

Original Paper

The U.S. Household Liquid Non-Disinfectant Cleaner Market: A Competitive Profile

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Abstract

This is the nineteenth paper—and twentieth study--that follows the footsteps of nineteen studies that have tried to analyze the competitive profiles of U.S. consumer markets: Men's Shaving Cream, Beer, Shampoo, Shredded/Grated Cheese, Refrigerated Orange Juice, Men's Razor-Blades, Women's Razor-Blades, Toothpaste, Canned Soup, Coffee, Potato Chips, Alkaline AA Battery, Facial Tissue, Toilet Paper, Paper Towel, Disposable Diapers, Sanitary Pads, Automatic-Dishwasher Detergent, and Hand-Dishwashing Detergent.

Michael Porter associates high market share with cost leadership strategy, which is based on the idea of competing on a price that is lower than that of the competition.

However, customer-perceived quality—not low cost—should be the underpinning of competitive strategy, because it is far more vital to long-term competitive position and profitability than any other factor. So, a superior alternative is to offer better quality vs. the competition.

In most consumer markets, a business seeking market share leadership should try to serve the middle class by competing in the mid-price segment; and offering quality better than that of the competition: at a price somewhat higher to signify an image of quality, and to ensure that the strategy is both profitable and sustainable in the long run.

The middle class is the socio-economic segment that represents about 40% of households in America.

Quality, however, is a complex concept, consumers generally find difficult to understand. So, they often use relative price, and a brand's reputation, as a symbol of quality.

The U.S. Household Liquid Non-Disinfectant Cleaner market had retail sales of \$381 million in 2008. It was by far the largest segment of the eleven-segment Household Cleaners market, which had 2008 retail sales of \$1,747 million. We have focused our attention on the 24-40 Oz size because it was the most popular, constituting 46% sales of the former market.

The Household Liquid Non-Disinfectant Cleaner market was highly competitive, with no dominant player. In 2008 it had 24 brands each with sales over \$ 1 million.

Using Hierarchical Cluster Analysis, we tested two hypotheses: (I) That the market leader is likely to

compete in the mid-price segment, and that (II) Its unit price is likely to be higher than that of the nearest competition.

For 2008--and 2007--the data supported both Hypothesis I and II, because the market leader, Formula 409, was a member of the mid-price segment, and its unit price was higher than that of the runner-up, Fantastic, also a member of the same segment.

We found that relative price was a strategic variable, as we have hypothesized.

We also discovered four strategic groups in this market.

A pattern is emerging in price-quality segmentation analysis. In thirteen studies—that exclude Men's Razor-Blades, Women's Razor-Blades, Coffee, Toilet Paper, Paper Towels, Disposable Diapers, and Sanitary Pads—the market leader was found to be a member of the mid-price segment, as we have hypothesized.

Also, results in ten markets supported Hypothesis II.

Keywords

U.S. Household Liquid Non-Disinfectant Cleaner market, market segmentation, cost leadership strategy, price-quality segmentation, market-share leadership, relative price a strategic variable, strategic groups.

1. Introduction

This is the nineteenth paper that follows the footsteps of nineteen studies (Note 1) that have tried to analyze the competitive profiles of U.S. consumer markets: Men's Shaving Cream, Beer, Shampoo, Shredded/Grated Cheese, Refrigerated Orange Juice, Men's Razor-Blades, Women's Razor-Blades, Toothpaste, Canned Soup, Coffee, Potato Chips, Alkaline AA Battery, Facial Tissue, Toilet Paper, Paper Towel, Disposable Diapers, Sanitary Pads, Automatic-Dishwasher Detergent, and Hand-Dishwashing Detergent (Datta, 2012, 2017, 2018a, 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2020c, 2020d, 2021, 2023a, 2023b, 2023c, 2023d, 2024a, 2024b).

This research relies on a broader, *integrated* framework of market segmentation which includes *both* the demand *and* supply sides of the competitive equation. This approach is based on the idea that, *starting* with 'product' characteristics is both an *easier* and more *actionable* way of segmenting markets, than the traditional marketing approach that typically begins with the customer or 'people' characteristics (Datta, 1996).

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 2) 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, 2010b).

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. 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).

2. The Strategic Importance of Price Positioning

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. 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*).

As mentioned above, the *middle* class constitutes about 40% of households in America. So, in a *competitive* market one would normally expect more than one major brand competing in the *mid-price* segment.

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." 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).

2.1 Close Link between Quality and Price

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, 1996, 2010b).

3. Major Players in the U.S. Household Liquid Non-Disinfectant Cleaner Market

This market was highly competitive with *no* dominant player. In 2008 it had 24 brands with sales over \$ 1 million (Table 1). It had four major players: Clorox, S.C. Johnson, Colgate Palmolive, and Procter & Gamble.

4. Clorox

The Clorox Corp. owns four brands: Formula 409, the *market leader* (Table 1), 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 (Note 3).

Pine-Sol was based on *pine oil* when it was launched in 1929. By 2016, Pine-Sol products sold in stores no longer contained pine oil, which was done to cut costs. The Pine-Sol Corp. was acquired by Clorox Co. in 1990 (Note 4).

In 2008 the Clorox Company introduced Green Works cleaners, “a *breakthrough* line of natural cleaning products that are as effective as conventional cleaners but made from *plant-based* ingredients” (Note 5; *italics* added).

5. S.C. Johnson & Son

S.C. Johnson Co. owns *two* brands: Fantastic, the *runner-up*, and Windex (Table 1). The company introduced Fantastic in 1967. It was described by *The New York Times* as “the first spray cleaner” (Note 6).

S.C. Johnson acquired Windex in 1993 (Note 7).

6. 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 (Note 8).

Murphy Oil Soap cleaner was introduced by Colgate-Palmolive in 1910 (Note 9).

7. Procter & Gamble (P&G)

Mr. Clean, the brand—and is mascot—is owned by P&G. It was introduced in the market in 1958 (Note 10).

8. The U.S. Household Liquid Non-Disinfectant Cleaner Market—Price-Quality Segmentation Profile

This study is based on U.S. retail sales of U.S. Household Liquid Non-Disinfectant Market for 2008 and 2007 (Note 11). The data includes total dollar and unit sales, no-promotion dollar and unit sales, and promotion dollar and unit sales (Note 12).

For 2008, this market had U.S. retail sales of \$381 million. We have focused our attention on the 24-40 Oz size because it was the *most* popular, constituting 46% sales of that market (Table 1).

9. Hierarchical Clustering as the Primary Instrument of Statistical Analysis

We have used cluster analysis as the *primary* statistical tool in this study. As suggested by Ketchen and Shook (1996), we have taken several steps to make this effort as *objective* as possible:

- First, this study is *not* ad-hoc, but is grounded in a *theoretical* framework, as laid out below.
- Second, we are fortunate that we were able to get *national* U.S. sales data for our study for *two* years.
- Thus, this data provided a *robust* vehicle for subjecting cluster consistency and reliability to an *additional* test.
- Third, we wanted to use two different techniques—KMeans and Hierarchical—to add another layer of cluster consistency and reliability. However, we found Hierarchical cluster analysis to be *superior* in meeting that test. So, we did *not* consider it necessary to use the KMeans technique.

10. Theoretical Foundation for Determining Number of Clusters—and Their Meaning

As already stated, a major purpose of this paper is to identify the market share *leader* and determine the price-quality segment—based on unit *price*—it was competing in.

An important question in performing cluster analysis is to figure out the *number* of clusters based on an *a priori* theory. Most consumer markets can be divided in three *basic* price-quality segments: *premium*, *mid-price*, and *economy*. These three basic segments can be extended to *five*: with the addition of *super-premium* and *ultra-economy* segments (Datta, 1996).

Therefore, *three* represents the *minimum* and *five* the *maximum* number of clusters (Datta, 2012, 2017, 2018a, 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2020c, 2020d, 2021, 2023a, 2023b, 2023c, 2023d, 2024a, 2024b).

An equally crucial issue is to find out what each cluster (e.g., *economy*, *mid-price*, and *premium*) really *means*.

Perhaps a good way to understand what each price-quality segment stands for in *real* life is to look at a socio-economic *lifestyle* profile of America. It reveals *six* classes. Each class is associated with a price-quality segment typified by the retail stores where they generally shop: each a symbol of their *lifestyle* (Datta, 2011; Note 13).

10.1 Guidelines for Cluster Consistency and Reliability

In addition to laying a theoretical foundation for the *number* of clusters, we set up the following guidelines to *enhance* cluster consistency and reliability (Datta, 2012, 2017, 2018a, 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2020c, 2020d, 2021, 2023a, 2023b, 2023c, 2023d, 2024a, 2024b):

- In general, there should be a *clean break* between *contiguous* clusters.
- The *anchor* clusters—the top and the bottom—should be *robust*. In a cluster-analysis project limited to a range of three to five clusters, a robust cluster is one whose membership remains *constant* from three- to four-, or four- to five-cluster solutions.

- Finally, we followed a step-by-step procedure to determine the optimal solution. First, we start with *three* clusters. Thus, the bottom cluster obviously becomes the *economy* segment, and the top cluster the *premium* segment. Next, we go to *four* clusters, and *tentatively* call them: *economy*, *mid-price*, *premium*, and *super-premium*. Then we go to *five* clusters. If the membership of the *bottom* cluster remains unchanged from what it was in the four-cluster result, it clearly implies that the *ultra-economy* segment does *not* exist. Then, if the membership of the *top* cluster also remains the same from a four- to a five-cluster solution, then the *top* cluster becomes the *super-premium* segment.
- This signifies that even in a five-cluster solution we have only *four* price-quality segments: *economy*, *mid-price*, *premium*, and *super-premium*.
- It means that either the *premium* or the *mid-price* segment consists of *two* sub-segments.

10.2 External Evidence to Validate Results of Cluster Analysis

Whenever possible, we have tried to seek *external* evidence to validate the results of cluster analysis. For example, many companies identify on their websites a certain brand(s) as a *premium* or luxury brand. A case in point is that of P&G which says that its plan is to compete in all “price points”: *super-premium*, *premium*, and *mid-price*: *except* the *economy* segment (Datta, 2010b).

11. Testing Hypotheses

- I—That the market share leader would be a member of the *mid-price* segment.
- II—That the market share leader would carry a price tag that is *higher* than that of the nearest competition.

11.1 Results of Hierarchical Cluster Analysis: 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. It was by far the largest segment of the *eleven*-segment (Note 14) Household Cleaners market, which had 2008 retail sales of \$1,747 million. In Table 1 we present the 2008 cluster analysis results for the former market. We have focused our attention on the 24-40 Oz size because it was the *most* popular, constituting 46% sales of that market.

This market was highly competitive, with *no* dominant player. In 2008 it had 24 brands each with sales over \$ 1 million.

For 2008--and 2007--the data supported *both* Hypothesis I and II, because the *market leader*, Formula 409, was a member of the *mid-price* segment, and its unit price was *higher* than that of the *runner-up*, Fantastic, also a member of the same segment (Table 1).

12. Relative Price a Strategic Variable

Finally, we performed one more test to determine the consistency and reliability of the results of cluster analysis in this study. So, we *ranked* the *unit* price of each brand for 2008 and 2007. All *three* measures

of *bivariate* correlation—Pearson, and non-parametric measures Kendall’s tau_b, and Spearman’s rho—were found to be *significant* at an amazing 0.01 level!

We believe these surprising results became possible only, because managements in the U.S. Household Liquid Non-Disinfectant Market must have been treating *relative* price as a *strategic* variable, as we have hypothesized.

13. The Role of Promotion

We performed *bivariate* correlation between total retail sales vs. promotional (PROMO) sales. The results were significant for *all* three measures—Pearson, Kendall, and Spearman—at an amazing 0.01 level!

For 2008 the promotional sales of the U.S. Household Liquid Non-Disinfectant Market averaged 28.7% of total retail sales (Table 2). Its highlights are presented below:

Generally, brands with higher market share tend to rely *more* on promotion to support their market share. However, it is interesting to note that the *market leader*, Formula 409 has promo score of 22.8% that is significantly *lower* than the average promo score of 28.7%.

On the other hand, the *runner-up*, Fantastic has a promo score of 40.7% that is about *twice* as high as that of Formula 409.

Another example worth noting is that of Fabuloso. In spite of the fact that is competing in the *Ultra-Economy* segment with a very low price, and yet its promo score at 38.7% is the third highest in Table 2.

Murphy Oil Soap, a member of the *premium* segment, is another interesting case. Brands competing in such a segment have *two* choices. One is to rely more on promotion to protect their market share. However, Murphy Oil Soap has chosen the *opposite* approach. Its *low* promo score of 14.1% is an indication of its attempt to *bolster* its image as a *premium* brand.

Finally, Clorox Clean-Up, likewise, has followed a *similar* route. It is competing in the *mid-price* segment, and yet its promo score at 9.4% is the *lowest* in Table 2.

14. A Pattern Emerging in Price-Quality Segmentation Analysis

This is the *twentieth* study that encompasses analysis of competitive profiles of U.S. consumer markets. In each study we have tested two hypotheses:

- I—That the market-share leader would be a member of the *mid-price* segment.
- II—That the market-share leader would carry a price tag that is *higher* than that of the nearest competition.

15. Men’s and Women’s Razor-Blade Markets Did Not Support Hypothesis I

In the Men’s Razor-Blade market for 2008, the *market leader* was Gillett Mach 3 in the *premium* segment, and Gillette Fusion, the *runner-up*, was in the *super-premium* segment (Datta, 2019a)

In the Women's Razor-Blade market for 2008, the market leader Gillett Venus, the *market leader*, and Schick Intuition Plus, the *runner-up*, were *both* members of the *premium* segment (Datta, 2019b).

So, *what* are the factors that these two markets have deviated from our theory? (Datta, 2019a, 2019b):

- The technology for making Men's and Women's Razors and Blades has now become quite *intricate*, based as it is on *three* fields: metallurgy, chemistry, and electronics, which, in turn, raises the *cost* of production,
- Gillette has been pursuing a strategy of *innovation* and constant improvement, offering new features—and benefits—than ever before, which has consequently made it possible for it to charge *premium* prices.
- Gillette's virtual *monopoly* of the industry is another factor, that has enabled it to position itself in the *premium* and *super-premium* segments: rather than the *mid-price* segment.
- Many men—and women--consider *shaving* an important part of *personal grooming*, for which they are willing to pay *premium* prices: because they regard it an "affordable luxury."

16. Coffee, Toilet Paper, Paper Towel, Disposable Diapers, and Sanitary Pads Markets Also Did Not Support Hypothesis I

In the *Ground Coffee* market, the *market leader*, Folgers, and the *runner-up* Maxwell House, were *both* members of the *economy* segment, although Folgers' unit price was *higher* than that of Maxwell House, as we have hypothesized (Datta, 2020c).

This is truly an *astonishing* result! In all the remaining *nineteen* markets, *not* a single market leader competed in the *economy* segment.

This implies that both Folgers and Maxwell House were following the *cost leadership* (Porter, 1980) strategy based on *lower* price, rather than better quality, and treated coffee as a *commodity* to gain market share. So, it is not unreasonable to conjecture that such a strategy is not likely to have been very profitable (*ibid*).

The results in the Toilet Paper study also did not support Hypothesis I, because *both* Charmin, the *market leader*, and Cottonelle, the *runner-up*, were members of the *premium* segment (Datta, 2023b).

Toilet activity is quite complex, in which personal *hygiene* plays a vital role. Although a *bidet* is quite popular in Europe, very few people in America use it (*ibid*).

So, in the absence of a substitute, Americans are willing to pay *premium* prices for toilet paper, because it serves an *important* need: an *antidote* to germs and disease (*ibid*).

In the Paper Towel market, the *market leader*, Bounty was a member of the *super-premium* segment (Datta, 2023c)!

So, *what* made this extraordinary result possible?

P&G *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 (*ibid*).

Whereas most paper towel makers were marketing *strength* or *softness*, P&G discovered that

consumers generally *preferred* something else: *absorbency*: for which 39% of American customers paid *super-premium* prices for Bounty paper towel in 2008 (*ibid*).

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

Similarly, Americans do *not* mind paying *super-premium* prices for Disposable Diapers as well (Datta, 2023d). In the words of Peter Drucker, *Pampers* disposable baby diapers “*created* customers” and served them *better* than the competition (*ibid*).

Another reason, according to P&G, is the rising cost of *pulp*--a raw material used to make Disposable Diapers--and higher transportation and freight costs (*ibid*).

Finally, another example is the Sanitary Pads market. *Menstruation* is an activity that is so complex that it is synonymous with *femininity* itself. So, it is not surprising that many women are willing to pay *premium* prices for *Always* sanitary pads for such a fundamental need (Datta, 2024a).

17. Results in Thirteen Markets Supported Hypothesis I

In thirteen of the twenty markets—that *exclude* Men’s and Women’s Razor-Blades, Coffee, Toilet Paper, Paper Towel, Disposable Diapers, and Sanitary Pads, as mentioned above—the market leader was found to be a member of the *mid-price* segment for *both* 2008 and 2007 (see Note 16), as we have hypothesized. Those market leaders are:

(1) Edge Men’s Shaving Gel, (2) Bud Light Lager Beer, (3) Pantene Shampoo, (4) Kraft Shredded/Grated Cheese, (5) Tropicana Refrigerated Orange Juice, (6) Crest Toothpaste, (7) Campbell Chicken Broth, and Campbell Chicken Noodle Soup, (8) Lay’s Potato Chips, (9) Energizer Alkaline AA Battery (Note 16), (10) Kleenex Facial Tissue, (11) Cascade Automatic-Dishwasher Detergent, (12) Palmolive Hand-Dishwashing Detergent, and (13) Formula 409 Household Liquid Non-Disinfectant Cleaner.

18. Results in Eleven Markets Supported Hypothesis II

Although technically, in three of the thirteen markets mentioned above, the results did *not* support Hypothesis II, in reality, only *two*—Chicken Noodle Soup, and Facial Tissue--did not.

In the Chicken Noodle Soup market, the *runner-up* Progresso, was a member of the *premium* segment. The results in the Facial Tissue market also did *not* support Hypothesis II, because the *runner-up* Puffs, was a member of the *premium* segment with a clearly *superior* quality, and a price tag *higher* than that of the market leader Kleenex: a member of the *mid-price* segment (Datta, 2023a).

In the Shampoo market, the *runner-up*, Head & Shoulders was a member of the *mid-price* segment. Yet, its price was *higher* than that of the *market leader*, Pantene. However, this result did *not* negate Hypothesis II, because it was due to the fact that the former was a *specialty* shampoo, which always sells at a *higher* price (2018a).

That leaves us with the following remaining *eleven* markets that supported Hypothesis II:

(1) Men's Shaving Gel, (2) Lager Beer, (3) Shampoo, (4) Shredded-Grated Cheese, (5) Refrigerated Orange Juice, (6) Toothpaste, (7) Potato Chips, (8) AA Alkaline Battery, (9) Automatic-Dishwasher Detergent (Note 17), (10) Hand-Dishwashing Detergent (Note 18), and (11) Household Liquid Non-Disinfectant Cleaner.

In the above *eleven* markets the *runner-up* had a price tag that was *lower* than that of the market leader.

19. Strategic Groups in the U.S. Household Liquid Non-Disinfectant Cleaner Market, 2008

We found *four* strategic groups in this market segment:

- 1 Clorox Corp.
 - Formula 409—*Market Leader*
 - Pine-Sol
 - Green Works
 - Clorox Clean-Up
- 2 S. C. Johnson & Son
 - Fantastik—*Runner-up*
 - Windex
- 3 Colgate-Palmolive
 - Fabuloso
 - Murphy Oil Soap
4. Procter & Gamble
 - Mr. Clean

19.1 The Clorox Company

The Clorox Company (formerly Clorox Chemical Company) is an American global manufacturer and marketer of consumer and professional products (Note 19).

For the financial year 2023, Clorox Co. had worldwide net sales of \$7.3 Billion (Note 20).

19.2 S.C. Johnson & Son

S. C. Johnson & Son, Inc. (generally referred to as S. C. Johnson) is a U.S. *multinational* corporation: a privately-held manufacturer of household cleaning supplies and other consumer chemicals (Note 21).

For 2022, its net worldwide sales were \$11.1 billion (Note 22).

19.3 Colgate Palmolive Co.

Colgate Palmolive is a U.S. multinational consumer products co. For the year 2023, the company's worldwide net sales were 19.5 billion (Note 23).

19.4 Procter & Gamble (P&G) Corporation

P&G is the largest American multinational corporation, which was created back in 1837.

For 2023 P&G has reported worldwide net sales of \$82 billion (Note 24).

20. Conclusion

The path to market share leadership does *not* lie in *cost leadership* strategy: a path that is grounded in a *price that is lower* than that of the competition, as Michael Porter has suggested. Rather, a business in pursuit of market-share leadership should try to serve the *middle* class by competing in the *mid-price* segment; and offering quality *superior* to that of the competition: at a somewhat *higher* price to connote an image of quality, and to ensure that the strategy is both profitable and sustainable in the long run.

The *middle* class is the socio-economic segment that represents about 40% of households in America. Quality, however, is a complex concept that consumers generally find difficult to understand. So, they often employ *relative* price and a brand's *reputation* as a symbol of quality.

For 2008 the total U.S. retail sales of the Household Liquid Non-Disinfectant Market were \$381 million (Table 1). By far the *most* popular was the 24-40 Oz size, which constituted 46% of the total sales. So, we have focused cluster analysis on this size.

We tested two hypotheses. (I) That the market leader, would be a member of the *mid-price* segment, and (II) That the market leader would carry a price tag that is *higher* than that of the nearest competition.

For 2008--and 2007--the data supported *both* Hypothesis I and II, because the *market leader*, Formula 409, was a member of the *mid-price* segment, and its unit price was *higher* than that of the *runner-up*, Fantastic, also a member of the same segment (Table 1).

We also found that *relative* price was a strategic variable, as we have hypothesized.

A *pattern* is emerging in price-quality segmentation analysis. In thirteen of the twenty markets—that *exclude* Men's Razor-Blades, Women's Razor-Blades, Coffee, Toilet Paper, Paper Towel, Disposable Diapers, and Sanitary Pads—the results *supported* Hypothesis I: that the *market leader* was going to be to be a member of the *mid-price* segment. Those market leaders are:

- (1) Edge Men's Shaving Gel, (2) Bud Light Lager Beer, (3) Pantene Shampoo, (4) Kraft Shredded/Grated Cheese, (5) Tropicana Refrigerated Orange Juice, (6) Crest Toothpaste, (7) Campbell Chicken Broth, and Campbell Chicken Noodle Soup, (8) Lay's Potato Chips, (9) Energizer Alkaline AA Battery, (10) Kleenex Facial Tissue, (11) Cascade Automatic-Dishwasher Detergent, (12) Palmolive Hand-Dishwashing Detergent, and (13) Household Liquid Non-Disinfectant Cleaner.

Also, results in *eleven* markets supported Hypothesis II: that the *runner-up* would be a member of the *mid-price* segment, and that its unit price would be *lower* than that of the market leader.

Finally, we discovered *four* strategic groups in this market.

Table 1. Hierarchical Cluster Analysis: The U.S. Household Liquid Non-Disinfectant Cleaner Market, 2008

PQ Segment	Brands 24-40 Oz	Upr.	ClusCtr	MktSh%	MktSh%	Sales\$M	Sales\$M
				24-40 Oz	Brand	24-40 Oz	Brand
Super-Premium	MRS. MEYER'S 32 OZ	\$8.09	\$8.09	0.7%	0.6%	\$1.3	\$2.3
Premium	C-L-R 26 OZ	\$4.28	\$3.82	2.4%	1.2%	\$4.2	\$4.4
	SIMPLE GREEN 22 OZ	\$4.19		1.7%	1.3%	\$3.0	\$5.1
	SEVENTH GENERATION 32 OZ	\$3.99		1.4%	0.6%	\$2.5	\$2.5
	SOFT SCRUB 25.4 OZ	\$3.66		4.2%	3.7%	\$7.4	\$14.2
	EASY-OFF BAM 24 OZ	\$3.61		3.8%	1.7%	\$6.6	\$6.7
	MURPHY OIL SOAP 32 OZ	\$3.57		5.8%	3.8%	\$10.1	\$14.4
	METHOD 28 OZ	\$3.45		2.0%	1.4%	\$3.4	\$5.5
Mid-Price	CLOROX CLEAN-UP OZ 32	\$3.26	\$2.94	2.9%	4.1%	\$5.2	\$15.4
	GREEN WORKS 32 OZ	\$3.16		9.0%	5.1%	\$15.8	\$19.5
	LESTOIL 28 OZ	\$3.11		1.1%	0.7%	\$2.0	\$2.8
	CINCH 2-IN-1 32 OZ	\$3.06		1.3%	0.8%	\$2.2	\$3.0
	WINDEX 26 OZ	\$2.93		7.7%	5.1%	\$13.6	\$19.4
	MR. CLEAN 32 OZ	\$2.85		3.8%	5.6%	\$6.7	\$21.2
	FORMULA 409 32 Oz Market Leader	\$2.83		13.1%	6.9%	\$23.0	\$26.2
	GREASED LIGHTNING 32 Oz	\$2.80		2.3%	1.4%	\$4.1	\$5.2
	LYSOL 40 OZ	\$2.72		0.9%	0.6%	\$1.5	\$2.1
	FANTASTIK 32 Oz Runner-up	\$2.66		11.9%	6.1%	\$20.9	\$23.2
Economy	SPIC AND SPAN 28 OZ	\$2.43	\$2.37	0.6%	1.7%	\$1.1	\$6.5
	'PINE-SOL 28 OZ	\$2.41		2.3%	7.8%	\$4.0	\$29.8
	GLASS PLUS 32 OZ	\$2.28		4.8%	2.3%	\$8.3	\$8.8
Ultra-Economy	'PRIVATE BRANDS 32 OZ	\$1.77	\$1.58	4.7%	4.3%	\$8.2	\$16.5
	FABULOSO 28 OZ	\$1.65		10.3%	6.8%	\$18.1	\$26.0
	FESTIVAL 33.8 OZ	\$1.33		1.3%	0.8%	\$2.2	\$2.9
				100.0%	74.4%	\$175.5	\$283.5
TOTAL BRAND SALES						46%	\$381

Table 2. Percentage of Promo Sales to Total Sales: The U.S. Household Liquid Non-Disinfectant Cleaner Market, 2008

Brands with Sales over \$10 Million (24-40 Oz)

BRANDS	PQSegment	Promo %	Promotional Intensity	Brand MkSh%
WINDEX	Mid-Price	41.3%	Moderate	5.1%
FANTASTIK (Runner-up)	Mid-Price	40.7%		6.1%
FABULOSO	Ultra-Economy	38.7%		6.8%
GREEN WORKS	Mid-Price	37.2%		5.1%
PINE-SOL	Economy	30.3%	Low-Moderate	7.8%
PRIVATE BRANDS	Ultra-Economy	29.1%		4.3%
SOFT SCRUB	Premium	25.6%		3.7%
MR. CLEAN	Mid-Price	25.1%		5.6%
FORMULA 409 (Market Leader)	Mid-Price	22.8%		6.9%
MURPHY OIL SOAP	Premium	14.1%	Low	3.8%
CLOROX CLEAN-UP	Mid-Price	9.4%		4.1%
Average Promotional Percentage		28.7%		

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Notes

Note 1. The paper titled: The U.S. Automatic-Dishwasher and Hand-Dishwashing Detergent Markets involved two studies.

Note 2. Profit Impact of Market Strategies.

Note 3.

https://en.wikipedia.org/wiki/Formula_409#:~:text=The%20flagship%20product%20was%20invented,with%20particularly%20difficult%20cleaning%20problems

Note 4. <https://en.wikipedia.org/wiki/Pine-Sol>

Note 5. [When was green works all-purpose cleaner introduced - Search \(bing.com\)](#)

Note 6. [Fantastik - Wikipedia](#)

Note 7. [Windex - Wikipedia](#)

Note 8.

<https://www.bing.com/search?q=fabuloso+cleaner+history&form=ANSPH1&refig=21CD3BC27367417B9F365C52B555D515&pc=U531>

Note 9. https://en.wikipedia.org/wiki/Murphy_Oil_Soap

Note 10. [Mr. Clean - Wikipedia](#)

Note 11. This data is from food stores with sales of over \$2 million, and drug stores over \$ 1 million; it also includes discount stores, such as Target and K-Mart, but *excludes* Wal-Mart as well as warehouse

clubs, e.g., Sam's Club, Costco, and BJ's. It also does not include the "dollar" stores, such as Dollar General, and others.

Note 12. For those stores for which, during a week, there were feature ads, coupon ads, display, or temporary price decrease of at least 5%.

Note 13. The six classes are: "The Poor", "The Near Poor", "Traditional Middle Class", "The Upper-Middle Class", "The Very Rich/The Rich", and "The Mega Rich—Masters of the Universe".

Note 14. Liquid Non-Disinfectant Cleaners, Disinfectant Cleaners, Bathroom Cleaners, Toilet Bowl Cleaners, Rug Cleaners, Window Cleaners, Oven Cleaners, Abrasive Cleaner, Ammonia Cleaners, Powdered Cleaners, and Remaining Household Cleaners.

Note 16. For 2007 the results did not support Hypothesis I, because the market leader, Energizer was found to be a member of the *premium* segment (Datta, 2021).

Note 17. In the Automatic Dishwasher Detergent market, the results for 2008 supported Hypothesis II, but *not* for 2007.

Note 18. In the Hand Dishwashing segment, the results for 2007 did support Hypothesis II, but *not* for 2008.

Note 19. <https://en.wikipedia.org/wiki/Clorox>

Note 20.

https://s21.q4cdn.com/507168367/files/doc_financials/annuals/2023/CLX-FY23-Annual-Report_full-report.pdf

Note 21. https://en.wikipedia.org/wiki/S._C._Johnson_%26_Son

Note 22.

https://www.google.com/search?q=net+sales+of+s.c.+johnson+inc&sca_esv=8c1ed77320533a55&sca_upv=1&source=hp&ei=9cFKZtOUCpL4wbkPtLwM&iflsig=AL9hbdgAAAAZkrQBe1C6wpnG-eFMAf3SIG6IBThsNg5&oq=net+sales+of+s.c.+johnson&gs_lp=Egdnd3Mtd2l6IhluZXQgc2FsZXMGb2YgcY5jLiBqb2huc29uKgIIADIFECEY0AEyBRAhGKABMgUQIRigATIFECEY0AEyBRAhGKABMgUQIRirAjIFECEYqwIyBRAhGKsCSJubAVAAWPI_cAB4AJABAJgBwAGgAZ0SsqgEEMTguN7gBAcgBAPgBAZgCGaACiRPCAgQLhiABBixAxiDAcICDhAAGIAEGLEDGIMBGioFwgILEAAYgAQYsQMYgwHCAhEQLhiABBixAxjRAXiDARjHAcICDhAuGIAEGLEDGIMBGioFwgIFEAAAYgATCAgUQLhiABMICDhAuGIAEGLEDGNEDGMcBwgIIEAAYgAQYsQPCAggQLhiABBixA8ICDRAuGIAEGNEDGMcBGArCAGQQABgDwgIGEAAAYFhgewgIFECEYnwXCAGcQIRigARgKmAMAKgcEMTYuOaAH1rkB&sclient=gws-wiz

Note 23. <https://investor.colgatepalmolive.com/static-files/66a06161-3df3-46eb-a860-831e49b961b4>

Note 24. <https://us.pg.com/annualreport2023/financial-highlights/>