Journal of Economics and Public Finance
ISSN 2377-1038 (Print) ISSN 2377-1046 (Online)
Vol. 11, No. 3, 2025
www.scholink.org/ojs/index.php/jepf

Original Paper

A Review of Patterns of Competitive Dynamics in Twenty-Four U.S. Consumer Markets. Part III: Personal Grooming

Y. Datta[1*]

[1] Professor Emeritus, Northern KY University, Highland Heights, KY 41099, USA

[*] Y. Datta, Professor Emeritus, Northern KY University, Highland Heights, KY 41099, USA

Abstract

This appraisal is an attempt to review the patterns of competitive dynamics in 24 U.S. consumer markets. These markets can be divided into five *broad categories:*

(1) Food Group--Discretionary (2) Food Group—Non-Discretionary (3) Personal Grooming (4) Personal Hygiene (5a) Laundry and Dishwashing Detergents, and (5b) Household Cleaning and Alkaline AA Battery.

This is the third of five papers that covers five markets in the Personal Grooming Group.

1. Introduction

The genesis of this research goes back to the paper: *"Market Segmentation: An Integrated Framework"* (Datta, 1996).

Every market has *two* sides: demand and supply, customers and suppliers. It is only when the two sides *interact* that a market develops. While this meaning of the term 'market' is widely accepted, marketers and strategists have traditionally adopted a rather *limited* view that is *demand*-oriented. They define market segmentation in terms of *customers*—with a focus on 'people' characteristics, e.g., demographics, social class. An opposite view, which may be called 'product' segmentation, is *supply*-oriented which *starts* with *product* characteristics, e.g., quality, price, benefits (*ibid*).

Barnett (1969) points out that the traditional marketing approach to market segmentation has not been very successful. So, he suggests an alternative that is more promising: one which *shifts* the primary focus *from* "*whom* you reach" to "*what* characteristics you build into the product" (*ibid*, *italics* added).

Thus, we need an *integrated* approach to market segmentation which includes *both* the demand and supply sides of the competitive equation, and where 'people' [customer] and 'product' characteristics are *not* mutually exclusive paths to market segmentation, but, rather, two sides of the *same* coin (Datta, 1996).

The basic *premise* of this article is that the *product* characteristics approach is both *easier* and a more *actionable* way of looking at how a market is—or can be—segmented than the traditional marketing approach. It focuses *both* on customer benefits or needs *and* the *resources* necessary to satisfy them (*ibid*).

This analysis is based on the notion that the path to market share leadership does *not* lie in lower price founded in *cost leadership* strategy, as Michael Porter (1980) suggests. Rather, it is based on the premise—according to the PIMS database research (Note 1)—that it is *customer-perceived* quality that is crucial to long-term competitive position and profitability. So, the answer to market share leadership for a business is to *differentiate* itself by offering quality *better* than that of the nearest competition (Datta, 2010a).

To make this idea *operational* requires *two* steps. The *first* is to determine *which* price-quality segment to compete in? Most consumer markets can be divided in three *basic* price-quality segments: *premium*, *mid-price*, and *economy*. These can be extended to *five* by adding two more: *ultra-premium* and *ultra-economy* (Datta, 1996).

The answer lies in serving the *middle* class by competing in the *mid-price* segment (Datta, 2010a, 2010b). This is the socio-economic segment that represents about 40% of households in America (Datta, 2011). It is also the segment Procter & Gamble (P&G), the largest American multinational corporation, has successfully served in the past (Datta, 2010b).

The *second* step for a business seeking market share leadership is to *position* itself at a price that is *somewhat* higher than that of the nearest competition (Datta, 1996, 2010a, 2010b).

This is in accord with P&G's practice based on the idea that although higher quality does deserve a "price premium," it should *not* be excessive (Datta, 2010b).

A higher price offers *two* advantages: (1) It promotes an *image* of quality, and (2) It ensures that the strategy is both profitable and sustainable in the *long run* (*ibid*).

A *classic* example of price positioning is provided by General Motors (GM). In 1921 GM rationalized its product line by offering "a car for every purse and purpose"—from Chevrolet to Pontiac, to Oldsmobile, to Buick, to Cadillac. More importantly, GM *positioned* each car line at the *top* of its segment (Datta, 1996, 2010a).

A more recent and familiar example is the *economy* chain, Motel 6, which has positioned itself as "offering the *lowes*t price of any national chain" (Datta, 2025a).

Another example is the Fairfield Inn. When Marriott introduced this chain, it targeted it at the *economy* segment. And then it positioned Fairfield at the *top* of that segment (Datta, 1996, 2010b, 2025b).

As mentioned above, *customer-perceived* quality is the most important factor contributing to the long-term success of a business. However, quality *cannot* really be separated from price (Datta, 1996). Quality, in general, is an intricate, multi-dimensional concept that is difficult to comprehend. So, consumers often use *relative* price—and a brand's *reputation*—as a symbol of quality (Datta, 2010b).

America is a deeply-divided nation, refuting the *myth*, long perpetuated by Conservatives, that America is a classless society (Datta, 2011).

The socio-economic *lifestyle* profile of America reveals *three* broad income groups, giving rise to *six* social classes. More importantly, the six social classes are *not* merely a statistical construct, but rather a picture of *reality* (Datta, 2011).

Income inequality in America has been going up unrelentingly from 1974 to 2018, *squeezing* the middle

class. It has now widened so much that it *rivals* the highest level recorded in 1928 that led to the Great Depression of 1929 (Datta, 2011, 2022).

Contrary to popular belief, the *upper class* does *not* consist of the top 1% earners: but rather the top 0.5%, with the *Upper Middle Class* occupying the 80-99.5th percentile (Datta, 2011, 2022).

Finally, thanks to the extraordinary *generosity* of A.C. Nielson Co. for the invaluable U.S. *national* retail sales data for the following 24 consumer markets for 2008 and 2007, without which this entire research campaign would *not* have been possible:

- Men's Shaving Cream, Beer, Shampoo, Shredded/Grated Cheese, Refrigerated Orange Juice, Men's Razor-Blade, Women's Razor-Blade, Toothpaste, Canned Soup, Coffee, Potato Chip, Alkaline AA Battery, Facial Tissue, Toilet Paper, Paper Towel, Disposable Diapers, Sanitary Pads, Automatic-Dishwasher Detergent, Hand-Dishwashing Detergent, Household Liquid Non-Disinfectant Cleaner, Heavy-Duty Liquid Laundry Detergent, Deodorant, Cola Carbonated Beverage, and Non-Cola--Lemon-Lime Regular Carbonated Beverage

For each of these 24 markets, we used Hierarchical Cluster Analysis to test two hypotheses: (I) That the market leader is likely to compete in the *mid-price* segment and (II) That its unit price is likely to be *higher* than that of the nearest competition.

These markets can be divided into *five* broad categories:

- (1) Food Group--Discretionary (2) Food Group—Non-Discretionary (3) Personal Grooming (4) Personal Hygiene (5a) Laundry and Dishwashing Detergents, and (5b) Household Cleaning and Alkaline AA Battery.

The focus of this paper, *third* in a series of five, is on the **Personal Grooming Group,** that covers *five* consumer markets:

- The U.S. Shampoo Market
- The U.S. Toothpaste Market
- The U.S. Men's Razor-Blade Market
- The U.S. Women's Razor-Blade Market
- The U.S. Men's Shaving Cream Market

2. Research & Development (R&D) Strategy

Ansoff & Stewart (1967; Datta, 2010b) have proposed an elegant scheme of R&D strategy for a technology-based business:

(1) "First to market"

(2) "Follow the leader"

(3) "Application engineering"

(4) "Me too"

They suggest that a business seeking market share leadership has a choice of two R&D strategies: either "first to market" or "follow the leader" (*ibid*).

Part A. The U.S. Shampoo Market

The U.S. Shampoo market had retail sales of $1.4 Billion in 2008.

1. A Brief History the U.S. Shampoo Industry

This section is based on the history of shampoo by Adriana Sassoon (Note 2).

Shampoo was introduced to Britain from colonial India where it meant head massage. The word shampoo in English is derived from the Hindi word *chāmpo*. In India the term was used for head massage with some form of hair oil (Datta, 2018a).

In the 1900s, the meaning of the word shifted from massage to that of applying *soap* to the hair which left a dull film on the hair that made it "uncomfortable, irritating, and unhealthy looking" (*ibid*; Datta, 2018a).

Modern shampoo was first introduced in the 1930s with *Drene*, the first synthetic shampoo (*ibid*).

2. The Chemistry of Shampoo

The main function of a shampoo is to clean hair and scalp so that it does not become oily and greasy by a substance called *sebum.* The objective is to remove unwanted build-up without too much sebum which can then make hair unmanageable. Sebum keeps hair *healthy*, but it also attracts *dirt* that causes the hair to become greasy. Shampoos contain *surfactants* that when mixed with water get oily substances out of hair (Datta, 2018a).

Shampoo is often followed by use of a *conditioner* which enhances the ease of combing and styling.

> A *surfactant* is an organic compound with a long molecule each end of which has different properties. One end of this molecule, the "tail," is "hydrophobic" ("water hating"), and the other end, the "head", is "hydrophilic" ("water loving"). While the hydrophobic end is attracted to dirt and grease, the hydrophilic side attracts water. Thus, the surfactant grabs the dirt and grease and dissolves it in water (Cole, Browning, & Schroeder, 2003, pp. 63-64; Datta, 2018a, 2012).
>
> Shampooing hair every day results in removal of sebum. Then the oil glands compensate this by producing more oil. So, Michelle Hanjani, a Columbia University dermatologist, recommends that one should shampoo hair *no* more than two or three times a week (Aubrey 2009; Datta, 2018a).

3. Trend toward Shampoos for Men

The shampoo market has been dominated by unisex products for a long time. In this study we found only three brands aimed especially at men: salon brand American Crew, Suave for Men, and P&G's Gillette. But that is now changing.

American Crew is the leading brand of products for men's grooming in the world. Founded in 1994, it is the first brand for men (Datta, 2018a).

Axe introduced a men's line in 2009, followed by Dove's line for men in 2013, and P&G's Old Spice men's line in 2014 (*ibid*).

P&G's Janet Allgaier says that in their advertising campaign they are trying to reassure men that there is

nothing unmanly about enlarging their hair routine. She said that the new message required "that tone of voice that gives guys permission to experiment without primping," and "groom without preening" (Newman, 2014; Datta, 2018a).

Most shampoos are sold at supermarkets, drug stores, discount stores, and department stores. However, many *premium* and *super-premium* brands—called *salon* brands—such as Matrix and Nexxus, are sold by beauty salons--and also by other stores (Datta, 2018a).

In 2008 the market share of all *salon* brands was 11.4%

4. Results of Hierarchical Cluster Analysis

The results *supported* Hypothesis I that P&G's Pantene, the *market leader*, was a member of the *mid-price* segment with a 2008 market share of 15.6%, followed by the *runner-up*, P&G's Head & Shoulders, also a member of the mid-*price* segment, with a market share 11.8%: but with a unit price *higher* than that of Pantene (Datta, 2018a).

Yet, the results did *not* negate Hypothesis II because Head & Shoulders is an *anti-dandruff specialty* shampoo: the kind that is always priced *higher* than a general-purpose shampoo (*ibid*).

Part B. The U.S. Toothpaste Market

The U.S. Toothpaste market had retail sales of $1.27 Billion in 2008.

1. Teeth-cleaning with Twig or Datun

Brushing with a teeth-cleaning twig from a tree can be helpful in preventing tooth decay and gum disease. Its use dates all the way back to 3500-3000 BC, when Babylonians and Egyptians made a toothbrush by *chewin*g a twig until one end is *frayed*, while the other end could then be used as a *toothpick* (Datta 2020a).

It was around 1600 BC that the Chinese developed chewing sticks which were made from *aromatic* tree twigs to *freshen* breath. According to Buddhist scriptures, chewing sticks—called *datun*—were in use in Northwestern India around 5th century BC (Datta, 2020a).

The most common plants used for twigs are those with a high *tannins* content: meaning that they possess *astringent* and *antibacterial* qualities that promote healthy gums and teeth (*ibid*).

In India the most common chewing sticks are *neem* twigs. Neem has strong *anti-bacterial* and *anti-microbial* properties. That is why brushing with neem datun is still very popular in small towns and rural India. It is effective in "fighting *germs*, maintaining the *alkaline* levels in your saliva, keeping bacteria at bay, treating *swollen gums*, preventing *plaque* and also giving you *whiter* teeth" (Sengupta, 2018; *italics* added; Datta, 2020a).

2. The Natural-Bristle Toothbrush

The Chinese are believed to have invented the *first* natural-bristle toothbrush made out of bristles from pig's necks. The first precursor to modern toothbrush was invented by William Addis in England around

1780. While the handle was carved out of cattle bone, yet the brush was still made from swine bristles (Datta, 2020a).

3. The Nylon Toothbrush

With the invention of nylon by Du Pont in 1938, the *first* toothbrush made with *nylon* yarn went on sale in 1938. The Broxodent, a Swedish invention, was the first *electric* toothbrush that appeared in the U.S. in 1960 (Datta, 2020a).

Today both manual and electric toothbrushes come in several shapes and sizes, and most are made of *plastic*-molded handles and nylon bristles (*ibid*).

4. The Pioneering Role of Colgate

The material in Part B owes a lot to the brilliant work of Miskell (2004).

Prior to the 1850s, "toothpastes" were usually *powders*. During the 1850s, a new toothpaste in a *jar* called Crème Dentifrice was developed. In 1873 Colgate started the mass production of toothpaste in *jars.* In 911, Colgate distributed *two* million tubes of toothpaste *and* toothbrushes to schools, and provided hygienists to demonstrate tooth brushing (Datta, 2020a).

In the early years of the twentieth century Colgate did *more* than any other company to promote toothpaste (Miskell, 2004; Datta, 2020a).

5. Colgate Introduces Toothpaste in a Collapsible Tube

In 1896 Colgate introduced a toothpaste in a *collapsible* tube similar to contemporary toothpaste tubes. At that time a jar of toothpaste cost a manual worker half a-day's wage. The collapsible tube not only cut down the *cost* of producing toothpaste significantly, it also eliminated the *unhygienic* practice of scooping the paste from shared jars onto a toothbrush. Later, another innovation by Colgate made it possible for toothpaste to come out in a flat "ribbon" that would *not* easily fall off the brush (Miskell, 2004; Datta, 2020a).

This *packaging* innovation by Colgate turned out to be *critical* in stimulating mass production and consumption of toothpaste because consumers found toothpaste in a collapsible tube so *easy* to use (*ibid*).

6. History of Brushing by Americans

Surprisingly, most Americans did *not* brush their teeth until after WWII. When the Army soldiers returned home after the war, they brought with them the habit of *regular* brushing: a practice the Army had made obligatory (Warner, 2016; Bellis, 2018; Datta, 2020a).

No wonder, over the course of the nineteenth century, dental disease, typified by dental *cavities*, grew dramatically (Miskell, 2004; Datta, 2020a).

7. Slavery and the Sugar Industry

It was around 400 B.C. that sugar production started in India. In his second voyage across the Atlantic in 1493, Christopher Columbus carried sugarcane stalks from the Spanish Canary Islands (Muhammad, 2019). The Portuguese introduced sugar to Brazil in the middle of the 16th century. After 1625 the Dutch brought sugarcane from South America to the Caribbean islands where it was cultivated from Barbados to Virgin Islands (Datta, 2020a).

For thousands of years sugarcane was a *heavy* and unwieldly crop that was very *labor*-intensive. It was the introduction of *slavery* that changed everything. "The true Age of Sugar had begun—and it was doing more to *reshape* the world than any ruler, empire, or war had ever done" (Muhammad, 2019; *italics* added; Datta, 2020a).

Over the four centuries following the arrival of Columbus in the New World, innumerable lives were *destroyed* and around 11 million Africans were *enslaved*" (*ibid*; *italics* added; Datta, 2020a).

The manufacture of sugar from sugarcane began in Louisiana Territory in 1795. Within decades, Louisiana planters were producing as much as a *quarter* of the world's cane-sugar output. However, this impressive achievement was the fruit of a bitter harvest grown on the backs of *enslaved* labor. In sugar mills, children, alongside with adults, "toiled like factory workers with assembly-like precision and discipline under the constant threat of boiling hot kettles, open furnaces and grinding rollers" (Muhammad, 2019; Datta, 2020a).

To attain the highest efficiency—like the round-the-clock Domino refinery *today*--sugar factories worked day and night. On cane plantations there was no distinction as to the days of the week. Fatigue might mean losing an arm to the grinding rollers, or being flayed for not being able to keep up. Resistance was often met with *sadistic* cruelty (*ibid*).

Louisiana led America in *destroying* the lives of African Americans: all in the name of *efficienc*y (Muhammad, 2019; Datta, 2020a).

Life expectancy on a sugar plantation was *less* like that on a cotton plantation, but *more* that on a Jamaican cane field, where the "most overworked and abused could drop *dead* after just *seven* years" (*ibid*).

8. The Birth of High Fructose Corn Syrup (HFCS)

The material in Ch. 8-9, and 11-13 is from the *excellent* work of Michael Pollan (2006, 2008, 2009).

In the early 1970s the Nixon administration told American farmers that the government would pay them for all the *corn* they could produce. This policy of *cheap* corn led to considerable increase in the production of corn, which, in turn, drove the price of corn *down*. This policy led to an unintended consequence that was *monumental* in scope.

Now a *new* kind of sweetener—High Fructose Corn Syrup (HFCS)—became much *cheaper* to produce than sugar. More importantly, the consumers couldn't tell the difference between the two (Pollan, 2009, p. 80; also, Datta, 2020a).

In 1980 Coca Cola and Pepsi switched over from sugar to HFCS. But, instead of reducing cola prices Coke and Pepsi chose a different path: *increase* the size of the cola bottle (*ibid*).

HFCS has now become the *chief* source of sweeteners in our diet (Pollan, 2006, p. 103).

9. The Insatiable American Craving for Sugar

In colonial Maryland more than 300 years ago, the governor's wife died. Her coffin was made out of expensive *lead*; her wrists were bound with *silk* ribbons. But one of the "most telling signs of her wealth was her *teeth"*—or lack thereof. She had lost 20, and many others had *decayed* right down to the root stubs. One reason her mouth was in such a bad shape was that "she was *affluent* enough to *afford* sugar" (Gritz, 2017; *italic*s added; Datta, 2020a).

We have been "hardwired by natural selection" to desire *sweet* foods (Pollan, 2008, p. 112). Yet, earlier Americans could not get enough because then sugar was a *luxury* item. During the time of George Washington—who wore *false* teeth—Americans consumed just *six* pounds of sugar per year (Gritz, 2017; Datta, 2020a). By the middle of the twentieth century, sugar became much more affordable, thanks to its mass production. Consequently, the per capita consumption of sugar jumped to 100 pounds per year (Miskell, 2004; Datta, 2020a).

Today the average American consumes 130 pounds of sugar every year, much of it in the form of the cheap HFCS. Sugar has become so pervasive today that most of it is consumed by *lower*-income Americans. According to a 2013 Gallup poll, Americans with an income of *less* than $30,000 per year are *more* than twice as likely to drink *regular* soda than those earning more than $75,000 per year (Gritz, 2017; Datta, 2020a).

10. Sugar and Dental Cavities

It is commonly known that sugar can lead to tooth decay, but not many understand how it happens. The mouth is populated by a myriad of bacteria many of which are beneficial to oral health. However, some *harmful* bacteria feed on the sugars we eat that create *acids* that destroy the tooth enamel. This in turn leads to *cavities* that cause *holes* in the teeth (Datta, 2020a).

Acids *leech* minerals from the teeth through a process known as *de*mineralization. Luckily, the natural process of *re*mineralization replenishes these minerals that strengthen the teeth back again. The vital factor in this process is *saliva* that contains minerals like *calcium* and *phosphates* that help repair weakened enamel. Another mineral is *fluoride* that can aid in repairing damaged enamel (*ibid*).

11. Industrialization of American Food and Dental Decay

An important reason for *processing* food is the need to *preserve* it. However, industrial processing goes *far* beyond extending food shelf life. Instead, it is particularly calculated to "sell us *more* food by pushing our *evolutionary* buttons—our *inborn* preferences for *sweetness* and fat and salt" Pollan (2008, pp. 149-150; *italics* added; also, Datta, 2017, 2020a).

12. Preference for White Flour Leads to Malnutrition

Humans have been refining cereal grains at least before the industrial revolution with a preference for *white* flour. So, white flour acquired an aura of *prestige*. The introduction of steel rollers in 1870 marks the beginning of the *industrialization* of our food (Pollan, 2008, p. 107; Datta, 2020a).

Before the steel rollers, wheat flour was produced by grinding wheat between two large *stone* wheels. But this process produced flour that was *far* from being white. This is because that while stone grinding removed the *bran*—the part that contains *fiber*—from the wheat *kernel*, it could *not* separate the *germ*: the component that contains volatile *oils* that are *rich* in *nutrients*. This operation produced *two* important results: (1) The flour acquired a yellowish gray *tint*, and (2) It *shortened* the flour's shelf life, because the oil once exposed to the air soon oxidized and turned *rancid* (Pollan, 2008, pp. 107-108: Datta, 2020a).

With the invention of steel rollers, it became possible to remove the *germ*—the component rich with *nutrients*—and then grind the remaining part—endosperm—into a an extremely *fine* powder. Now everyone could *afford* snowy-*white* flour that could stay on a shelf for months (Pollan, 2008, p. 108; Datta, 2020a).

Ironically, however, the problem was that this "gorgeous white powder was nutritionally *worthless* or nearly so" (*ibid*; *italics* added).

The roller milling process not only removed wheat *germ*—and its nutrients—but also the *fiber*, leaving behind nothing but *starch* and a little protein. Starches made from *white* flour are *carbohydrates* that can *linger* in your mouth and then break down into simple *sugars*. Bacteria feed on these sugars and produce *acid*, which causes tooth *decay* (Datta, 2020a).

Research during the early years of the twentieth century revealed that where people ate *coarser* dry bread had much lower incidence of cavities, than people who ate *soft* white-flour bread. This is because the coarser bread stimulated secretion of *saliva* which contains *alkaline* properties that *neutralize* acids in the mouth (Miskell, 2004; Datta, 2020a).

13. Industrialization of Food Has Led to Major Chronic Diseases: Heart disease, Diabetes, Stroke, and Cancer

Pollan (2008, pp. 9-10) suggests that *four* of our leading *chronic* diseases—coronary heart disease, diabetes, stroke and cancer—can be traced directly to *industrialization* of our food, which he calls the *Western diet*. Among the key factors contributing to these diseases are the rise of highly *processed* foods, *refined* grains, and the "superabundance of *cheap* calories of *sugar* and fat produced by modern agriculture" (*italics* added; Datta, 2020a).

However, studies of *native* populations *not* exposed to the Western diet, reveals a different picture. In the early decades of the twentieth century, several medical professionals working with native populations in several countries found almost complete absence of these four chronic diseases that afflicted Western societies at that time (Pollan, 2008, pp. 90-91; Datta, 2020a).

But more importantly, they had little or *no* tooth decay as well (*ibid*).

14. The Modern History of the U.S. Toothpaste Industry

14.1 P&G Launches Crest Toothpaste with Fluoristan

In 1950 P&G created a joint research project to develop and test a toothpaste with *fluoride*. A clinical study found 49% *reduction* in cavities in children with ages between 6-16 years, with almost identical results among adults (Miskell, 2004; Datta, 2020a).

In view of such encouraging results, P&G launched Crest with Fluoristan nationally in 1956. In 1960 Crest became the *first* brand of toothpaste to earn an endorsement from the American Dental Association. In 1976, the American Chemical Society recognized Crest with fluoride as one of the 100 greatest discoveries of the previous 100 years (Datta, 2020a).

14.2 Colgate Palmolive Co.

In 1953 Colgate-Palmolive Co. became the company's official name.

In 1963 Colgate added *MFP Fluoride* to reduce cavities. In 1997 Colgate introduced *Total* toothpaste, and quickly it became the market *leader* (Datta, 2020a).

In 2018 Colgate introduced the *nex*t generation of Colgate *Total* toothpaste which contains a new *stannous fluoride* formula that "fights plaque-causing bacteria on 100% of mouth surface, including teeth, tongue, cheeks, and gums" (*italics* added, Datta, 2020a).

14.3 Glaxo SmithKline and Aquafresh

Glaxo SmithKline is a British multinational pharmaceutical company that was formed as the result of a merger of Gaxo Wellcome and SmithKline Beecham in 2000 (Datta, 2020a).

SmithKline Beecham introduced Aquafresh toothpaste in 1973. Aquafresh was the *first* striped toothpaste. Originally, it had two colors: blue and white. But later a third red stripe was also added (*ibid*).

According to the company Aquafresh was the *first* brand to offer *'freshness'* as a *major* product benefit. This is because "fresh breath" and "good-tasting" toothpastes were important to *young* people and families at that time (*ibid*).

14.4 Glaxo SmithKline and Sensodyne

Sensodyne was introduced in 1961 by Block Drug, a Brooklyn, New York-based company, which was acquired by Glaxo-SmithKline in 2000. Sensodyne is targeted at people with *sensitive* teeth (*ibid*).

14.5 Church & Dwight and Arm & Hammer Toothpaste

Church & Dwight--maker of Arm & Hammer (A&H) baking soda—entered the U.S. toothpaste market in 1989 in a joint venture with Occidental Petroleum. In a brilliant advertising campaign during the prior decade, A&H had dramatically raised consumer awareness of its *baking soda* as a refrigerator *deodorant* and *freshener*. Also baking soda had a long-standing reputation as an effective *dentifrice*. Furthermore, A&H had access to mass marketing *channels* through the distribution of A&H baking soda (Datta, 1996). So, exploiting these rich resources, A&H successfully launched its Dental Care brand in 1989. Following the A&H's example, now almost every brand offers a baking soda toothpaste (*ibid*).

Thus, A&H created a new benefit *segment* that the Big Two—Crest and Colgate—had ignored up to that point (*ibid*).

14.6 Tom's of Maine Introduces a Toothpaste with Natural Ingredients

Tom's of Maine launched its toothpaste with *natural* ingredients in 1970 (Datta, 2020a).

15. The White-Teeth Revolution

Rembrandt introduced the "first-ever whitening toothpaste" in America in 1989 (Datta, 2020a).

In 1993 Unilever nationally introduced Mentadent, a *peroxide-baking soda* whitening toothpaste. At that time American Dental Association and *Consumer Reports* questioned the safety of bleaching toothpaste that contained peroxide. In response to this criticism, Unilever argued that the risk of peroxide in Mentadent was no higher than in "your pickle" (Datta, 1996).

Unilever *discontinued* Mentadent in 2016 (*ibid*).

In 2001 Colgate launched *Colgate Total Plus Whitening* toothpaste. At that time, it was the *firs*t and *only whitening* toothpaste approved by the U.S. Food and Drug Administration to prevent *gingivitis* and *plaque*. Also, it was the *only* toothpaste that won the Seal of Acceptance from the American Dental Association for helping to prevent *cavities, gingivitis, plaque, tartar* build-up—and *whiten* teeth (*ibid*).

In 2003 Colgate introduced *Simply White Whitening* (SWW) toothpaste. Unlike ordinary whitening toothpastes-- that only remove *surface* stains--SWW "removes *deep* and embedded stains that are *below* the surface." Colgate claims it can provide noticeably whiter teeth in as little as 14 days (*italics* added).

Colgate says that SWW works because it has *hydrogen peroxide*. Also. it has a unique, patented whitening *accelerator* that goes *beneath* the surface to whiten *deeper* and removing stains embedded *inside* the teeth. It also features high-cleaning *silica* to remove *surface* stains (Datta, 2020a).

In October 2019, Colgate came out with its newest offering: *Optic White Renewal Toothpaste*. Colgate says it is "our *best* whitening toothpaste ever." It contains "3% hydrogen peroxide, a *professionally* recommended whitening ingredient proven to whiten *deeply beyond* surface stains." With "unprecedented whitening power" it can remove "10 years of *yellow* stains while being *safe* for enamel" (*italics* added; Datta, 2020a).

Crest started adding whitening ingredients to its toothpastes in the 1990s. However, it introduced a new innovation: Crest Whitestrips in 2000 (Datta, 2020a).

In 2012 Crest launched *Crest 3D White Glamourous White whitening* toothpaste. According to P&G, this toothpaste uses a "breakthrough *shine* technology that noticeably brightens your smile after just *one* brushing," and that it also "removes up to 90 percent of *surface* stains in just *five* days" (*italics* added; Datta, 2020a).

It seems that the two early Colgate *whitening* toothpastes--introduced in 2001 and 2003--opened the *floodgate* of *whitening* toothpaste in America, as whitening toothpaste sales catapulted to 68% of total U.S. retail toothpaste sales in 2008! (Datta, 2020a).

16. Benefit Segmentation of the U.S. Toothpaste Market: 1996 vs. 2008

In 2008 we found five benefit segments:

- Dental Health
- Appearance
- Aesthetics
- Taste, Color, and Convenience
- Low Price

We are fortunate to have two pictures of benefit segments of the U.S. Toothpaste market (Datta, 1996, 2020a).

Table 1 contains a *comparison* of benefit segments between the two studies.

The score for *Dental Health* saw a major *decline* of almost half from 59% in 1996, to 29% in 2008.

This is primarily because of a dramatic increase in the *Appearance* segment which catapulted from 13% in 1996, to 60% in 2008. As mentioned in Ch. 15, *Whitening* toothpaste sales jumped to 68% of total U.S. retail toothpaste sales in 2008 (Datta, 2020a)!

Miskell (2004) points out that between 1955-1985 the toothpaste advertising was focused more on *cavity* protection than on "cosmetic perfection." The data for 1996 in Table 1 shows a similar pattern with *dental health* accounting for 59% of U.S. toothpaste sales (Datta, 2020a).

The other significant difference between the two years is a huge drop in the "taste, color, and convenience" segment from 21% in 1996 to 3% in 2008. One important factor in this monumental decline seems to be the *overwhelming* consumer interest in *white* teeth over the years leading to 2008. In 1996 Aquafresh *striped* toothpaste had a 12.5% share. But in 2008 its share had dropped to 7.1%. Similarly, Aim *gel* toothpaste had a market share of 7% in 1996, but in 2008 it could muster just 0.7% (*ibid*).

The lofty level of 68% for *whitening* toothpaste sales in 2008 may *erroneously* suggest a heavy tilt towards *cosmetics* by the toothpaste industry: away from its traditional concerns about dental decay. However, that is *far* from true. As mentioned above, ADA's seal of acceptance for Colgate's *Total Plus Whitening* toothpaste in 2001 did not only approve the brand as a whitening agent, but *also* found it helpful in preventing *cavities, gingivitis, plaque*, and *tartar* build-up (Datta, 2020a).

So, today's consumers have now become the beneficiaries of a situation in which they can *keep* the proverbial cake, but also be able to *eat* it! (*ibid*).

17. Results of Hierarchical Cluster Analysis

The results for both 2008 and 2007 supported *both* Hypothesis I and II. The *market leader,* Crest, had a 2008 market share of 34.7%, with the *runner-up* Colgate right on its heels with a market share of 33.5%. Both were members of the *mid-price* segment in which the unit price of Crest was *higher* than that of Colgate (Datta, 2020a).

Part C. The U.S. Men's Razor-Blade Market

The U.S. Men's Blades market had retail sales of $591 million, and U.S. Men's Razors market that of $111 million in 2008.

1. A Brief History of the U.S. Men's Razor-Blade Market

The coverage of our discussion in Part C, is largely from the brilliant book of McKibben (1998): *Cutting Edge-- Gillette's journey to global leadership.*

The history of men's shaving is synonymous with the Gillette Co. Gordon McKibben (1998, front jacket) describes Gillette's legacy in these words (Datta, 2019a):

- The Gillette Company has literally *defined* the *world* shaving market since its founding in 1901 by legendary…*inventor* King Camp Gillette. But more than that, Gillette serves as a *model* for today's managers of how to maintain commitment to *innovation*, how to advertise *creatively* against competitors, and above all, how to translate a consistent vision of *global* growth into *superior* results in the marketplace (*italics* added).
- Gillette's philosophy enunciated by King Gillette--and still followed by the Gillette Co.—is: "We'll stop making razor Blades when we can't make them better" (Datta, 2019a).

In his quest for a better way to shave, a revolutionary idea came to King Gillette like a *dream.* And, that idea was: "a *separate* razor handle with a *disposable* blade" (Datta, 2019a).

Gillette's *first* two-piece *safety* razor-blade system was the *single*-edge Star, patented in 1876 which was very *cumbersome.*

So, Gillette introduced a new system with a razor handle housing a low-cost *disposable double*-edge blade. However, Gillette's focus was mainly on the *convenience--ease of use*--and the *economy* of a *refillable* razor and blade system: *not* just safety (McKibben, 1998, p. 6; Datta, 2019a).

It was not until after America's entry in World War I in 1917 that the idea of a mass market for Men's Razors and disposable Blades became a reality (McKibben, 1998, p. 18). Before, a two-day *stubble* was quite common among American men. However, from its earliest days, Gillette's advertisements had emphasized the "manliness and sexiness of the smooth-shaven man" (p. 18, *ibid*).

Following the examples of British and French officers, who encouraged their soldiers to be clean-shaven, the U.S. military began to issue Gillette shaving kits to every U.S. serviceman. Even though Gillette sold the kits to the military at a discount, yet it made money on the deal (McKibben, pp. 19, 20, *ibid*).

The benefit of this deal turned out to be far more *consequential* than a one-time spurt in Gillette's sales. When the soldiers returned home after WWI, the *required* habit of clean shaving acquired by millions of servicemen *broke down* any lingering resistance to self-shaving among the civilian men (*ibid,* p. 20).

2. Gillette's Strategy of Globalism

The shaving fever was not just restricted to America; it had spread to foreign lands as well. And this is where Gillette's strategy of globalism was beginning to pay off. So, Gillette expanded its European operations by opening a plant in England. In the meantime, Gillette was gaining a reputation for the

global character of its operations. A significant advantage of globalism was the wisdom, the corps of its experienced global managers who were able to bring to the home-base (McKibben, 1998, p. 21; Datta, 2019a).

In the silver anniversary issue of the *Blade* magazine, King Gillette observed that his invention had not only revolutionized the shaving market, "but to some degree had *altered* the habits of mankind" (McKibben, 1998, p. 22, *italics* added). He said that in his travels he found Gillette Razors and Blades "in the most northern town of Norway and in the heart of the Saharan desert where no white man lives" (p. 22). Editors of *Blade* magazine claimed that "it is impossible to name any other manufactured commodity with a distribution system as great and widespread as Gillette…In every town and city in the world Gillette Razors and Blades may be purchased!" (*ibid*).

Although a mere 8% of India's population was literate, Gillette nonetheless produced advertising exalting the virtues of its Razors and Blades in *seven* regional languages plus English. A spokesman of Gillette boasted that "the name of Gillette is as well known in Bombay as in Boston" (McKibben, 1998, p. 22; Datta, 2019a).

3. Gillette Super Blue, 1960s

From the very beginning Gillette was wedded to the "First to market" R&D strategy: a strategy of innovation and constant improvement (Ansoff & Stewart, 1967; Datta, 2010b).

In the 1960s Gillette introduced *Super* Blue, the first blade each edge of which was *coated* with *silicone.* The success of Super Blue ushered in a period when *chemistry* became as vital as *metallurgy* to Gillette's production processes (McKibben, 1998, pp. 52-53; Datta, 2019a).

4. The Shock of Wilkinson's Stainless-Steel Blades

In 1962 Wilkinson Sword, Ltd., a London cutlery company, that used to make combat swords, introduced *stainless steel* Blades for the safety razor-blade market. Users said they could get a *dozen* or more shaves from each blade, compared to *three* or *four* from the best carbon steel blade like Gillette's Super Blue. Armed with a superior product, Wilkinson was posing a serious challenge to Gillette's undisputed leadership (McKibben, 1998, p. 56; Datta, 2019a).

Gillette's scientists had long known that Blades made from *corrosion-resistant* stainless steel would produce more shaves per blade, than Blades made from carbon steel. Interestingly, Gillette was *ahead* of Wilkinson to develop a suitable coating for stainless steel Blades for which it was able to secure a patent *before* Wilkinson could get it. So, ironically, Wilkinson had to pay Gillette a *royalty* on the very Blades that were posing a major challenge to the latter (McKibben, 1998, p. 57; Datta, 2019a).

It seems that Gillette was a following a "complacent' strategy of *rushing* to get Super Blue on the market, because it was very profitable. Although Gillette scientists had developed a coating that seemed to work with stainless steel, this endeavor was pushed aside in favor of its focus on Super-Blue. So, Wilkinson's stainless-steel coup must have come as a shock to the Gillette executives. The problem was that customers

loved Wilkinson stainless steel Blades which had instantly become a status symbol (McKibben, 1998, pp. 57-58; Datta, 2019a).

One year after the Wilkinson shock, Gillette finally came out with its *own* stainless-steel Blades at a price just a little lower than that of the Wilkinson Blades. But Wilkinson was beset with manufacturing problems that made it impossible for the company to distribute its Blades through the entire United States for several months. And soon Gillette was back in the saddle as the undisputed king of the American safety Razor-Blade market (McKibben, 1998, p. 58; Datta, 2019a).

5. Trac II, 1971

Gillette introduced the *first twin*-blade shaving system--that utilized a *cartridge*--replacing the Gillette's *double*-edge *single*-blade system. This is an invention that finally brought an *end* to the long, glorious 67-year reign of King Gillette's single double-edge blades: a revolutionary invention that became the very foundation of the Gillette Co., and made it a commanding force in the razor-blade market around the whole world (McKibben, 1998, Datta, 2019a).

6. Gillette Atra Plus, 1985

Gillette launches Atra Plus, the *first* razor with a *lubricating* strip (Datta, 2019a).

7. Gillette Sensor, 1990

Sensor was the "*first* razor with twin Blades *individually* mounted on highly responsive springs that automatically adjust to the contours of every face" (McKibben, 1998, *italics* added, pp. 246-247; Datta, 2019a).

One goal of Gillette management in launching Sensor was to *reposition* Gillette as a *premium* brand: a maker of *high-performance* quality razor-blade systems, and to project an image of a company that "understood men and what made them feel good about themselves." A theme that Gillette employs even today is: "Best a Man Can Get" (McKibben, 1998, p. 249; Datta, 2019a).

8. Gillette Mach 3, 1998

Gillette introduces Mach 3, the *first three*-blade technology for an "even smoother closer shave" (Datta, 2019a).

9. Gillette Fusion, 2006

Gillette introduces the *first five*-blade razor: the world's *first* razor to feature advanced technology on *both* the front and the back of the blade cartridge (Datta, 2019a).

It is not unreasonable to suggest that after King Gillette's revolutionary invention of a razor with a disposable double-edge blade in 1904, Gillette's launch of Fusion in 2006 was a *major* innovation.

According to *Business Wire* (2005), Fusion was world's *first* razor to feature *advanced* technology on

both the front and the back of the blade cartridge. This is how it characterizes this breakthrough technology (Datta, 2019a):

- [O]n the *front* of the cartridge, blades [are] spaced 30 percent *closer* together than MACH3 blades. The combination of adding *more* blades and *narrowing* the inter-blade span creates a "Shaving Surface" that distributes the shaving force across the blades, resulting in significantly *less* irritation and *more* comfort. The Precision Trimmer (TM) blade, a single blade on the *back* of the cartridge, allows men to easily trim *sideburns*, shave *under* the nose and *shape* facial hair with control (*italics* added).

10. Gillette Fusion ProGlide Razor with FlexBall Technology 2014

Gillette introduces Fusion ProGlide Razor with FlexBall Technology: "a *pivoting* razor built to maximize contact with every contour of a man's face" (Datta, 2019a).

11. Gillette's Pricing Strategy: Two Conflicting Views

11.1 The "Razor-Blade" Pricing Strategy

Chris Anderson, in his book *Free* (2009), suggests that King Gillette not only invented a revolutionary razor-blade system, he also invented a new *business model*—commonly known as the "*razor-blade*" model—for businesses that sell two *related* products that work *together* in-tandem. He says this model has now become the underpinning of many industries, e.g., VCRs, DVD players, Xbox, e-book readers, and so on. Under this model you sell one product (Razor) at a *low* price, and then make your money by selling the other product (Blade) at a *high* price (Datta, 2019a).

11.2 Gillette Has Not Followed the "Razor-Blade" Strategy

Picker (2010), however, offers a *different* perspective. He argues that, between 1904 when Gillette got the patent, and November 1921 when that patent expired, Gillette could have played the razor-blade strategy: low price or free Razors, and a high price for Blades. However, Picker adds, the company did *not* play that strategy when that was the best time to do so. Instead, during this period Gillette insisted on selling its razor at a *high* price of $5 and *premium*-priced Blades (also McKibben, 1998, p. 17; Datta, 2019a).

12. Gillette Offers Heavy Discount on Fusion Razors to Stimulate Sale of Fusion Blades

As mentioned earlier, the launching of Fusion in 2006 was an *extraordinary* event. During 2008, Gillette offered a discount on various brands of Fusion Razors that ranged from 41% to 54% (Datta, 2019a).

13. Gillette Enters the Super-Premium Segment with Fusion

As we have indicated before, when Gillette introduced *Sensor* brand in 1990, it began to *reposition* Gillette as a *premium* brand. However, with the entry of Fusion, it placed Fusion *Blades* in the *super-premium* segment. This is in accord with P&G's strategy that it plans to compete in all "price points"

except the *economy* segment (Datta, 2010b, 2019a).

Considering the *phenomenal* nature of Fusion's innovation—that was *miles* ahead of the then best technology--it is *not* surprising that Gillette decided to position Fusion at the *super-premium* segment.

14. Fusion Launch a Big Success

One year after its launch, Fusion sales rose to $195 million in 2007, and went *up* to $215 million in 2008. In contrast, Mach 3, the market leader, had sales of $268 million in 2007, but sales *declined* to $240 million in 2008 (Datta, 2019a).

15. P&G Agrees to Acquire Gillette Co.

P&G agreed to buy Gillette Co. in January 2005. P&G and Gillette executives argued that this marriage would bring together the marketing and distribution prowess of P&G, whose products are marketed primarily to *women*, together with Gillette's high-profit Men's Razor-Blades, which are marketed mainly to *men* (Datta, 2019a).

16. History of Schick Razor-Blades

Schick was founded in 1926 by Colonel Jacob Schick. In the same year Schick successfully introduced a *single* blade safety razor system that stored 20 Blades in a steel *injector* (Datta, 2019a).

In 2015 Schick became a part of Edgewell Personal Care Co. (*ibid*).

In 2003 Schick introduced the *first* commercial *four*-blade refillable cartridge (*ibid*).

17. Results of Hierarchical Cluster Analysis of Men's Razor-Blades

The results did *not s*upport Hypothesis I because the *market leader*, Gillette Mach 3, was a member of the *premium* segment--with a 2008 market share of 23.6%. While the *runner-up*, Gillette Fusion--right on Mach 3's heels, with a 2008 market share of 22.9 %--was part of the *super-premium* segment.

Similarly, the data did *not s*upport Hypothesis II either because the unit price of *market leader*, Gillette Mach 3, was *lower* than that of the *runner-up* Gillette Fusion (Datta, 2019a).

The results for 2007 were similar to those for 2008.

Part D. The U.S. Women's Razor-Blade Market

The U.S. Women's Blades market had retail sales of $192 million, and U.S. Women's Razors market that of $83 million in 2008.

1. History of Shaving Underarms

The history of shaving by women in America starts with *under-arm* hair. Kathy Padden (2013) suggests that our "modern-day obsession with silky-smooth armpits and legs" began in 1915 when an *ad* appeared in the upscale magazine *Harper Bazaar*, featuring a young female model in "a *sleeveless*, *slip-like* dress posing with both arms *over* her neck" *(italics* added; Datta, 2019b).

At that time both fashion and social norms dictated that women cover themselves to the *wrist* and *ankle* (Padden, 2013), thanks to the "straight-laced" styles of the Victorian era (Komar, 2016). Since underarms had always been covered, it didn't matter whether they were shaved or not. However, now ads were coaxing women that it was important to shave armpits to remove "objectionable" hair (Padden, 2013; Datta, 2019b).

This idea was promoted by the beauty industry to appeal to the timeless desire of women to be *trendy.* And this obsession finally percolated down to the middle class (*ibid.*; Komar, 2016).

Not surprisingly, this was the time when sleeveless and sheer dresses became popular among the *middle-class* women. The Sears and Roebuck catalog of 1922 offered the sale of women's razors and depilatories, as well as sleeveless and sheer dresses (Padden, 2013; Komar, 2016; Datta, 2019b).

At this stage the advertisers felt that they had won over women. It was no longer the question of *whether* they should shave their underarms, but rather *which* brand was the one they liked the most (Padden, 2013; Datta, 2019b).

2. History of Shaving Legs

Compared to armpits, the practice of shaving legs took a lot longer to catch on. During World War II, an iconic pin-up picture of actress Betty Grable became a fabric of American popular culture almost overnight. To emulate Betty's fabulous legs, a woman had not only to wear a short skirt *and* sheer stockings, she also had to *shave* her legs. So, not surprisingly, the women of America have been shaving their legs ever since (Padden, 2013). But sex appeal was not the only reason smooth-shaved *pin-ups* inspired women to shave their legs: it was also a way to show their patriotism to boost the morale of American soldiers fighting abroad (Komar, 2016; Datta, 2019b).

By 1964, surveys indicated that 98% of all American women aged 15-44 were routinely shaving their legs (*ibid*).

3. What is Hair Removal Norm for Women Today?

In a study of women in the UK, based on survey data from 678 women, British scholars Toerien and Wilkinson (2004) found that in the Western culture *hairiness* is viewed in heavily *negative* terms, as being masculine and unhygienic. In contrast, *hairlessness* is regarded as *positive*, clean and feminine. Women who do not adhere to this social norm are often subjected to criticism from relatives, friends, co-workers, and even strangers (also Matteo, 2019; Datta, 2019b).

4. A Brief History of the U.S. Women's Razor-Blade Market

In 2008 the market leader was Gillette, with a market share of 58% in Women's Razors, and 61% in Women's Blades. A distant second was Schick, a division of the Edgewell Co., with corresponding shares of 31%, and 35%, respectively (Datta, 2019b).

It was King Gillette who invented a truly revolutionary product for shaving men's facial hair in 1901: a

safety razor with a *double*-edge *disposable* blade (Datta, 2019a).

5. Gillette Launches Venus Razor for Women

A hundred years after King Gillette invented a safety razor for men in 1901, Gillette introduced the *Venus (Original) Razor* system in 2001: the *first* three-blade razor cartridge for Women, based on Mach 3 for Men (Datta, 2019b).

6. Gillette Introduces Fusion Razor and Venus Embrace Razor

In 2006 Gillette introduced *Fusion Razor*, the *first* five-blade Razor for Men. In 2008, Gillette launched *Venus Embrace Razor*, the *first* five-blade Razor for Women. The launch was successful because it raised Gillette's overall market share of Women's Razors from 51.8% in 2007 to 57.5% in 2008, and that of Women's Blades from 59.5% in 2007 to 61.3% in 2008 (Datta, 2019a).

7. The History of Schick

Schick was founded in 1926 by Colonel Jacob Schick (Datta, 2019a).

In 2003, Schick introduced its *first* three-blade Razor system for women: *Intuition* (Datta, 2019b).

In 2005 Schick introduced *Quattro* for Women Razor, the *first* four-blade Razor system for women (*ibid*).

8. Results of Hierarchical Cluster Analysis

8.1 Women's Razors

The results for both 2008 and 2007 did *not* support Hypothesis I because the *market leader*, *Gillette Venus Embrace*, --with a 2008 market share of 27.9%--was a member of the *super-premium s*egment. Likewise, *Schick Intuition Plus*-with a 2008 market share of 16.3%--the *runner-up*, was also part of the *super-premium* segment (Datta, 2019b).

However, the data *did* support Hypothesis II because the unit price of *Gillette Venus Embrace* was *higher* than that of *Schick Intuition Plus* (Datta, 2019b).

8.2 Women's Blades

The results for 2008 and 2007 did *not* support Hypothesis I either because *Gillette Venus (Original),* the *market leader*--with a 2008 market share of 19.1%--was a part of the *premium* segment Furthermore, *Schick Intuition Plus*, the *runner-up*--with a 2008 market share of 17.4%--too, was a member of the *premium* segment (Datta, 2019b).

However, the data also did *not* support Hypothesis II because the unit price of *Gillette Venus* was *lower* than that of *Schick Intuition Plus* (Datta, 2019b).

Part E. The U.S. Men's Shaving Cream Market

The U.S. Men's Shaving Cream market had retail sales of $154 million in 2008.

1. Introduction

Shaving serves an important need: *personal grooming.* It is a multi-technology, multi-product industry of which the men's shaving cream is a relatively small part. Personal grooming, along with body care and oral care, constitute the broader market for personal care (for an overview of a personal grooming market see Datta, 2010b, Fig. 1).

The U.S. men's shaving cream industry has two major segments. With a market share of 69% in 2008, shaving *gel* was by far the largest segment in this market, followed by *foam's* 26%, a distant second. So, we have focused our attention on the *shaving gel* segment (Datta, 2012).

At present shaving *gels* dominate the men's shaving cream market. But before gel "there was foam, and before foam there were creams, and before creams, there was plain old soap" [along with a brush and a mug] (Pinfold, 1999, p. 130; Datta, 2012).

2. First Brushless Shaving Cream

The first innovation in the shaving cream market was the *brushless* shaving cream. However, there are conflicting views about which was the first U.S. brand to merit this distinction. Woodward (1939) says that Colgate introduced the first *brushless* shaving cream, *Rapid-Shave*, in America in 1914-1915. Nonetheless, according to *Burma Shave*'s chronicler, Rowsome (1965), the British-made Lloyd's *Euxesis* was the *original* brushless shaving cream. But, *Burma Shave,* which was sold in the U.S. from 1925 to 1966, was the first American entry to be successful (Larson & Sundberg, 2006, p. viii; Rowsome, 1965; Datta, 2012).

In contrast, Perio-Inc., the present owner of *Barbasol*, says that this honor goes to *Barbasol*. According to the company's website, the first brushless shaving cream in the U.S. was invented in 1919 by MIT's Prof. Shields, who called it *Barbasol*. Soon it was endorsed by such celebrities as Babe Ruth and Knute Rockne in newspaper ads. Laura Ries (2006), a well-known marketing expert, also credits *Barbasol* for inventing "the 'brushless' shaving cream, a new category and a successful new brand" (Datta, 2012).

Based on the above evidence, we think *Barbasol*'s claim as the first successful brushless shaving cream seems to have far more merit than the case presented by the backers of *Burma Shave* (Datta, 2012).

Interestingly, *Burma Shave* became very famous for its roadside signs with catchy jingles that first appeared in Minnesota in 1925 (Rowsome, 1965, p. 14; Datta, 2012).

3. Aerosol Foam Shaving Cream

The next major advance in this market was the *aerosol* can. The aerosol can was first patented by a Norwegian in 1927 (Sviokla & Paoni, 2005). In the early 1950s *Barbasol* changed its formulation from a thick cream in a tube to a fluffy foam in an aerosol can, a practice that was soon followed by others, such as *Gillette Foamy* in 1953 (Howe, 2005; Datta, 2012).

4. Edge First Gel Shaving Cream

In 1970 S.C. Johnson & Son entered the personal care market by introducing *Edge* Gel—the first shaving *gel* for men for which it was awarded a patent in 1970 (Datta, 2012).

In its quest for entering the men's shaving cream market, the company engineers found that *gel* was a better skin *lubricant* than the then-popular *foam* shaving cream. But then how do you go about dispensing *gel* from an aerosol can? The company solved this problem by "introducing an expandable bladder in the bottom of the can" (Sviokla & Paoni, 2005; also see Ries, 2006; Datta, 2012).

Edge went on to dominate the men's shaving *gel* market and has become a "mega" brand (Ries, 2006). More importantly, while the market for men's shaving *gel* has expanded steadily, the demand for shaving *foam* has relatively become much smaller. This is because, as noted above, *gel* provides *extra* lubrication and protection that is preferred by many consumers over the *foam* shaving cream (Toedt, Koza, & Cleef-Toedt, 2005, p. 57; Datta, 2012).

In 2008 total retail sales of men's *foam* shaving cream were $49 million, as opposed to $131 million for *gel* shaving cream. Also, while 20 brands were competing in the *gel* segment in 2008, only eleven did so in the *foam* segment (Datta, 2012).

Edge was a clear front-runner in 2008 with a market share of 34% followed by *Gillette Series* with 20% (*ibid*).

In May 2009 S.C. Johnson sold its shaving *gel* business to Energizer Holdings, the owner of *Schick* safety razor and blades (Burke, 2009; Datta, 2012).

5. Shaving Cream Technology

The modern men's shaving preparations are intended to do several things: (1) to *lubricate* the skin; (2) to enable the cutting blade to *cut* the protruding hair, but *not* the surrounding skin; (3) to *moisten* and *soften* hair to make it easier to cut them, *cushion* the effect of the razor, and provide a residual film to *soothe* the skin; and (4) to *prevent* skin irritation (Toedt, Koza, & Cleef-Toedt, 2005, p. 55; Berlow, 1993; Datta, 2012).

5.1 The Chemistry of Shaving Cream

The residual film should be of the proper pH value: neither overly alkaline nor too acidic; it should correspond to the skin's [normal] pH level (Berlow, 1993).

> *Soap* is an important ingredient of shaving cream. It creates a *film* on the skin that *reduces* the resistance a blade encounters as it glides along the outermost layer of the skin (epidermal) without cutting into the deeper vascular (vessels carrying blood) dermal skin layer (Toedt, *et al.*, 2005, p. 55; Datta, 2012).
>
> A vital function performed by soap is that of a *surfactant.* A surfactant lowers the *surface tension* of a liquid, allowing easier spreading, and lowers the *interfacial tension* between two liquids (Rosen, 2004). A surfactant can loosen, emulsify (disperse in water), and hold soil in suspension (Cole, Browning, & Schroeder, 2003, p. 63; Datta, 2012).

A *surfactant* is an organic compound with a long molecule each end of which has different properties. One end of this molecule, the "tail," is "hydrophobic" ("water hating"), and the other end, the "head," is "hydrophilic" ("water loving"). While the hydrophobic end is attracted to dirt and grease, the hydrophilic side attracts water. Thus, the surfactant grabs the dirt and grease and dissolves it in water (Cole, Browning, & Schroeder, 2003, pp. 63-64; Rosen, 2004; Datta, 2012).

Shaving creams are typically made out of a mixture of two things. One is a sodium salt—e.g., sodium hydroxide (an alkali) also known as *lye* or *caustic soda*—or a potassium salt (e.g., potassium hydroxide). It is then mixed with a fatty acid, e.g., stearic acid, or palmitic acid. Both stearic acid and palmitic acid are saturated fatty acids; stearic acid is derived from tallow (animal fat); palmitic acid generally comes from the oil of palm trees (Toedt, *et al.,* 2005, p. 56).

However, today manufacturers of shaving cream are using *triethanolamine* instead of (say) sodium hydroxide, to interact with stearic (or palmitic) acid. Triethanolamine is a *synthetic* organic chemical compound that is caustic (or "base"). We found it listed as an ingredient on the shaving cans of all major brands of shaving cream—both *gel* and *foam*. It has several things going for it: (1) Like soap, it is a *surfactant*, but does a better job (Berlow, 1993); (2) It has a pH of 5-6 which is similar to skin pH; so, it is able to act as a pH *balancer* to neutralize excess acid; and (3) It is an *emulsifier* that is able to hold oil and water together on the facial skin (Datta, 2012).

5.2 Ingredients of Shaving Cream

By far the largest component of a shaving cream is *water* which can be as high as 80%. The next most important are *stearic acid* (or palmitic acid) and *triethanolamine* (Berlow, 1993). In addition, there are *numerous* others ingredients. These ingredients are combined in a *three-piece* metal can containing *propellants* that dispense *foam* or *gel* to the shaver's skin. Also, the *gel* shaving creams contain a *polymer* and other surfactant materials to create a clear *gel* structure (Toedt, *et al*., 2005, p. 57; Datta, 2012).

In comparison with *foam* shaving creams, shaving *gels* are more *efficient* because a smaller amount is needed for each shave because the user lathers the gel while shaving rather than applying an already lathered cream (Datta, 2012).

6. Results of Hierarchical Cluster Analysis

For 2008 and 2007 the results *supported* Hypothesis I and II, which showed that *both* the *market leader*, Edge Gel—with a 2008 market share of 34%--and the *runner-up*, Gillette Series Gel with a 2008 market share of 20%--were members of the *mid-price* segment, and that the unit price of Edge Gel was *higher* than that of Gillette Series Gel (Datta, 2012).

Part F. An Overview of the Personal Grooming Group

1. The U.S. Shampoo Market

The most notable picture of the U.S. Sampoo market for 2008 is its extraordinarily *competitive* nature with an *international* flavor, represented by Unilever and L'Oreal. The following are six corporate strategic groups, and their respective market shares:

- P&G—Market leader: 32.1%
- Unilever—Runner-up: 21.1%
- L'Oreal: 14.7%
- Coty: 7.2%
- Johson & Johnson: 5.9%
- Independent Salon Brands: 3.1%

2. The U.S. Toothpaste Market

Colgate-Palmolive Co. adopted the "Fist to market" innovation strategy a long time ago. In the early years of the twentieth century Colgate did *more* than any other company to promote toothpaste.

P&G's Crest, too, followed the "Fist to market" innovation strategy. In 1960 Crest became the *first* brand of toothpaste to earn an endorsement from the American Dental Association.

So, it is reasonable to argue that because Colgate-Palmolive had such a long *head start* over P&G, that it had enabled the former to go *toe-to-toe* with a *formidable* competitor, P&G: a company that *dominates* every market in which it has a presence.

3. The U.S. Men's and Women's Razor-Blade Markets

The Gillette Co. has literally defined the *world* shaving market since its founding in 1901 by the legendary *inventor* King Gillette. But more than that, Gillette serves as a *model* for today's managers of how to maintain commitment to *innovation*, how to advertise *creatively* against the competition, and above all, how to translate a consistent vision of *global* growth into *superior* results in the marketplace.

Gillette's philosophy enunciated by King Gillette--and still followed by the Gillette Co.—is: "We'll stop making razor Blades when we can't make them better."

4. The U.S. Men's Shaving Cream Market

When S.C. Johnson & Son entered the personal care market, it followed the "First to market" innovation strategy. *Edge* went on to dominate the men's shaving *gel* market and has become a "mega" brand. More importantly, while the market for men's shaving *gel* has expanded steadily, the demand for shaving *foam* has relatively become much smaller. This is because *gel* provides *extra* lubrication and protection that is preferred by many consumers over the *foam* shaving cream.

Table 1. Benefit Segmentation Profile of the U.S. Toothpaste Market: 2008 vs. 1996

Percentage of Market Share by Segment

Benefit Segment	**2008**	**1996**
Appearance (white teeth)	60%	13%
Aesthetics (baking soda, natural ingredients)	8%	7%
Dental Health (regular, tartar, sensitivity)	29%	59%
Taste, color, convenience (gel, kids, stripes)	3%	21%
Total	**100%**	**100%**

Acknowledgement

We are *immensely* grateful to A.C. Nielson Co. for their extraordinary generosity for the invaluable U.S. national retail sales data of these 24 U.S. consumer markets for 2008 and 2007, without which the entire long project would *not* have been possible.

References

Anderson, C. (2009). *Free: The future of a radical price*. New York: Hyperion.

Aubrey, A. (2009). When it comes to shampoos, less is more. *NPR*, *March 19*. Retrieved May 15, 2018, from https://www.npr.org/templates/story/story.php?storyId=10206 2969

Ansoff, H. I. & Stewart, J. M. (1967). Strategies for a technology-based business. *Harvard Business Review, 45*(6), 71-83.

Barnett, N. L. (1969). Beyond market segmentation. *Harvard Business Review*. Vol. 47 (1), pp. 152-166.

Bellis, M. (2018). *A comprehensive history of dental care*. March 19. Retrieved from https://www.thoughtco.com/history-of-dentistry-and-dental-care-1991569

Berlow, L. (1993). *How products are made*, 1. Retrieved June 10, 2011, from http://findarticles.com/p/articles/mi_gx5205/is_1993/ai_n19124452/

Burke, M. (2009). *S.C. Johnson sells shaving-prep brands to Energizer Holdings*. Retrieved June 10, 2011, from http://www.journaltimes.com/news/local/article_3bd9a38c-02e6-5f86-8b42-3763550855dc.html

Business Wire. (2005). https://www.businesswire.com/news/home/20050914005137/en/Gillette-Introduces-Fusion-Future-Shaving-Gillettes-Generation

Cole, D. J., Browning, E., & Schroeder, F. (2003). *Encyclopedia of everyday inventions*. Westport, CT: Greenwood Press.

Datta, Y. (1996). Market segmentation: An integrated framework. *Long Range Planning*, *29*(6), 797-811. https://doi.org/10.1016/S0024-6301(97)82817-8

Datta, Y. (2010a). A critique of Porter's cost leadership and differentiation strategies. *Chinese Business Review*, *9*(4), 37-51.

Datta, Y. (2010b). Strategic group theory: A customer-oriented view. *Chinese Business Review*, *9*(7), 11-26, 36.

Datta, Y. (2011). Rising economic inequality and class divisions in America: A socio-economic class lifestyle profile. *Oxford Journal*, *11*(1), 1-25.

Datta, Y. (2012). The U.S. men's shaving cream market: A competitive profile. *Chinese Business Review*, *11*(1), 44-64. https://doi.org/10.17265/1537-1506/2012.01.003

Datta, Y. (2017). The U.S. Beer market: A competitive profile. *Journal of Economics and Public Finance*, *3*(4), 541-579. https://doi.org/10.22158/jepf.v3n4p541

Datta, Y. (2018a). The U.S. Shampoo Market: A competitive profile. *Journal of Economics and Public Finance*, *4*(2), 180-207. https://doi.org/10.22158/jepf.v4n2p180

Datta, Y. (2018b). The U.S. Shredded/Grated Cheese market: A competitive profile. *China-USA Business Review*, *17*(8), 385-401. https://doi.org/10.17265/1537-1514/2018.08.001

Datta, Y. (2018c). The U.S. Refrigerated Orange Juice market: A competitive profile. *Journal of Economics and Public Finance*, *4*(4), 389-409. https://doi.org/10.22158/jepf.v4n4p389

Datta, Y. (2019a). The U.S. Men's Razor-Blade market: A competitive profile. *Journal of Economics and Public Finance*, *5*(3), 354-374. https://doi.org/10.22158/jepf.v5n3p354

Datta, Y. (2019b). The U.S. Women's Razor-Blade market: A competitive profile. *Journal of Economics and Public Finance*, *5*(4), 491-508. https://doi.org/10.22158/jepf.v5n4p491

Datta, Y. (2020a). The U.S. Toothpaste market: A competitive profile. *Journal of Economics and Public Finance*, *6*(1), 145-167. https://doi.org/10.22158/jepf.v6n1p145

Datta, Y. (2020b). The U.S. Canned Soup market: A competitive profile. *Journal of Economics and Public Finance*, *6*(2), 153-172. https://doi.org/10.22158/jepf.v6n2p153

Datta, Y. (2020c). The U.S. Coffee Market: A competitive profile. *Journal of Economics and Public Finance*, *6*(3), 138-171. https://doi.org/10.22158/jepf.v6n3p138

Datta, Y. (2020c). The U.S. Potato Chip Market. *Journal of Economics and Public Finance*, *6*(4), 86-107. https://doi.org/10.22158/jepf.v6n4p86

Datta, Y. (2021). The U.S. Alkaline AA Battery Market: A Competitive Profile. *Journal of Economics and Public Finance*, *7*(2), 35-46. https://doi.org/10.22158/jepf.v7n2p35

Datta, Y. (2022). A Brief History of the American Middle Class. *Journal of Economics and Public Finance, 8*(3), 127-164. https://doi.org/10.22158/jepf.v8n3p127

Datta, Y. (2023a). The U.S. Facial Tissue Market: A Competitive Profile. *Journal of Economics and Public Finance*, *9*(3), 92-105. https://doi.org/10.22158/jepf.v9n3p92

Datta, Y. (2023b). The U.S. Toilet Paper Market: A Competitive Profile. *Journal of Economics and Public Finance*, *9*(3), 140-156. https://doi.org/10.22158/jepf.v9n3p140

Datta, Y. (2023c). The U.S. Paper Towel Market: A Competitive Profile. *Journal of Economics and Public Finance*, *9*(4), 1-16. https://doi.org/10.22158/jepf.v9n4p1

Datta, Y. (2023d). The U.S. Disposable Diapers Market: A Competitive Profile. *Journal of Economics and Public Finance*, *9*(4), 99-114. https://doi.org/10.22158/jepf.v9n4p99

Datta, Y. (2024a). The U.S. Sanitary Pads Market: A Competitive Profile. *Journal of Economics and Public Finance*, *10*(1), 20-39. https://doi.org/10.22158/jepf.v10n1p20

Datta, Y. (2024b). The U.S. Automatic-Dishwasher Detergent and Hand-Dishwashing Detergent Markets: A Competitive Profile. *Journal of Economics and Public Finance*, *10*(1), 109-134. https://doi.org/10.22158/jepf.v10n1p109

Datta, Y. (2024c). The U.S. Household Liquid Non-Disinfectant Cleaner Market: A Competitive Profile. *Journal of Economics and Public Finance*, *10*(3), 1-16. https://doi.org/10.22158/jepf.v10n3p1

Datta, Y. (2024d). The U.S. Heavy-Duty Laundry Detergent Market: A Competitive Profile. *Journal of Economics and Public Finance*, *10*(3), 32-49. https://doi.org/10.22158/jepf.v10n3p32

Datta, Y. (2024e). The U.S. Deodorant Market: A Competitive Profile. *Journal of Economics and Public Finance*, *10*(4), 1-19. https://doi.org/10.22158/jepf.v10n4p1

Datta, Y. (2024f). The U.S. Carbonated Beverages Market: A Competitive Profile. *Journal of Economics and Public Finance*, *10*(4), 102-132. https://doi.org/10.22158/jepf.v10n4p102

Datta, Y. (2025a). A Review of Patterns of Competitive Dynamics in Twenty-Four U.S. Consumer Markets. Part I: The Food Group—Discretionary. *Journal of Economics and Public Finance*, *11*(2), 1-23. https://doi.org/10.22158/jepf.v11n2p1

Datta, Y. (2025b). A Review of Patterns of Competitive Dynamics in Twenty-Four U.S. Consumer Markets. Part II: The Food Group—Non-Discretionary. *Journal of Economics and Public Finance*, *11*(3), 1-37. https://doi.org/10.22158/jepf.v11n3p1

Gritz, J. R. (2017). The unsavory history of sugar, the insatiable American craving. *Smithsonian Magazine*, May. Retrieved from https://www.smithsonianmag.com/history/unsavory-history-sugar-american-craving-180962766/

Howe, P. J. (2005). For the past half century, Cutting Edge' has meant more at Gillette than a sharp blade. *The Boston Globe*, Jan. 30, D1.

Komar, M. (2016). *The sneaky, manipulative history of why women started shaving*. Retrieved from https://www.bustle.com/articles/196747-the-sneaky-manipulative-history-of-why-women-started-shaving

Larson, M., & Sundberg, J. L. (2006). *Sunday drives: Nostalgic reminiscing with the best of Burma-Shave*. New York: iUniverse, Inc.

Matteo, V. (2019). *When did women start shaving? The history of female hair removal*. Retrieved from https://www.owlcation.com/humanities/When-Did-Women-Start-Shaving-The-Painful-History-of-Female-Depilation

McKibben, G. (1998). *Cutting Edge: Gillette's journey to global leadership*. Boston: Harvard Business School Press.

Miskell, P. (2004). Cavity protection or cosmetic perfection? Innovation and marketing of toothpaste brands in the United States and Western Europe, 1955-1985. *Business Policy Review*, *78*(1), 29-60.

Muhammad, K. G. (2019). The sugar that saturates the American diet has a barbaric history as the "white gold" that fueled slavery. *New York Times*, August 14. Retrieved from https://www.nytimes.com/interactive/2019/08/14/magazine/sugar-slave-trade-slavery.html

Newman, A. A. (2010). *In shampoo ads for men, it's not just the hair, but what it does for you*. Retrieved May 13, 2018, from https://www.nytimes.com/2014/02/18/business/media/in-shampoo-ads-for-men-its-not-just-the-hair-its-what-it-does-for-you.html

Padden, K. (2013). *The history of shaving*. Retrieved from http://www.todayifoundout.com/index.php/2013/04/the-history-of-shaving/

Picker, R. (2010). Gillette's strange history with the Razor and Blade strategy. *Harvard Business Review.* Retrieved from https://www.hbr.org/2010/09/gillettes-strange-history-with

Pinfold, W. C. (1999). *A closer shave: Man's daily search for perfection*. New York: Artisan, a division of Workman Publishing Co.

Pollan, M. (2006). *Omnivore's dilemma: The secrets behind what you can eat*. New York: Penguin Books.

Pollan, M. (2008). *In Defense of Food: An Eater's Manifesto*. New York: The Penguin Press.

Pollan, M. (2009). *Omnivore's dilemma: The secrets behind what you can eat*. New York: Dial Books.

Porter, M. E. (1980). *Competitive strategy*. New York, N.Y.: Free Press.

Ries, L. (2006). *Ries's pieces: Over the edge*. Retrieved June 10, 2011, from http://ries.typepad.com/ries_blog/2006/08/over_the_edge.html

Rosen, M. J. (2004). *Surfactants and interfacial phenomena* (3rd ed.). Hoboken, N.J.: John Wiley & Sons.

Rowsome, F. Jr. (1965). *The verse by the side of the road: The story of Burma-Shave signs and jingles*. Battleboro, VT: Stephen Green Press.

Sengupta, S. (2018). *Does brushing with neem twig help give you stronger teeth and gums? We find out*. Retrieved from https://www.food.ndtv.com/food-drinks/does-brushing-with-neem-twig-help-give-you-stronger-teeth-and-gums-we-find-out-1897901

Sviokla, J., & Paoni, A. J. (2005). Every product's a platform. *Harvard Business Review, 83*(10).

Toerien, M., and Wilkinson, S. (2004). *Exploring the depilation norm: A qualitative questionnaire study of momen's body hair removal*. Retrieved from https://www.researchgate.net/publication/233328662_Exploring_the_depilation_norm_A_qualitative_questionnaire_study_of_women's_body_hair_removal

Toedt, J., Koza, D., & Cleef-Toedt, K.V. (2005). *Chemical composition of everyday products.* Westport, CT: Greenwood Press.

Warner, A. (2016). *Oct. 11. How World War II made Americans brush their teeth*. Retrieved from https://www.time.com/4524880/briefer-histories-cartoons/

Woodward, H. (1939). Pocket guide. *Nation, 148*(16), 430-431.

Notes

Note 1. Profit Impact of Market Strategies.

Note 2. https://www.adrianasassoon.me/tag/history-of-shampoo/