

Original Paper

The U.S. Paper Towel Market: A Competitive Profile

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Abstract

This is the fifteenth paper that follows the footsteps of fourteen studies that have tried to analyze the competitive profiles of U.S. consumer markets: Men's Shaving Gel, 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, and Toilet Paper.

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.

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.

For 2008 the U.S. Paper Towel market had sales of \$2,448 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 both 2008 and 2007, the results did not support Hypothesis I, because the market leader Bounty was a member of the super-premium segment.

However, the results did support Hypothesis II for both 2008 and 2007, because Bounty's unit price was higher than that of the runner-up, Brawny in 2008, and Sparkle in 2007.

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

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

Results in seven markets supported Hypothesis II.

We also discovered four strategic groups in the industry.

The production and consumption of paper towel leads to adverse environmental effects. It contributes to deforestation, chemical pollution in freshwaters, and fill up our landfill. But there are several ways to reduce their footprint: microfiber cloths; cotton napkins; paper towel made from 100% recycled materials; and newer innovative hand dyers, such as Dyson Airblade, that blows room-temperature air—not hot air—onto wet hands: a process that takes just 14 seconds to dry them.

Keywords

U.S. Paper Towel Market, market segmentation, cost leadership strategy, price-quality segmentation, market-share leadership, relative price a strategic variable, strategic groups

1. Introduction

This is the *fifteenth* paper follows the footsteps of *fourteen* studies that have tried to analyze the competitive profile of U.S. consumer markets: Men's Shaving Gel, 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, and Toilet Paper (Datta, 2012, 2017, 2018a, 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2020c, 2020d, 2021, 2023a, 2023b).

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 research 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, 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), a leading global consumer products company, 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, 2012, 2017, 2018a, 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2020c, 2020d, 2021, 2023a, 2023b).

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, 2012, 2017, 2018a, 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2020c, 2020d, 2021, 2023a, 2023b).

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, 2010b, 2012, 2017, 2018a, 2018b, 2018c, 2019a, 2019b, 2020a, 2020b, 2020c, 2020d, 2021, 2023a, 2023b).

3. A Short History of the U.S. Paper Towel Industry

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 (Note 2).

In 1931, the Scott Paper Co. introduced their paper towel rolls for kitchens. In 1995, Kimberly-Clark acquired Scott Paper Co. (Note 2).

4. Bounty Paper Towel

P&G introduced Bounty in 1965 (Note 3). In 2015, it celebrated its 50th anniversary (Note 4).

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” (Note 5, *italics* added; Note 3).

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* (Note 3).

And that is why P&G uses the slogan “The Quicker Picker Upper” in its advertisements for Bounty (Note 6).

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

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 (Note 3).

In 2008, Bounty had a brand market share of 39%.

5. 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.

6. (Kleenex) Viva Paper Towel

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

7. Private Brands

Another *major* player in the Paper Towel market in 2008 was the Private Brands. It is important to clarify what *private* brands are. These are brands made exclusively for individual *retailers*, e.g., a supermarket, or a drug store. Usually, such brands are targeted at the *economy* segment, and, as such, are generally sold at prices *lower* than those of major *mid-price* brands. One reason retailers *like* private brands, is because private brands tend to be more *profitable* than leading name brands (Datta, 2018b, 2018c, 2020b, 2020c, 2021, 2023a, 2023b).

Nevertheless, in the Paper Towel market, Bounty was the dominant *market leader* with a brand market share of 38.9%, competing in the *super-premium* segment. However, there was no major player in the *mid-price* segment. And that gave a chance to Private Brands to compete in the *mid-price* segment, rather than the usual *economy* segment.

In 2008 Private Brands had managed to achieve a *collective* brand market share of 23.4% (Table 1).

8. The U.S. Paper Towel Market—Price-Quality Segmentation Profile

This study is based on U.S. retail sales for the U.S. Paper Towel Market for 2008 and 2007 (Note 7). The data includes total dollar and unit sales, no-promotion dollar and unit sales, and promotion dollar and unit sales (Note 8).

For 2008 the total U.S. retail sales of Paper Towel were \$2,448 million (Table 1). The pack sizes varied from 15 to 1, with the *8-pack* size being by far the *most* popular: with a 30% share, and with sales of \$727 million (Table 1).

So, we have focused cluster analysis on this size.

8.1 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.

8.2 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 is 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).

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 (Note 9). 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).

8.3 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):

- 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*.

8.4 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).

9. 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.

10. Results of Hierarchical Cluster Analysis

In Table 1 we present the cluster analysis results for 2008 that involved 11 brands.

For 2008 and 2007, the results did *not* support Hypothesis I. This is because *both* Bounty, the *market leader*, and Brawny, the *runner-up*, were found to be members, respectively, of the *super-premium*, and *premium* segments.

For 2007, while Bounty, the *market leader*, was a member of the *super-premium* segment, the *runner-up*, Sparkle was a member of the *mid-price* segment.

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

11. Why the Cluster Analysis Results Did Not Support Hypothesis I?

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 critical role. Although a *bidet* is quite popular in Europe, as we have mentioned earlier, very few people in America use it.

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--*unlike* Charmin--was a member of the *super-premium* segment. In the *fourteen* studies mentioned earlier--excluding the Men's Razor-Blade markets--*not* a single market leader was able to claim an association with the *super-premium* segment!

So, *what* made this extraordinary result possible?

As stated before, 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.

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 (Table 1)

Consumer Reports says that *more* strength seems to result in *less* absorbency. In 2009, it rated Bounty as the *best* paper towel.

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

Whereas, in 2008, Bounty was able to capture brand market share leadership with a commanding 39% score, the runner-up, Brawny, managed to secure just 8.7% (Table 1).

To *sum* up, it is clear that paper towel is an unusually *complex* product, with *three* major characteristics that are *not* necessarily compatible with each other--*softness*, *strength*, and *absorbency*.

Clearly, P&G was right to focus Bounty on *absorbency*: and that made it such a *run-away* success.

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 for the 8-pack Paper Towel. 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 Paper Towel industry must have been treating *relative* price as a strategic variable, as we have hypothesized.

13. The Role of Promotion

For 2008 the promotional sales of Paper Towel averaged 45% of total retail sales (Table 2). 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.

Table 2 presents a measure of the promotional intensity for 2008. The average score is 45%. In general, one would expect that higher a brand's sales, higher its promotional intensity:

- It is interesting to see that Scott, owned by Kimberly Clark, has the *highest* promo score of 63% (*Very Heavy*), even though it is a *mid-price* brand with only a 6.1% market share.
- Both Brawny, and Sparkle--Georgia Pacific brands—too, are in the *Very Heavy* category, even though their market shares are not high.
- Bounty, the overwhelming market *leader*, is in the *Heavy* group, with a promo score of 44%.
- The Private Brands fall in the *Moderate* group with a collective score of 35%. Since they are competing in the *Mid-price* segment, their membership of the moderate group makes a lot of sense.

14. A Pattern Emerging in Price-Quality Segmentation Analysis

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

- I—That the market leader would be a member of the *mid-price* segment.
- II—That the market 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 our Theory

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 *radically* 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. Results in Ten Markets Support Hypothesis I

In *ten* of the fifteen studies—that *exclude* Men’s and Women’s Razor-Blades, Ground Coffee, Toilet Paper, and Paper Towel—the market leader was found to be a member of the *mid-price* segment, as we have hypothesized. Those market leaders are:

(1) Edge Men’s Shaving Gel, (2) Bud Light Lager Beer, (3) Pantene Shampoo, (4) Kraft Grated/Shredded Cheese, (5) Tropicana Refrigerated Orange Juice, (6) Crest Toothpaste, (7) Campbell Chicken Broth, and Campbell Chicken Noodle Soup, (8) Lay’s Potato Chips, and (9) Energizer Alkaline AA Battery, and (10) Facial Tissue.

One important exception to these results is 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 ten studies mentioned above, *not* a single market leader—or even the runner-up—competed in the *economy* segment.

This implies that both Folgers and Maxwell House were following the *cost leadership* 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 (Datta, 2020c).

17. Results in Seven Markets Support Hypothesis II

In *three* of the ten markets mentioned above, the results did *not* support Hypothesis II.

In the Chicken Noodle Soup market, the *runner-up* Progresso, was a member of the *premium* segment. Similarly, in the Facial Tissue market, the *runner-up* Puffs, was a member of the *premium* segment. But this was because of Puffs’ demonstrably *higher* quality.

In the Shampoo market, the *runner-up*, Head & Shoulders was a member of the *mid-price*. 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.

Nevertheless, in *seven* markets the *runner-up* brands, like the market leaders, were members of the *mid-price* segment with a price tag that was *lower* than that of the market leader.

18. Strategic Groups in the U.S. Paper Towel Market, 2008

We found *four* strategic groups in this market. Their 2008 *brand* market shares (Note 10) are as follows:

1. Procter & Gamble—Market Leader
 - Bounty—38.9%
 - Bounty Basic—5.7%

We want to point out why Bounty Basic was *not* included in cluster analysis (Table 1). This is because it had *no* sales in 2007.

2. Georgia Pacific—Runner-up
 - Brawny—8.7%
 - Sparkle—4.4%

The question is *why* we have delineated Brawny as the *runner-up* in 2008, even though its *brand* market share of 8.7% is *lower* than that of Viva, with a 9.4% share.

The reason is that in our cluster analysis (Table 1), the market leader, *and* the runner-up are determined based on their market shares in the *most* popular paper-towel segment, the *8 Count*. That is why, while Brawny's market share was 10.3% in that segment, Viva's was only 4.1%.

3. Kimberly Clark
 - (Kleenex) Viva—9.4%
 - Scott—6.1%
4. Privat Brands (*collectively*)—23.4%

18.1 Procter & Gamble (P&G) Corporation

P&G is an American corporation that is one of the world's *leading* consumer product companies.

For 2022 P&G has reported net sales of \$80.2 Billion (Note 11).

18.2 Georgia Pacific

Georgia-Pacific is part of Koch Industries' group of companies. In 2005 it was acquired by Koch Industries. Koch's estimated annual revenues have exceeded \$125 billion (Note 12).

18.3 Kimberly Clark Corporation

Kimberly Clark is an American multinational corporation that produces mostly personal-care *paper-based* consumer products: among others, facial tissue, feminine hygiene products, toilet tissues, and disposable diapers (Note 13).

In 2022 it celebrated its 150th anniversary (Note 14).

18.4 Private Brands

Private brands are those made exclusively for individual *retailers*, e.g., a supermarket, or a drug store.

19. Adverse Environmental Effect of Paper Towel

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 our landfill. Another drawback of paper towels is that they are made for *single-use* and *disposal* (Note 15).

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 (Note 16).

The *Terrapass* blog has tried to address the question of how to *reduce* the footprint of paper towel. It suggests the following alternative sources (Note 17):

19.1 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 (Note 17).

19.2 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 (Note 17).

19.3 Eco-Friendly Paper Towel

Another eco-friendly alternative is, paper towels 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* (Note 17).

19.4 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 (Note 18) 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 (Note 17).

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 (Note 19).

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 Paper Towel market were \$2,448 million (Table 1). By far the *most* popular pack size was the 8-roll pack, which constituted 30% of total brand sales. So, we have focused cluster analysis on this size.

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

For *both* 2008 and 2007, the results did *not* support Hypothesis I. This is because while Bounty, the market leader, was a member of the *super-premium* segment, Brawny, the runner-up, was a member of the *premium* segment.

Nevertheless, the data supported Hypothesis II, because the unit price of Bounty was *higher* than that of Brawny.

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

A *pattern* is emerging in price-quality segmentation analysis. In *ten* of the fifteen studies—that exclude Men’s and Women’s Razor-Blades, Ground Coffee, Toilet Paper, and Paper Towel—the results *supported* Hypothesis I: that the *market leader* was going to be to be a member of the *mid-price* segment.

Also, results in *seven* markets supported Hypothesis II: that the *runner-up* was also going to be a member of the *mid-price* segment, and that its price was going to be *lower* than that of the market leader.

We discovered *four* strategic groups in the industry.

The production and consumption of paper towel leads to *adverse* environmental effects. It contributes to deforestation, chemical pollution in freshwaters, and fill up our landfill. But there are several ways to *reduce* their footprint: microfiber cloths; cotton napkin; paper towel made from 100% *recycled* materials; and newer *innovative* hand dyers, such as Dyson Airblade, that blow *room-temperature* air—*not* hot air--onto wet hands, a process that takes just 14 seconds to dry them.

Table 1. Hierarchical Cluster Analysis: The U.S. Paper Towel Market, 2008

PQ Segment	Paper Towel Brand Name	Upr.	Cl.Ctr.	MkSh%	Sales \$M	MkSh%	Sales \$M
				8 Count Pack	8 Count Pack	Brand	Brand
Super-Premium	BOUNTY (market leader)	\$8.82	\$8.82	49.1%	\$357.1	38.9%	\$951.5
Premium	KLEENEX VIVA	\$7.77	\$7.40	4.1%	\$30.2	9.4%	\$230.6
	BRAWNY (runner-up)	\$7.03		10.3%	\$74.8	8.7%	\$213.2
Mid-price	SPARKLE	\$6.06	\$5.94	8.5%	\$61.9	4.4%	\$107.8
	SCOTT	\$6.01		9.3%	\$67.9	6.1%	\$149.0
	PRIVATE BRANDS	\$5.88		17.2%	\$125.4	23.4%	\$573.5
Economy	MARCAL	\$5.50	\$5.17	1.1%	\$8.0	1.4%	\$33.8
	JUBILEE	\$5.17		0.0%	\$0.0	0.2%	\$4.1
	MARDI GRAS	\$4.83		0.2%	\$1.2	0.4%	\$9.7
Ultra-Economy	VELVET	\$4.25	\$4.03	0.1%	\$0.7	0.1%	\$2.7
	ATLANTIC FIESTA	\$4.02		0.0%	\$0.0	0.0%	\$0.1
				100.0%	\$727.3	93.0%	\$2,275.8
Total	Brand				29.7%	100.0%	\$2,447.8
Sales							

Table 2. Percentage of Promotional Sales to Total Sales: U.S. Paper Towel Market, 2008

Brand Name of Paper Towels	PQ Segment	Promo %	Promotional Intensity	Brand MkSh %
SCOTT	Mid-price	62.6%	Very Heavy	6.1%
MARCAL	Economy	62.2%		1.4%
SPARKLE	Mid-price	59.7%		4.4%
BRAWNY	Premium	56.2%		8.7%
ATLANTIC FIESTA	Ultra-Economy	47.2%	Heavy	0.0%
BOUNTY	Super-Premium	43.9%		38.9%
KLEENEX VIVA	Premium	42.6%		9.4%
PRIVATE BRANDS	Mid-price	34.8%	Moderate	23.4%
VELVET	Ultra-Economy	34.3%		0.1%
MARDI GRAS	Economy	30.1%		0.4%
JUBILEE	Economy	27.4%		0.2%
Total		44.8%		93.0%

Acknowledgement

We are *immensely* grateful to A.C. Nielson Co. for their extraordinary generosity for the invaluable U.S. national retail sales data of the U.S. Paper Towel market for 2008 and 2007, without which this project would *not* have been possible.

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Notes

Note 1. Profit Impact of Market Strategies.

Note 2.

https://en.wikipedia.org/wiki/Paper_towel#:~:text=In%201919%2C%20William%20E.,on%20the%20Berlin%2FGorham%20line

Note 3.

[https://en.wikipedia.org/wiki/Bounty_\(brand\)#:~:text=While%20most%20paper%20towel%20were,absorbent%20than%20on%20the%20market](https://en.wikipedia.org/wiki/Bounty_(brand)#:~:text=While%20most%20paper%20towel%20were,absorbent%20than%20on%20the%20market)

Note 4.

<https://news.pg.com/news-releases/news-details/2015/Bounty-Celebrates-50-Years-of-Innovation-as-Leader-in-the-Paper-Towel-Industry/default.aspx>

Note 5.

https://www.google.com/search?q=p%26g+and+history+of+bounty+towel&sca_esv=554955330&rlz=1C1RXQR_enUS1053US1053&sxsrf=AB5stBh4DgrCCCtnvpaDsb3Z4PdLJq6-hA%3A1691544262281&ei=xurSZIrQEKOcwbkPideHsAk&oq=p%26g+and+history+of+bounty+towel&gs_lp=Egxnd3Mtd2l6LXNlcnAiIHAmZyBhbmQgaGlzdG9yeSBvZiBib3VudHkgdG93ZWxzKgIADIEECMYJ0jDggFQ0RhYn2xwAXgBkAEAmAF7oAHRCKoBAzUuNrgBACgBAPgBAcICChAAGEcY1gQYsAPCAgcQIxiwAhgnwgIKECEYoAEYwwQYCsICBRAAGKIEwgiIECEYoAEYwwTiAwQYACBBiAYBkAYI&scient=gws-wiz-serp

Note 6. <https://bountytowel.com/en-us/discover>

Note 7. 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 8. For those stores for which, during a week, there were feature ads, coupon ads, display, or temporary price decrease of at least 5%.

Note 9. 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 10. This market share data comes from Table 1.

Note 11. <https://us.pg.com/annualreport2022/>

Note 12. <https://www.gp.com/>

Note 13. KMB 2022 FORM 10K (kimberly-clark.com)

Note 14. KMB 2022 FORM 10K (kimberly-clark.com)

Note 15.

https://www.google.com/search?q=what+environmental+effect+paper+towel+have+on+the+environment&rlz=1C1RXQR_enUS1053US1053&oq=what+environmental+effect+paper+towel+have+on+the+environment&aqs=chrome..69i57.422862291j0j15&sourceid=chrome&ie=UTF-8

Note 16.

https://www.google.com/search?q=Treehugger%3A+what+environmental+effect+paper+towel+have+on+the+environment&sca_esv=556814175&rlz=1C1RXQR_enUS1053US1053&sxsrf=AB5stBjO92JLARphwanp8b9r3C_8P353qA%3A1692033182722&ei=nmDaZL3fK6z-wbkPs4mF-AQ&ved=0ahUKEwi9prfm0tyAAxUsfzABHbNEAU8Q4dUDCBA&uact=5&oq=Treehugger%3A+what+environmental+effect+paper+towel+have+on+the+environment&gs_lp=Egxnd3Mtd2l6LXNlcnAiSIRyZWVodWdnZXI6IHdoYXQgZW52aXJvbm1lbnRhbCBIZmZiY3QgcGFwZXIgdG93ZWxzIGhhdmUgb24gdGhlIGVu dmlyb25tZW50SABQAFgAcAB4AZABAjgBAKABAKoBALgBA8gBAPgBAeIDBBgAIEE&scient=gws-wiz-serp

Note 17. <https://terrapass.com/blog/how-reduce-carbon-footprint-paper-towel/>

Note 18. Massachusetts Institute of Technology

Note 19. <https://www.dyson.com>