiz: What was the first personal computer? Blinkenlights Archaeological Institute (www.blinkenlights.com/index.shtml).
    AllBusiness.com Business Periodicals Food and Kindred Products (www.allbusiness.
    com/periodicals/article/454887–1.html).