

Original Paper

A Review of Patterns of Competitive Dynamics in Twenty-Four U.S. Consumer Markets.

Part Va : Laundry & Dishwashing Detergents.

Part Vb : Household Cleaning and Alkaline AA Battery

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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 Health/Grooming (4) Personal Hygiene (5a) Laundry and Dishwashing Detergents, and (5b) Household Cleaning and Alkaline AA Battery.

This is the fifth and the last of five papers, that covers Laundry and Dishwashing Detergents (5a), and Household Cleaning and Alkaline AA Battery (5b).

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 (Note 1) database research—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 that 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 *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 *lowest* price of any national chain" (Datta, 2017).

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).

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).

By the end of World War II, there was a lot of *pent-up* demand for basic *durable* goods. This was further bolstered by the needs of Europe and Japan because their economies had been *devastated* during the war (Levy, 1988, p. 48; Datta, 2022).

The years 1947-1973 are considered the golden years of America's middle class: a golden age the U.S. will perhaps *never* experience again (Datta, 2022).

Within the space of a *single* generation, 1947 to 1973, the real U.S. Domestic Product (GDP) more than doubled. More importantly, Median Family Income went up a *whopping* 83% during the same period (Datta, 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 Health/Grooming (4) Personal Hygiene (5a) Laundry and Dishwashing Detergents, and (5b) Household Cleaning and Alkaline AA Battery.

The focus of this paper, *last* in a series of five, is on the following *seven* U.S. consumer markets:

Part Va—Laundry and Dishwashing Detergents

- The U.S. Liquid Heavy-Duty Laundry Detergent Market
- The U.S. Automatic-Dishwasher Detergent Market
- The U.S. Hand-Dishwashing Detergent Market

Part Vb—Household Cleaning and Alkaline AA Battery

- The U.S. Paper Towel Market
- The U.S. Facial Tissue Market
- The U.S. Household Liquid Non-Disinfectant Cleaner Market
- The U.S. Alkaline AA Battery Market

2. Research & Development (R&D) Strategy

Ansoff & Stewart (1967; Datta, 2010b) have proposed an elegant scheme of Research and Development (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. Heavy-Duty Liquid Laundry Detergent Market

The U.S. Heavy-Duty Liquid Laundry Detergent market had retail sales of \$3.03 Billion in 2008.

1. There are *three* major corporate players in this market: P&G, Henkel A.G. & Co, and Church & Dwight (Datta, 2024d).

The *market leader* was the *mega* multi-brand P&G’s *Tide* with a 2008 market share of 45.2%, followed by P&G’s *Gain*, the *runner-up*, with a market share of 8.4% (*ibid*).

2. Tide a Global Brand

Tide is the *top-selling* laundry detergent brand in the *world* with about 14.3% of *world* market share (Note 2; Datta, 2024d).

P&G has manufacturing plants producing Tide in multiple plants globally, including locations in Mexico, Saudi Arabia, India, and China (Note 3).

3. History of Tide

The *multi-brand* Tide—currently with three brands--was the top-selling laundry detergent brand in the U.S. with a 2008 market share of 45.2% (Datta, 2024d).

Tide liquid laundry detergent is known for its powerful *stain removal*, ability to clean *deep* into fabric fibers, and its fresh, long-lasting *scent*. It is also recognized for *whitening* and *brightening* clothes (Note 4).

Following the “First-to-market” R&D strategy, *Tide* has continued to innovate. For P&G’s national and international record in *sustainable* development, and *eco-friendly* products, the Environment Possibility Award conferred the "Environmental Heroes of the Year" to Tide in 2020 (Note 2).

4. Gain

Gain is a laundry detergent made by P&G. It was introduced to the market in 1969 as a *stain*-removing detergent. In 1981, P&G was able to expand its Gain product-line with a *scent* (Datta, 2024d).

5. all®

all® laundry detergent was introduced in 1959. **all®** laundry detergent is currently owned by the Henkel Corp. Henkel acquired the brand from Unilever in 2016 (Datta, 2024d).

6. Purex

Purex is a laundry detergent manufactured by Henkel North American Consumer Goods and marketed in the United States and Canada. It is a division of Henkel AG & Co. KGaA, generally known as Henkel, a *German* multinational chemical and consumer goods corporation (Datta, 2024d).

7. Arm & Hammer

Arm & Hammer is a brand of Church & Dwight Co, Inc., originally known for its baking soda. It is an American consumer goods company focusing on personal care, household products, and specialty products. The company was founded in 1847 (Datta, 2024d).

In the 1970s the company began to expand its product line by using *baking soda* as a deodorizing agent. The new products included toothpaste, laundry detergent, underarm deodorant, and cat litter (*ibid*).

The company introduced its first laundry detergent in the 1980s (Note 5).

8. How Do Detergents Work?

All detergents—for hands, hair, clothes or dishes —work on the same principle: To *break up* oils and dirt, and wash them away. However, detergents made for different uses are formulated for specific conditions and, therefore, are *not* interchangeable. The main differences are in the pH, presence or absence of bleach, and the types of *surfactants* (Datta, 2024d).

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 (Datta, 2012, 2024d).

Compared to *hand*-dishwashing, a detergent for a *dishwasher* is much *harsher*, that is intended to work only at much *higher* temperatures, and therefore, *not* safe for handwashing (Datta, 2024b).

Laundry products are somewhere *in between*—*harsher* than hand dishwashing products, but *gentle* enough for fabrics and dyes (*ibid*).

9. Results of Hierarchical Cluster Analysis

For 2008—and 2007--the data did *not* support Hypothesis I, because Tide (100 Oz), the *market leader*—with a market share of 45.2%-- was a member of the *premium* segment (Datta, 2024d).

Yet, for 2008, the data *did* support Hypothesis II because, Gain (100 Oz), the *runner-up*, with a market share of 8.4%, was a member of the *mid-price* segment, with a unit price *lower* than that of Tide, the market leader.

Part B: The U.S. Automatic Dishwasher Detergent Market

The U.S. Automatic Dishwasher Detergent market had 2008 retail sales of \$491 million.

1. A Brief History of Hand-Dishwashing and Automatic-Dishwasher Detergents

If you look at the Ajax Ultra 28 Oz. bottle, it says that it is Dish (washing) Liquid/Hand Soap. But then this raises an *important* question: Is Ajax Ultra a soap or a detergent?

The answer is that dish “soap is actually dish *detergent*” (Datta, 2024b).

2. Soap vs. Detergent

Today, *detergents* are used for laundering, dishwashing and many other types of cleaning. *Soaps* are made from *natural* ingredients, such as *plant oils* (coconut, vegetable, palm, pine) or acids derived from *animal fat*. *Detergents*, on the other hand, are *synthetic*, man-made derivatives” (Datta, 2024b).

3. Hand-Dishwashing Detergent vs. Automatic-Dishwasher Detergent

A liquid (or gel) detergent for *hand*-dishwashing—also called a *light-duty* detergent—contains an alkyl ethoxy carboxylate *surfactant* and little or no alcohol ethoxylate and soap by-product contaminants. The compositions result in good *grease removal*. At the same time, they are *mild* to the skin (Datta, 2024b).

A better type of dishwashing detergent is in a *liquid* form. High pH and magnesium ion *increase* grease removal properties, while *preserving* mildness (*ibid*).

In contrast, a detergent for a *dishwasher* is much *harsher*, intended to work only at much *higher* temperatures, and therefore, *not* safe for handwashing (Datta, 2024b).

A detergent for *hand* dishwashing is meant to produce *suds*. So, one should *not* use it in a dishwasher as it is intended specifically to clean dishes *without* the use of suds or bubbles (*ibid*).

4. Automatic-Dishwasher Detergent Pods Superior to Gels (or Liquids)

According to Liam McCabe of *Consumer Reports* (2022), one *doesn't* need an expensive dishwasher detergent to get clean dishes. The *best* formulations from popular brands like *Cascade* and *Finish* do a great job of “removing food and resisting residue.” But so do many *store-brand* detergents, which cost much *less* per dose (Datta, 2024b).

Consumer Reports tested 23 dishwasher detergents from eight brands that included premeasured *packs* (pods) as well as *gels*. Overall, the *best*-performing *pods* cleaned dishes *better* than the best gels. That's because they contain a *broader* mixture of ingredients that can *bolster* cleaning: e.g., enzymes, degreasers, bleach, and rinse aids (Datta, 2024b).

For example, *Cascade Free & Clear ActionPacs* (pods) combine *powder* detergent with a *top layer* of *liquid* detergent boosters that are released when their coating dissolves. This gives them an *advantage* in cleaning power over powder- or liquid-only formulas (Datta, 2024b).

Pods are also quite *convenient*. All you have to do is to put them in the dishwasher *without* worrying about the correct amount of detergent (McCabe, 2022; Datta, 2024b).

Another benefit of pods, which come in single-use *premeasured* units, are *less* likely to cause *filming* on dishes (Ho, 2022).

In 2022, *Consumer Reports* found that the two *best* performing dishwasher detergents were *Cascade* and *Finish* (McCabe, 2022).

5. Cascade Automatic-Dishwasher Detergent

While working for P&G in the 1980s, Dennis Weatherby *patented* lemon-scented *Cascade*, a *detergent* with a new chemical formula that would *not* stain dishes, *unlike* the detergents of the previous decade (Datta, 2024b).

Thus, *Cascade* was following the “First-to-market” R&D strategy.

According to a P&G website, “*Cascade Complete* dishwasher detergents *clean away baked-on*, and 24-hour *stuck on* foods, *without pre-washing*” (*italics added; ibid*).

Cascade is a dominant brand in the dishwasher detergent market due to a combination of factors, including a long history of product *innovation*, strong brand recognition, and effective marketing and advertising strategies (Note 6).

Cascade has been a household name for decades, and its association with clean dishes and effective cleaning is deeply ingrained in consumers' minds (Note 6).

Cascade was the *market leader* of this market with a monumental share of 63.3% in 2008 (Datta, 2024b). In 2020, P&G launched a “Do It Every Night,” *campaign* for its *best-selling* automatic dishwasher detergent brand *Cascade* to encourage water *conservation* in an unusual way: by considering “running the dishwasher every *night*, instead of washing dishes by hand” (*italics added; Datta, 2024b*).

Contrary to common belief, the *dishwasher* is designed to be *more* efficient than the way most of us wash dishes by *hand*. “According to Energy Star, certified dishwashers use *less* than four gallons per *cycle*.” On the other hand, the “*sink* uses four gallons of water every *two minutes*” (*italics added*; Datta, 2024b).

6. Finish Brand Automatic-Dishwashing Detergent

J. A. Benckiser (later Reckitt Benckiser) acquired the Consumer Products division of Ecolab Inc. in 1987. Finish is the brand name of a range of dishwasher detergent and cleaning products sold by Reckitt. Prior to 2009, the product was known as Electrasol in North America (Datta, 2024b).

In 2008, Finish was the *runner-up* to Cascade, and had a market share of 10.1% (*ibid*).

7. Results of Hierarchical Cluster Analysis

The results for both 2008 and 2007 *supported* Hypothesis I because Cascade, the *market leader*, was a member of the *mid-price* segment.

Cascade is a *megabrand* which had a 2008 *combined* market share of 63.3% of the “Automatic Dishwasher” segment (Datta, 2024b).

For 2008, the data also *supported* Hypothesis II, because, the unit price of the *runner-up*, Finish—with a market share of 10.1%—was *lower* than that of the *market leader* Cascade, although Finish was a member of the *economy* rather than the *mid-price* segment (*ibid*).

Part C: The U.S. Hand Dishwashing Detergent Market

The U.S. Hand Dishwashing Detergent market had 2008 retail sales of \$599 million.

1. Palmolive and the History of the Hand-Dishwashing Liquid Detergent Market

Palmolive is a well-known brand that has been in the dish soap market for *hand*-dishwashing since 1898. It is now part of the Colgate-Palmolive Co. (Datta, 2024b).

In 1898, B. J. Johnson developed a *bar soap* based on palm oil and olive oil. The soap became so successful that the company named itself based on properties of the product. By 1900, Palmolive was the world's best-selling *bar soap*. In 1928, Palmolive acquired Colgate. In 1953 the company was renamed Colgate-Palmolive (*ibid*).

In 2008 Palmolive was the *market leader* in this market with a market share of 24.4% (Datta, 2024b).

2. Dawn Hand-Dishwashing Liquid Detergent

Dawn is a brand of hand-dishwashing liquid detergent that P&G introduced in 1973. It was the *runner-up* to Palmolive, and in 2008, had a market share of 19.1% (Datta, 2024b).

3. Results of Hierarchical Cluster Analysis

The results *supported* Hypothesis I for 2008, because the *market leader* Palmolive—with a market share of 24.4%—was a member of the *mid-price* segment, and Dawn, the *runner-up*, with a market share of

19.1% (*ibid*).

Although, *technically* the data did not support Hypothesis I for 2007, for all practical purposes, we have *determined* that for 2007, too, the data has *supported* Hypothesis I (Datta, 2024b).

For 2008, the data did *not* support Hypothesis II, because the *runner-up*, Dawn, had a price tag *higher* than that of the *market leader*, Palmolive (*ibid*).

Part D—History of the U.S. Paper Towel Market

For 2008 the U.S. Paper Towel market had retail sales of \$2.4 Billion.

1. In 1907, the Scott Paper Co. introduced paper tissues to *prevent* the spread of colds from cloth towel in restrooms. In 1919, William Corbin, Henry Chase, and Harold Titus began experimenting with paper towel. In 1922, Corbin began mass-producing what he called Nibroc Paper Towel (Datta, 2023c).

In 1931, the Scott Paper Co. introduced paper towel rolls for kitchens. In 1995, Kimberly-Clark acquired Scott Paper Co. (*ibid*).

2. Bounty Paper Towel

P&G introduced Bounty in 1965. In 2015, it celebrated its 50th anniversary (Datta, 2023c).

Earlier, P&G had acquired 1-ply Charmin Towel in 1957. The company *revolutionized* the industry with a, 2-ply paper towel, Bounty, that was not only soft and strong but was *unmatched* in being *quick* and *absorbent* on spills (Datta, 2023c).

Whereas makers of most paper towel were marketing the *strength* or *softness* of their paper towel, P&G discovered that consumers generally *preferred* something else: *absorbency* (*ibid*).

And that is why P&G uses the slogan “The Quicker Picker Upper” in its advertisements for Bounty (*ibid*).

In its report on Bounty Towel, *Consumer Reports* (September, 2013, p. 11) says that *more* strength seems to result in *less* absorbency (Datta, 2023c).

In 2009 *Consumer Reports* rated Bounty as the *best* paper towel (December 2009).

Again, in 2014 *Consumer Reports* reported that the *best* paper towel was Bounty (Datta, 2023c).

In 2008, Bounty was the market leader with a brand market share of 38.9% (*ibid*).

3. Brawny Paper Towel

Georgia-Pacific introduced Brawny paper towel in 1974. In 2008, it had a brand market share of 8.7%.

Brawny was the *runner-up* in 2008 (Datta, 2023c).

4. Viva Paper Towel

As mentioned above, the Scott Paper Co. introduced paper towel rolls for kitchens in 1931. In 1995, Kimberly-Clark acquired Scott Paper Co. Later it introduced Viva paper towel (Datta, 2023c).

5. Results of Hierarchical Cluster Analysis

For 2008 and 2007, the results did *not* support Hypothesis I, because *both* Bounty, the *market leader*—with a 2008 market share of 38.9%—and Brawny, the *runner-up*, with a 2008 market share of 8.7%, were found to be members, respectively, of the *super-premium*, and *premium* segments.

However, the data supported Hypothesis II, because the unit price of the *market leader*, Bounty, was *higher* than that of the *runner-up*, Brawny for 2008), and Sparkle for 2007 (Datta, 2023c).

6. Adverse Environmental Effect of Paper Towels

On the whole, according to Google, paper towels are *not* sustainable. The production and consumption of paper towels leads to deforestation, chemical pollution in freshwaters, and fill-up of our landfills. Another drawback of paper towels is that they are made for *single-use* and *disposal* (Datta, 2023c).

The *Treehugger* blog suggests that although paper towels have generally a small footprint, *collectively* they are contributing to deforestation, global warming, and an ever-increasing waste problem (*ibid*).

The *Terrapass* blog has tried to address the question of how to *reduce* the footprint of paper towel. It suggests the following alternative sources (*ibid*):

6.1 Microfiber Cloths

Microfiber cloths can be a great source of cleaning up *kitchen* spills. Their *tiny* fibers help increase absorbency, and in many cases, may work even better than paper towels (*ibid*).

6.2 Cotton Napkins

Cloth or cotton napkins are another good alternative to paper towels. Like microfiber cloths, they are great at picking up spills. These napkins are not only *inexpensive* they can also last a *long* time (*ibid*).

6.3 Eco-Friendly Paper Towel

Another eco-friendly alternative is paper towel made from 100% *recycled* materials. According to EPA, recycled paper towels require 40% *less* energy to produce, potentially *reducing* greenhouse gas emissions by almost *half* (Datta, 2023c).

6.4 Hand Dryers

While there are *many* alternatives to paper towel for *homes*, there are *fewer* choices for public restrooms, schools, businesses, and offices. According to MIT's research, compared to newer *innovations*--such as Dyson Airblade *electric* dryer--paper towels and *warm-air* electric dryers produce up to 70% *more* carbon emissions (Datta, 2023c).

However, *unlike* older *warm-air* dryers that blow *hot* air onto hands, the Dyson Airblade blows *room-temperature* air onto wet hands. And it takes just 14 seconds to dry them (Datta, 2023c).

Part E. History of The U.S. Facial Tissue Market

For 2008 the U.S. Facial Tissue market had retail sales of \$1 Billion.

1. The story of facial tissues started during the First World War when Kimberly Clark developed a *crepe* paper, to be used as a *filter* within anti-gas masks. The tissues were also used to clean wounded soldiers

(Datta, 2023a).

The company introduced the first facial tissue in 1924. These tissues were associated with Hollywood make-up departments, and were approved by movie stars who used Kleenex to remove their makeup (*ibid*).

Kleenex was the *first* disposable paper-based facial tissue in the Western world (*ibid*).

In America, the Kleenex brand was able to achieve so much popularity, that the word Kleenex became synonymous with *generic* facial tissue. Even the Merriam-Webster and Oxford dictionaries define Kleenex as absorbent *facial tissue* (Datta, 2023a).

Like Kleenex, *Edge Gel*, too, followed the “First-to-market” strategy (Ansoff & Stewart, 1967; Datta, 2010b, 2012) that gave the brand a big *long-lasting* edge. *Edge Gel* went on to dominate the men’s *shaving gel* market and became a “mega” brand (Datta, 2012).

Similarly, the Kleenex innovation has paid rich dividends for Kimberly Clark. Thanks to its “First-to-market” strategy, Kleenex has dominated the facial tissue market so much so, that in 2008 it had about *half* (48%) the share of the U.S. market (Datta, 2023a).

After P&G acquired Charmin facial tissues, it replaced Charmin with Puffs Basic Facial Tissue in 1960. In the 1980s, Puffs released its Puffs Plus Lotion, making it the *first* facial tissue brand to add *moisturizer* to its tissues (Datta, 2023a).

Puffs was the *runner-up* in 2008. And its significantly *higher* quality enabled it to compete in the *premium* segment with a market share of 26% (*ibid*).

2. Results of Hierarchical Cluster Analysis

The results for *both* 2008 and 2007 *supported* Hypothesis I because the *market leader*, Kleenex—with a 2008 market share of 48%—was a member of the *mid-price* segment (Datta, 2023a).

However, the results for both 2008 and 2007 did *not* support Hypothesis II, because the *runner-up*, Puffs, with a 2008 market share of 25.6%, was a member of the *premium* segment (*ibid*).

However, as mentioned above, it was Puff’s’ significantly *higher* quality that enabled it to compete in the *premium* segment (*ibid*).

Part F. The U.S. Household Liquid Non-Disinfectant Cleaner Market

The U.S. Household Liquid Non-Disinfectant Cleaner market had retail sales of \$381 million in 2008.

1. This market is highly competitive with *no* dominant player. It had *four* major corporate players: Clorox, S.C. Johnson, Colgate Palmolive, and P&G (Datta, 2024c).

2. Clorox

The Clorox Corp. owns four brands: Formula 409, the *market leader*, Pine-Sol, Geen Works, and Clorox Clean-Up.

Formula 409 cleaner was invented in 1957 by Morris D. Rouff of Michigan. Clorox acquired the

company in 1970 (Datta, 2024c).

Pine-Sol was launched in 1929. The Pine-Sol Corp. was acquired by Clorox Co. in 1990 (Datta, 2024c).

3. S.C. Johnson & Son

S.C. Johnson Co. owns *two* brands: Fantastic, the *runner-up*, and Windex. The company introduced Fantastic in 1967. It was described by *The New York Times* as "the first spray cleaner" (Datta, 2024c).

S.C. Johnson acquired Windex in 1993 (*ibid*).

4. Colgate Palmolive

Colgate Palmolive owns Fabuloso and Murphy Oil Soap brands.

Fabuloso was created in **1980** in Venezuela. It "took the country by storm," changing the manner in which people cleaned their homes with "its fresh, joyful scent and cleaning ability." Eventually, the all-purpose cleaner made its way to Mexico next, and then to the U.S. where it was acquired by Colgate Palmolive (Datta, 2024c).

Murphy Oil Soap Co. was founded in 1910, and was acquired by Colgate-Palmolive in 1990 (Note 7).

5. Procter & Gamble (P&G)

Mr. Clean, the brand—and is mascot—is owned by P&G. It was introduced in the market in 1958 (Datta, 2024c).

6. Results of Hierarchical Cluster Analysis

For 2008--and 2007--the data supported *both* Hypothesis I and II, because the *market leader*, Formula 409—with a 2008 market share of 13.1%--was a member of the *mid-price* segment, and its unit price was *higher* than that of the *runner-up*, Fantastic, with a 2008 market share of 11.9%, also a member of the same segment (Datta, 2024c).

Part G. The U.S. Alkaline AA Battery Market

The U.S. Alkaline AA Battery market had retail sales of \$667 million in 2008.

1. A Short History of the U.S. Alkaline AA Battery Industry

The material in this section is from Schlesinger's fine book on batteries (2010).

According to Schlesinger (2010, p. vii), batteries "not only power our current technologically advanced and portable age, but are also largely responsible for virtually all of the early basic scientific research that made today's gadgets and gizmos possible" (Datta, 2021).

Batteries provided the *primary* source of electricity *before* the development of electric generators and electrical grids around the end of the 19th century. Successive improvements in battery technology have led to major electrical advances, such as the rise of telegraphs and telephones, portable computers, mobile phones, electric cars, and many other electrical devices (Datta, 2021).

In 1800 Volta invented the first working battery called voltaic pile: a thing of “stunning simplicity” (Schlesinger, pp. 46-47; Datta, 2021).

The *first* alkaline battery was invented in 1959 by Lewis Frederick Urry who worked for Energizer Co. This battery had an estimated life span that was “*forty* times that of the zinc-carbon formulation” (Schlesinger, 2010, pp. 249-250; Datta, 2021).

2. Energizer Holdings, Inc.

The foundation for Energizer Holdings was laid in 1905 by W.H. Lawrence and Conrad Hubert who used these batteries in the first *flashlight*. They named the firm as American Ever Ready Company which afterward became known as *Eveready*. In the 1980s, Eveready started selling batteries under the *Energizer* logo (Datta, 2021).

Later Ralston Purina acquired Eveready Co., and in 2000 Ralston Purina put Energizer up as the name of a public company. Today, they are known as Energizer Holdings and are owners of Energizer Battery, Schick-Wilkinson Sword and Playtex brands (*ibid*).

In January 2018, Energizer announced it was buying the global battery and lighting division from Spectrum Brands, which includes the Ray-O-Vac and Varta brands. This acquisition was finalized in January 2019 after a lengthy regulatory approval process (Datta, 2021).

Energizer was the *market leader* with a brand market share of 36.2% in 2008.

3. Duracell Battery Co.

According to the company, Duracell is the “world’s leading manufacturer of high-performance alkaline batteries (Datta, 2021).

The company owes its origin to two pioneers, Samuel Ruben and Philip Mallory, who founded a partnership in the 1920s: a union that lasted until Mallory’s death in 1975 (*ibid*).

The company’s first batteries were marketed under the Mallory brand name. It introduced the Duracell brand name in 1965 with some stories claiming that the name came from a blend of ‘durable cell’ (*ibid*).

In 1969, Duracell became the first battery on the moon as part of the Apollo 11 mission (Datta, 2021).

Duracell batteries were the *first* to be advertised on TV with a catchy phrase “No other battery looks like it. No other battery lasts like it” (*ibid*).

In 1973 the company created the “Drumming Bunny” TV commercial which over time became an icon (*ibid*).

Through a number of corporate mergers and acquisitions, Duracell became a part of the P&G Co.

In 2014 P&G sold Duracell to Berkshire Hathaway (*ibid*).

Duracell was the *runner-up* with a brand market share of 27.4% in 2008.

4. Results of Hierarchical Cluster Analysis

The results for 2008 supported *both* Hypothesis I and II. The *market leader*, Energizer—with a 2008 market share of 36.2%—and Duracell, the *runner-up*, with a 2008 market share of 27.4%, were *both* members of the *mid-price* segment, and that the unit price of Energizer was *higher* than that of Duracell. However, the results for 2007 did *not* support Hypothesis I because the market leader Energizer was a member of the *premium* segment.

Part H. An Overview of the Laundry/Dishwashing Detergents, Household Cleaning, and AA Battery Group

1. The U.S. Heavy-Duty Liquid Laundry Detergent Market

Tide is the *top-selling* liquid laundry detergent brand in the *world* with about 14.3% of *world* market share.

P&G's multi-brand Tide was the *market leader*, and a member of the *premium* segment in the U.S. market. It was the *dominant* player with a market share of 45.2% in 2008.

Following the “First-to-market” R&D strategy, *Tide* has continued to *innovate*, and to respond to consumer *preferences* and *environmental* concerns.

Tide liquid laundry detergent is known for its powerful *stain removal*, ability to clean *deep* into fabric fibers, and its *fresh*, long-lasting *scent*. It is also recognized for *whitening* and *brightening* clothes.

For P&G's national and international record in *sustainable* development, and *eco-friendly* products, the Environment Possibility Award conferred the "Environmental Heroes of the Year" to Tide in 2020.

In some communities, *Tide* has become such a *hot* commodity, that *criminals* steal it from stores to resell. Police call the detergent "liquid gold" on the black market where it is often traded or sold for illegal drugs.

2. The U.S. Automatic Dishwasher Detergent Market

P&G's *Cascade* was the *market leader* and a member of the *mid-price* segment. It is a *super-mega* brand with a market share of share of 63.3% in 2008.

Cascade has been following “First-to-market” R&D strategy.

Cascade is the *dominant* brand in the dishwasher detergent market due to a combination of factors, including a long history of product *innovation*, strong brand recognition, and effective marketing and advertising strategies.

Cascade has been a *household* name for decades, and its association with clean dishes and effective cleaning is deeply ingrained in consumers' minds.

3. The U.S. Hand Dishwashing Detergent Market

Colgate-Palmolive's *Palmolive* was the *market leader* and a member of the *mid-price* segment. It had a market share of 24.4% in 2008.

4. The U.S. Paper Towel Market

P&G's Bounty was the *market leader* and a member of the *super-premium* segment—an extremely *rare* event. It had a market share of 38.9% in 2008.

The company *revolutionized* the industry with a 2-ply paper towel, Bounty, that was not only soft and strong but was *unmatched* in being *quick* and *absorbent* on spills.

Whereas makers of most paper towel were marketing the *strength* or *softness* of their paper towel, P&G discovered that consumers generally *preferred* something else: *absorbency*.

And that is why P&G uses the slogan “The Quicker Picker Upper” in its advertisements for Bounty.

In its report on Bounty Towel, *Consumer Reports* says that *more* strength seems to result in *less* absorbency.

In 2009 *Consumer Reports* rated Bounty as the *best* paper towel.

However, the paper towel industry is facing major *criticism* from environmentalists. According to Google, on the whole, paper towels are *not* sustainable. The production and consumption of paper towels leads to deforestation, chemical pollution in freshwaters, and fill-up of our landfills. Another drawback of paper towels is that they are made for *single-use* and *disposal*.

5. The U.S. Facial Tissue Market

Kimberly Clark's Kleenex was the *market leader* and a member of the *mid-price* segment. It is a *mega* brand with a 48% market share in 2008.

6. The U.S. Household Liquid Non-Disinfectant Cleaner Market

Clorox Corp.'s Formula 409 was the *market leader*, and a member of the *mid-price* segment with a market share of 13.1% in 2008.

7. The U.S. Alkaline AA Battery Market

Energizer Holdings' Energizer was the *market leader* and a member of the *mid-price* segment. It had a market share of 36.2% in 2008.

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Notes

Note 1. Profit Impact of Market Strategies

Note 2. [https://en.wikipedia.org/wiki/Tide_\(brand\)](https://en.wikipedia.org/wiki/Tide_(brand))

Note 3.

https://www.google.com/search?q=does+p%26g+have+manufacturing+plants+making+Tide+outside+U.S.&sca_esv=f4d4ab88b266eb8a&rlz=1C1RXQR_enUS1087US1087&sxsrf=AE3TifMc2zclQUtxenS5lMsG57kFIqcQ3A%3A1751243997673&ei=3dxhaLLrKM-ZwbkP8vL62AI&ved=0ahUKEwjyzZWj9JeOAXPTDABHXK5HisQ4dUDCBE&uact=5&oq=does+p%26g+have+manufacturing+plants+making+Tide+outside+U.S.&gs_lp=Egxnd3Mtd2l6LXNlcniAiO2RvZXMgcCZnIGhhdmUgbWFudWZhY3RlcmluZyBwbGFudHMgbWFraW5nIFRvZGUgb3V0c2lkZSBVLIiMuMgUQIRigAUikqwnNQkxVY2f8CcAF4AZABAJgBfKABpSOqAQ0OC40uAEDyAEA-AEBmAIloAKLJcICChAAGLADGNYEGEfCagoQIRigARjDBBgKwgIIECEYoAEYwwTCAGUQA-BjvBeICCBAAAGIAEGKIEwgIIEAAYogQYiQXCAGQQIRgKwglFECEYqwkYAwCIBgGQBgiSBwQ0Ni43oAfSgQKyBwQ0NS43uAeEJcIHBzIuMjYuMjXIB6YB&scient=gws-wiz-serp

Note 4.

https://www.google.com/search?q=What+are+the+cleaning+qualities+Tide+liquid+is+known+for&sca_esv=b903d8c1555ec226&rlz=1C1RXQR_enUS1087US1087&sxsrf=AE3TifMrd0tTmlUkap44GkXKDCexvOSwZA%3A1751331211713&ei=izFjaNGcK8CTwbkP0biJgA4&ved=0ahUKEwiRjoiWuZqOAXXASTABHVFCuAQ4dUDCBE&uact=5&oq=What+are+the+cleaning+qualities+Tide+liquid+is+known+for&gs_lp=Egxnd3Mtd2l6LXNlcniAiOFdoYXQgYXJlIHRobzSBjbGVhbmluZyBxdWFsaXRPZXMgVGlkZSBsaXF1aWQgaXMga25vd24gZm9yMgUQIRigATIFECYoeAEyBRAhGKABSML2AVDfEliDRXABeAGQAQCYAXCgAboHqgEDNy4zuAEDyAEA-AEBmAILoAKACMICChAAGLADGNYEGEfCagcQixwAhgnwgIIEAAYogQYiQXCAGgQABiAB-BiiBMICBRAAGO8FwgIKECEYoAEYwwQYCpgDAIgGAZAGCJIHAzUuNqAH_jeYBwM0Lja4B_gHwgcFMC4zLjjIBzY&scient=gws-wiz-serp

Note 5. when did ARM & Hammer introduce laundry detergent - Search (bing.com)

Note 6.

https://www.google.com/search?q=Google%3A+Why+is+Cascade+such+a+dominant+brand&sca_esv=292556bc86c4e054&rlz=1C1RXQR_enUS1087US1087&sxsrf=AE3TifNuLlheyGZEBt3nAiVH2msCKbX3Xw%3A1751273801271&ei=SVFiaMevEMvtkvQP5tCQ0QU&ved=0ahUKEwiH-NcM45iOAXLtoQIHWYoJFoQ4dUDCBE&uact=5&oq=Google%3A+Why+is+Cascade+such+a+dominant+brand&gs_lp=Egxnd3Mtd2l6LXNlcniAiLEdyb2dsZTogV2h5IGlziENhc2NhZGUgc3VjaCBhI

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BgKwgIFECEYqwLCAGQQIxgnmAMAiAYBkgcDOS4yoAe9LbIHazkuMrgH8AfCBwUwLjUuNsg
HKQ&sclient=gws-wiz-serp

Note 7. https://en.wikipedia.org/wiki/Murphy_Oil_Soap