

Determining Which Toilet Paper is the Best:

A Feasibility Report

Prepared for
James Bates, Professor, TECM 2700

Prepared by
Trevor Davies, Marshall Mckee, Casey Winsor, Cameron Turner

November 2013

Contents

| | |
|--|-----------|
| Executive Summary | iv |
| Introduction | 1 |
| Methods of Evaluation | 1 |
| Results of the Evaluation | 2 |
| Conclusions | 3 |
| Recommendations | 3 |

Executive Summary

The market has several brands of toilet paper to choose from. Consumers buy different brands for different reasons. We set out to find the best brand of toilet paper for UNT students. We used three main brands on the market. Charmin, Quilted Northern, and Angel Soft. We developed surveys for students to rate what they think is the most important characteristic, to least important characteristic from a list of strength, absorption, and cost-per-square. We carried out three separate tests, one for each characteristic.

We recommend Quilted Northern as the best brand for UNT students. It performed the best overall. It came in first in strength and absorption. For students looking for the most value, Angel Soft is recommended because it has the lowest price-per-square.

Introduction

Toilet paper companies are always advertising the strength and absorption of their product. They often show the strength and absorption in a side-by-side comparison with an unidentified competitor's product. However, this unknown comparison does not prove to a consumer which brand is actually the best. We will conduct a test using three different brands of two-ply toilet paper to determine which product is the best. The brands we will test are Charmin, Quilted Northern, and Angel Soft. The criteria of each brand we will test are:

- Strength
- Absorption
- Cost-per-square

We chose to test these three options because, when a toilet paper company wants to highlight their product, these are the options they mention. The winner of each test will be awarded a number of points based on our audience's priorities. We asked eighteen UNT students to rank each characteristic (strength, absorption, and cost-per-square) in order of importance. Whichever brand receives the most points will be the recommended toilet paper for our audience. In this case is UNT students.

Methods

To determine the importance of each criterion, we handed out fliers to students around campus to rate each of the three criteria from 1-3, 1 being the least important and 3 being the most important. Here is an example of the flier:

| Strength | Absorption | Value (Price per Square) |
|----------|------------|--------------------------|
|----------|------------|--------------------------|

Toilet Paper

Rate each Category on a scale of 1-3. 1 being least important, 3 being most important.

Figure 1: survey example

We then tested each of the three criteria to determine the best brand. The absorption test required us to suspend one sheet of toilet paper in the air and use an eyedropper to drop water on the top the sheet. We will record the number of drops until the sheet becomes saturated and a drop of

water beads up and falls through. The second test was the strength test. This test required us to suspend one sheet of paper in the air and add 10 drops of water in the center of the square. We then placed pennies in the center of the paper until the force of the pennies caused the toilet paper to break. We will record the number of pennies it takes for each brand to break. An example of the design can be seen in figure 2.

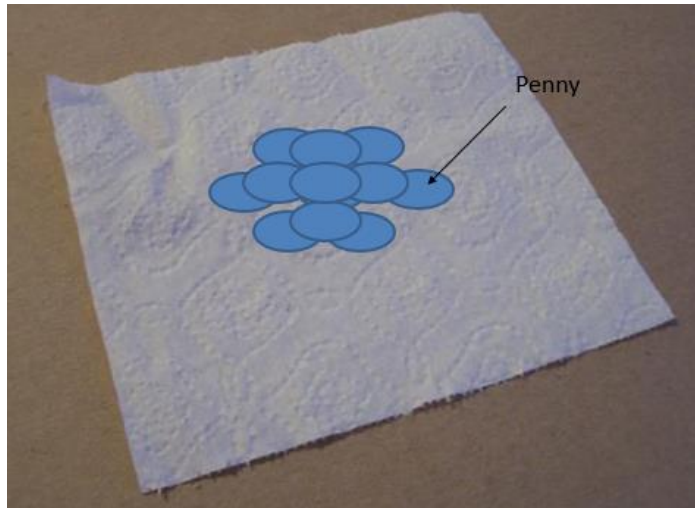


Figure 2: Example of penny placement

The final test is to record the value of each brand by determining the price per single sheet of paper. We achieved this by dividing the price of the pack of toilet paper by the number of rolls in the pack. We all used a twelve pack of toilet paper to ensure that buying in larger quantities would not skew our results. The brand who scored the highest in the most important criteria would then be determined the winner.

Results

The results of our survey are represented in Table 1.

| Categories | Strength | Absorption | Value (Price per Square) |
|--------------------|----------|------------|--------------------------|
| Total Votes | 36 | 38 | 34 |
| Weight | 2 | 3 | 1 |

Table 1

The results of our tests are represented in Table 2.

| Brand | Charmin | Quilted Northern | Angel Soft |
|------------------------|------------|------------------|------------|
| Strength | 46 pennies | 53 pennies | 8 pennies |
| Absorption | 87 drops | 93 drops | 8 drops |
| Cost-per-square | 0.24 cents | 0.23 cents | 0.20 cents |

Table 2

Conclusion

The results show that two brands are very close in all categories and one brand clearly separates itself in the strength and absorption tests. Charmin placed second in all three tests which means it does not receive any points. Quilted Northern won the strength and the absorption tests and came in second on the cost-per-square test. Angel Soft won the cost-per-square test but came in last on the strength and the absorption tests. The scores can be seen in Table 3:

| Brand | Charmin | Quilted Northern | Angel Soft |
|------------------------|---------|------------------|------------|
| Strength | 0 | 2 | 0 |
| Absorption | 0 | 3 | 0 |
| Cost-per-square | 0 | 0 | 1 |
| Total Points | 0 | 5 | 1 |

Table 3

Recommendation

Our recommendation for the best toilet paper is Quilted Northern. It easily separates itself from its competitors which can be seen in the results of our tests. It placed first in the two categories our audience said were the most important to them.