Product Life Cycle of Toothpaste

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Toothpaste is something that (hopefully) everyone uses. Oral care is just as important as any other physical health. Companies like Colgate have over 200 scientists, clinicians, and engineers looking into different research opportunities. With new technologies coming out so often, they look for ways to apply them to toothpaste. The R&D of toothpaste eventually out of the lab and into the public, where people use the product for a given amount of time and report back to companies on their experience of the toothpaste. Then the company goes back to the drawing board to assess what information was given to them. The repetition of this process leads to what is hopefully a strong product in the end. Toothpaste nowadays has many strengths; Sensodyne for example can help sensitivity in teeth, which is much easier than getting a root canal and a lot less painful. After the company has a product, the next step is to market it to the right audience.

Marketing:

Toothpaste is one of the most marketed consumer products in the world. People, especially in the US, are obsessed with the way their teeth look. On a daily basis watching TV, an individual will see many many commercials for toothpaste like Colgate and Crest. One interesting thing about the toothpaste advertising industry is that in commercials and on billboards, you will rarely see a person actually brushing their teeth with foam all around their mouth. The commercials generally consist of a person, occasionally a celebrity, doing an activity and flashing their pearly whites. The big selling point on toothpaste in Western culture is the appearance that it can give you, rather than the health benefits it provides. Many of the toothpaste brands that are advertised most have names like: Crest 3D White and Colgate Total Advanced Whitening. The big selling point on toothpaste is how it can make you look with an added bonus that dentists recommend it.

Manufacturing:

Toothpaste contains the following ingredients: binders, abrasives, sudsers, humectants, flavors, sweeteners, fluorides, tooth whiteners, a preservative, and water. Binders keep the liquid and solid ingredients from separating during storage. Sudsers reduce the surface tension of the water in the toothpaste, aiding the formation of bubbles. Humectants also keep the liquids and solids from separating by retaining the water in the toothpaste. Flavors and sweeteners make to toothpaste pleasant to use, and fluoride strengthens teeth to prevent decay. Manufacturing the toothpaste is done by measuring out large quantities of the ingredients by weight into large mixing vats. Then the ingredients are mixed until they are completely combined.

Packaging:

Toothpaste is packaged in tubes. The tubes are blown with air to ensure that they are clean and then the tube is capped. The tubes are then filled using a descending pump and are crimped at the end. The tubes are then placed into individual boxes and the boxes are packed into larger shipping boxes to be sent to warehouses or stores. Each batch of toothpaste is checked by quality control to ensure that it is mixed properly and contains the right amount of ingredients. Toothpaste tubes and boxes are designed to create the image of freshness. The tubes and boxes will often have the color schemes of blue white or green which are all “cool” or “fresh” colors. Images of “sparkles” or white light will often be placed behind logos and text which further create the image of freshness. The text on the box and tubes will also contain the actual words “fresh”, “protection”, or “whitening”. Companies will also add tags such as “pro” or “expert” to the toothpaste names in an attempt to make the product seem superior.

Sales, Distribution, and Transportation:

Based on sales volume, ten of the most trusted toothpaste brands are Colgate, Crest, Sensodyne, Arm & Hammer, Close-Up, Aim, Pepsodent, Tom’s of Main, Jason, and Peelu (1). When we look at the big picture, we can see that, overall, toothpaste sales are a big thing in our economy. In fact, Total toothpaste sales in the United States amounted to about USD 1.6 billion in 2011/2012 (2). Statistics depict toothpaste sales via different sales channels in the United States in 2011/2012 by stating that toothpastes are bought the most at food outlets (2). As for the distribution and transportation of toothpaste to be sold at Walmart, for example, shipping speed might not matter so much, and cost might be a more important concern (3). “On the other

hand, vital replacement parts for industrial machinery need to be shipped with haste to prevent the threat of significant losses (3)."

Consumer Use:

The average American will use about 389 tubes of toothpaste in his lifetime. If you say that the average person will live to around 75, then this means that the average U.S. consumer uses over 5 bottles of toothpaste a year. Given the fact that the average person will brush his teeth 2-3 times a day and that the average bottle of toothpaste only holds about 6 ounces (170 grams) of paste, this rate of consumption should be expected.

Final Disposition:

As with most other consumer products, toothpaste would ideally be easily biodegradable or recyclable, but this is not exactly the case. The outer packaging or box that the toothpaste comes generally has an easier time being recycled. So long as the cardboard packaging is not coated with a thick laminate, it can be recycled the same as any other cardboard product. On the other hand, the toothpaste tube must undergo a much more intensive process for it to be reused. The heavy plastics and laminates used in making the tube, coupled with the chemical potency of toothpaste make recycling toothpaste tubes a somewhat difficult task. For this reason, nearly one billion toothpaste tubes are sent to landfills each year. Those that are not sent to landfills undergo a process to be reused as lightweight building materials. The Alluse plant in Pernambuco, Brazil accomplished this by first crushing both the plastic toothpaste tubes and aluminum tubes and then adding a resin to the crushed materials and baking at high temperatures. This plant in particular is about to process 400 tons of waste into 40,000 new "tiles" each month. It seems in the future though that toothpaste tubes will become more easily recyclable, as Colgate (the largest toothpaste manufacturer) has pledged to make their tubes 100% recyclable within the coming years.

Sources:

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(3) http://skylergreene.hubpages.com/hub/Delivery-Warehousing-and-Transportation-in-Supply-Chain-Management
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