MARKETING OF BOTTLED WATER: BUSINESS AND ETHICAL ISSUES

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Abstract

There has been an ongoing debate relative to the safety and use of water bottles and plastics in general. This research discusses different types of plastic materials used by the bottled water industry and their possible adverse effects as well as the recycling efforts being pursued by environmentalists. There has been much media coverage including celebrities touting the healthful image of drinking bottled water as well as activists citing the harmful effects of the various types of plastics used in water bottles. The paper also analyzes marketing promotion campaigns focusing on reduction of the use of Bisphenol-A (BPA), including the re-use and processing of water bottles in manufacturing of various products such as clothing, benches, and carpets.

Cool, Healthy Image of Bottled Water

Why do people across the nation insist on spending billions of dollars a year on something that is free? It is the marketing, of course. Tap water has been proven just as safe to drink as bottled water, and in blind taste tests, people could not tell the difference between the two. Water filters are only making already clean water, cleaner, hence the word "pure" on all bottled water labels. There are many ways in which the marketing campaign for bottled water makes buying it intriguing to the consumer.

Marketing gives bottled water a cool, healthy image. It does this by putting pictures of mountains and fresh springs on labels. Also, adding the word "pure" makes the consumer feel as though they are drinking something far healthier than what they can get out of their tap.

Images of pregnant women drinking bottled water further allude to the fact that bottled water is a healthier option. Speaking of the water coming from the Andes and portraying a cool, crisp, fresh running stream of water in nature's mountains, are big marketing tactics for the bottled water industry. Different companies sell in different ways, such as Evian showing models walking around with their large bottles of water.

In the end, the marketing of bottled water with cool, crisp, fresh running water implies good health, which may contribute to the large sales in the industry (Natural Resources Defense Center, 1999).

Dangers of Plastic Bottles

Plastic bottles are made from polyethylene terephthalate (PET). They are lighter than glass and do not break if dropped on the floor. The bottles are made with PET pellets and flakes of recycled PET, which are melted into injection molds and put into pre-forms. They are then reheated, stretched and blow molded, and then shaped into a bottle. A total 10,600 bottles can be made within an hour, tested through

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various methods, including pressure and vacuum sealing. The recycled material used in these bottles, however, is new material for hygienic reasons; but finished products are fully recyclable.

Other bottles are made from polycarbonate, which may contain BPA. BPA is a manmade, industrial chemical used to make polycarbonate plastic and epoxy resins. These are used in the production of many plastic products, including reusable water bottles, some metal food cans and even dental sealants. Polycarbonate plastic bottles are almost shatterproof, and epoxy resins are used to coat the inside of almost every food/beverage can. More recently, some plastic bottles have been available that are BPA free. (Corporation, 2010)

Plastic bottles are used for many purposes: water, soda, vegetable oil, milk, juice, to name a few; as well as household cleaning products, etc. Most of these bottles will be taken by the local/town recycling; for instance, Nashua will take plastic bottles, jars and jugs #1 > #7 (The City of Nashua, 2010).

There has been a lot of information in the media about BPA. Studies have shown that exposure to BPA early in life may have long-term effects, as it has been shown to interrupt the natural hormonal messaging system. There have been other adverse health effects found in laboratory animal studies after exposure to BPA (Center, 2008).

Although a lot of people like the idea of reusing the PET #1 water bottles it is not recommended due to the chemical breakdown of the bottles, potentially causing the chemicals to leach into your beverages. Another PET chemical is DEHP (2-ethylhexyl phthalate). This is a plasticizer to make PVC plastic more pliable. According to the European Chemicals Agency (ECHA), this has been considered by EU scientists and determined to be "safe". It has been in use for over 50 years with no known case of adverse effects (JRC European Commission, 2008).

While some people reuse their bottles themselves, some give them to their children to take to daycare or to school. Tests have been done on these reused water bottles in Calgary and results have shown increased bacteria, including evidence of fecal coliforms, stating that kids' bottles are not always washed regularly nor are their hands (Press, 2003).

Other types of plastics to be aware of are plastic #3 (polyvinyl chloride), which is a hormone-disrupting chemical and synthetic carcinogen when incinerated; and plastic #6 (polystyrene) – styrene, which is likely a human carcinogen and has been shown to leach into food and drinks as well (Regina Fujan, 2009).

Health Claims/Comparison of Bottled to Tap Water

Is it good for us or is it unhealthy to drink water out of a plastic bottle? The industry claims the water in a plastic bottle is perfectly safe, while independent researchers claim they have scientific proof that bottled water can harm the body and the primary source is not any different than tap water itself.

The industry claims in its advertisements that the water in its bottles is purer than water from the taps in our homes, but fail to explain they are regulated by the FDA because it is classified as a food, while the tap water coming into your home is regulated by the stricter EPA. A table created by the Natural Resources Defense Council shows the difference between bottled water, seltzer water and tap water rules (Natural Resources, 2010).

A review on the most commonly used plastics was printed in 2010 in the *Wisconsin Rapids Tribune*. (Toffelmire, A., n.d.)

Below is a list of some of the most commonly used plastics:

No.	Type	Use Examples
#1	Polyethylene terephthalate (PET OR PETE)	Soda and water bottles
#2	High-density polyethylene (HDPE)	Detergent and shampoo bottles
#3	Polyvinyl chloride (PVC)	Cooking oil bottles, meat wrappers
#4	Low-density polyethylene (LDPE)	Grocery and sandwich bags, toilet paper
#5	Polypropylene	Yogurt cups, disposable diapers
#6	Polystyrene (PS, Styrofoam)	Disposable coffee cups and cutlery
#7	Polycarbonate	Baby bottles, reusable water bottles

Another potential hazard to drinking bottled water is in the container itself. The bottled water industry claims that the plastic used is safe and does not release any toxins or chemicals into the water. The United States government and independent studies claim that BPA can be released into the water from the plastic in the bottle itself. This chemical is known to mimic estrogen, but studies have recently found that BPA could lead to issues such as diabetes, heart disease, and liver problems (Lite, 2008).

How can an industry ethically claim that what they provide to the public consumer is purer, when they are regulated by two completely different regulatory bodies?

On every plastic bottle made, an open triangle with a number from one to seven inside is imprinted on the bottom to indicate of what type plastic the bottle is made. For most water bottles the number is one, which is safe for a one-time use, but is classified unsafe if used repeatedly or left in the heat for a long period of time. One could wonder if the water companies guarantee that their water bottles are stored at a certain temperature at all times before they reach the consumer.

In April 2008, Harvard University conducted an experiment using 77 Harvard College students to test the exposure levels of BPA. All 77 participants then began a seven-day "washout" during which they drank all cold beverages from stainless steel bottles in order to minimize BPA exposure. For the next week, participants were given two polycarbonate bottles and asked to drink all cold beverages from them.

Urine samples were taken at the end of each week-long period, and the results that came back were shocking: levels of BPA rose 69 percent after just one week of drinking out of plastic bottles.

"We found that drinking cold liquids from polycarbonate bottles for just one week increased urinary BPA levels by more than two-thirds. If you heat those bottles, as is the case with baby bottles, we would expect the levels to be considerably higher. This would be of concern since infants may be particularly susceptible to BPA's endocrine-disrupting potential," said Karin B. Michels, Associate Professor of Epidemiology at the Harvard School of Public Health and Harvard Medical School and senior author of the study.

While previous studies have found that BPA could leach from polycarbonate bottles into their contents, this study is the first to show the corresponding increase in BPA levels in humans (Datz, 2009).

Recycling/Profitability

In January of 2009, the Coca-Cola Company joined forces with the United Resource Recovery Corporation (URRC) to announce the grand opening of the world's largest plastic bottle–to-bottle recycling plant located in Spartanburg, South Carolina. In conjunction with the recycling plant opening,

Coca-Cola reported the launch of its new marketing effort, “Give it Back”, a campaign aimed at reminding consumers to recycle their bottles and cans. The president of Coca-Cola North America, Sandy Douglas, stated in a press release “Today we turn our commitments into action as we mark a key milestone in our goal to recycle and reuse 100 percent of our bottles and cans in the U.S. and ensure the sustainability of our packaging” (Company, 2009). In addition to various soda and sports drinks, Coca-Cola produces and distributes several brands of water products throughout the world, including Dasani and Vitamin Water.

A press release by the International Bottled Water Association (IBWA) in May 2010 declared that “Consumers must also be made aware of the bottled water industry’s outstanding record of environmental stewardship, protection, and sustainability…. bottled water containers are 100% recyclable. Although bottled water makes up only 1/3 of one percent of the U.S. waste stream, according to the EPA, the bottled water industry works hard on a number of fronts with recycling advocates, communities, and our beverage and food partners to increase recycling rates“ (Betsy McKay, 2007).

These statements may lead the consumer to believe that water bottle recycling efforts are very successful and obtaining very high rates of recycling as an achievable goal. However, the facts as presented by the Container Recycling Institute tell a different story. According to this organization’s website, bottled water produces up to 1.5 million tons of plastic waste each year. Americans buy an estimated 34.6 billion single-serving plastic water bottles each year and approximately 8 out of every 10 bottles will end up in a landfill or incinerator. In addition, hundreds of millions of bottles end up as roadside litter, pollute our beaches and waterways, and cause environmental issues. Discarded water bottles can take a thousand years to decompose while leaking toxins into our ground water. Bottles that are incinerated with regular trash present significant air pollution issues as toxic smoke and fumes are produced and green house gases emitted (Arnold, 2006).

One wonders why nearly 80 percent of the plastic water bottles are not being recycled and what the major water bottling companies are doing to help rectify the situation in keeping with their environmentally friendly marketing statements. One solution to the waste issue is to include a nationwide provision into existing bottle deposit bills to include the use of plastic water bottles or to enact bills in the states that currently are not mandating refundable deposits for containers. The bill allows for consumers to pay an extra charge when purchasing beverage containers. This charge is then totally or partially refunded when the container is recycled at a certified redemption center. Studies have shown significantly higher recycling rates for beverage containers in states that have a container deposit law. For example, California reported an 80 percent overall recycling rate for beer and soda containers after introducing its bottle bill. The Connecticut Department of Environmental Protection credits the bottle bill with a 5 percent to 6 percent reduction in overall waste in that state; and a report by Franklin Associates Ltd. estimated that recycling rates in New York increased after the bottle bill's passage, with aluminum cans increasing from 18 percent to 82 percent, glass one-way bottles from 5 percent to 79 percent and PET bottles from 1 percent to 57 percent (Bottle Bill Resource Guide, 2007-2010).

The passing of such laws is being met with great opposition from the beverage and retail industries, including the IBWA. Through campaign contributions, powerful lobbyists and extensive public relations, these organizations have prevented a nationwide passing of such laws (Earth911.com, 2010). The water bottle companies oppose the mandatory deposit in part because it would add to the cost of the products and, therefore, may affect the volume of sales. Furthermore, the deposit laws may draw attention to the fact that the water bottle industry is producing so much waste and is not meeting its corporate social responsibilities. While there have been some efforts on the part of some manufacturers in the bottled water industry to become more environmentally friendly by such things as decreasing the

size of the cap, using less plastic in its manufacturing and creating a smaller label, these efforts do not go far enough, and there is more that can and should be done.

Green Image of Companies Using Recycled Plastic Bottles

Although many plastic bottles — and Americans go through about 2.5 million of them every hour — end up dumped in landfills, others are recycled. For many years, plastic bottles have been recycled into lower grade plastics to help build such things as playground equipment, carpets and tires (News, Ivanhoe Broadcast, 2007).

Recycled bottles made from PET can be chemically broken down, sorted into different colors, cleaned, crushed, chopped into flakes and pressed into bales, and spun into thread and yarn. The recycled PET thread or yarn can be used alone or with other fibers to create a variety of fabrics. For many years, such items as jackets, coats, shoes, bags and hats have been created because the fabrics are very strong and durable.

New innovations and a push for "green" products in recent years have led to the development of different ways of processing fabric or new blends of fabric to create new products. These include Billabong's Eco-Supreme Suede and Wellman Inc.'s Eco-Fi (formerly known as EcoSpun).

According to the American Chemistry Council, the number of U.S. plastics recycling businesses has nearly tripled in recent years. Today, more than 1,600 businesses are involved in recycling post-consumer plastics. In 2008, the recycling of plastic bottles reached a high of 2.4 billion pounds (Postconsumer Plastic, 2009). The total pounds of post-consumer plastic bottles collected and recycled in the United States have grown every year since 1990, and bottles remain one of the most widely recycled types of plastics.

Many companies are capitalizing on the concern some consumers have regarding the need to recycle and reuse plastic bottles. One example is Enviro-Tote, Inc. of Bedford, N.H., which manufactures and markets products made from post-consumer recycled materials, including plastic bottles. For example, the company's "Bottle Bag" is made from 100 percent recycled water, soda and food containers. Enviro-Tote uses the words "natural," "organic" and "recycled" often on its website (EnviroTote, 2010). It notes that environmentally friendly materials, exclusive to Enviro-Tote Inc., are used in its E-tote line of products. It urges people to be savvy consumers and to protect the environment by purchasing its products. It states that all of its products are made in the U.S.A. and that it is a family-owned and woman-owned and operated company. It pushes its marketing message of environmental concern by noting that company owners and employees recycle on their own premises and make products as efficiently as possible so as to create as little material waste as possible. The website also notes the company's affiliation with the Fair Labor Association, again alluding to the Enviro-Tote Inc.'s fairness and concern for others. The company tries to exhibit its concern for the planet and for people with its marketing messages. (EnviroTote, 2010)

Another example of a company that touts its commitment to the environment is Clothes Made From Scrap, Inc., of Palm Coast, Florida. It makes golf shirts, T-shirts and sweatshirts using 26 percent to 50 percent recycled plastic bottles and reclaimed cotton. Its website tells consumers that every product CMFS manufactures has a direct impact on safeguarding the environment. It states that by recycling plastic, we can lower air, water and land pollution. However, it also notes that while "protecting our earth" is a priority, it doesn't believe it is more important than quality and durability (Clothes Made from Scrap.com, 2010). It encourages customers to show the world they support earth-friendly products by having CMFS put their company's name or logo on their recycled T-shirts, hats, totes, etc. The

website even has a separate Earth Day store in which the company notes that it is committed to making Earth Day every day.

CMFS is trying to appeal to a variety of consumers using a variety of marketing messages. It says it is striving to be environmentally conscious, to provide high-quality products and claims that purchasing products made from recycled plastic will help to reduce U.S. dependence on foreign oil.

The Eco-$mart Catalog sells carpet made from 100 percent recycled plastic manufactured by Peerless Carpets. Its website has the tagline "Healthy, efficient, disaster resistant products for better living" (Eco-$mart, Inc., 2007). It also notes that its carpets are stain resistant, static resistant and have low moisture absorption. It tries to target customers who are concerned about the environment and those who want a strong, durable carpet.

Amazing Recycled Products, of Denver, Colorado, distributes products made from a variety of recycled items, including plastic water bottles. Such products include benches, landscape timbers, trash receptacles, flowerpots, piggy banks, ice scrapers and dog bowls. (Amazing Recycled, 2010)

The company's mission statement reads: "The purpose of this company is to provide first the United States and second the world alternative products made from recycled materials. The process will be through the means of distribution of products manufactured by small and large companies and ultimately manufacturing needed products themselves." (Amazing Recycled, 2010)

The ethical and environmental concerns of the company are clearly expressed: "The corporation is committed to making a difference in our world for the children and the future of this world. Besides providing alternative products, the corporation will be involved in setting up foundations and funding organizations whose purpose is to assist in making our world a better place to live and to assure the future of the world." (Amazing Recycled, 2010). Founder Mary Jarrett was quoted in the *Denver Post* as saying, "We're not just here to sell products. We're here to solve environmental problems." (Cox, 1998).

Companies that use recycled plastic bottles in making their products are striving to show that they are socially responsible and care about the planet and its inhabitants. However, to remain in business, they must also make a profit, so they employ marketing strategies to encourage consumers to purchase their products. They use slogans, storylines and photos that are designed to make consumers feel good about their purchases.

Discussions and Limitations

This report offers a solid foundation for further exploration in the following areas: the image of bottled water, effective marketing campaigns and health concerns related to plastics.

The images of bottled water held by consumers and activists range from that of good health and vitality to that of overflowing landfills and leaching carcinogens. Effective marketing campaigns have been used to draw a positive picture of bottled water, but various studies citing health concerns related to plastics exposure have marred that carefully crafted image. Discovering enough pertinent facts to definitively determine whether bottled water offers the general public more good than harm, or vice versa, requires considerably more research.

The potential dangers posed by the re-use of water bottles by single or multiple users warrant further study. Additionally, the expansive marketing campaigns used by multi-billion dollar bottled water companies to attract consumers' merits strong consideration. The efficacy and accuracy of the marketing messages also deserve additional study.

The research conducted for this study clearly shows that despite the proliferation of bottled water products as well as their increasing popularity with consumers, there remains considerable debate as to the safety of such bottles and of plastics in general.

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