

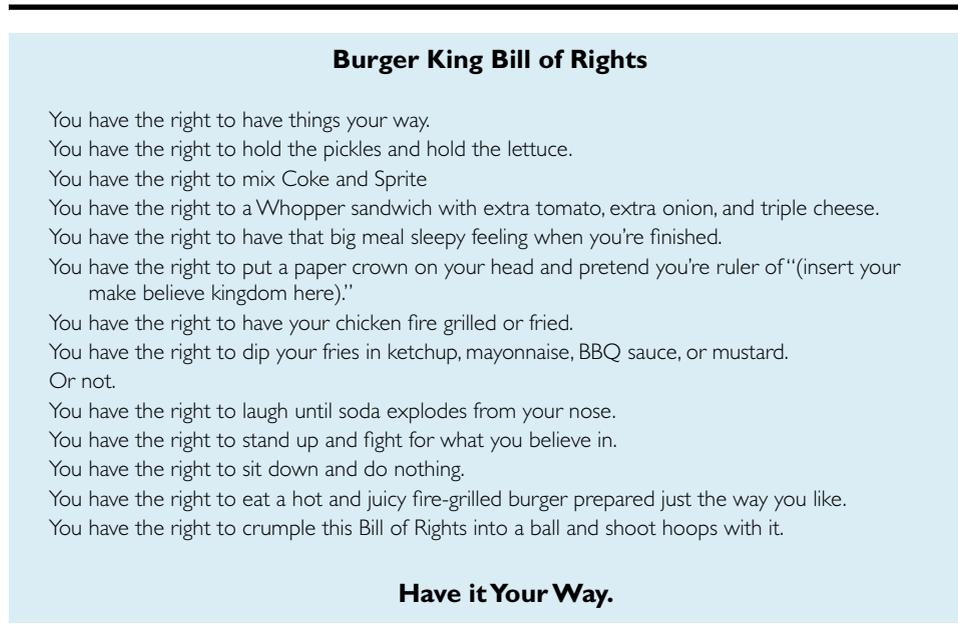
# De-Marketing Obesity

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**Y**ears of evolution and behavioral learning have hardwired many of our food preferences. We want a variety of convenient, inexpensive, tasty, safe foods that can be eaten in large quantities. Although catering to these biological interests, food companies have been accused of also contributing to the growing problem of obesity in the United States.<sup>1</sup> The marketers from these companies are torn between hungry consumers and concerned public policy officials who question whether companies should be more responsive in helping control obesity.<sup>2</sup> With their concern comes the potential threat of taxes, fines, restrictions, and legislation. The threat of being the tobacco industry of the new millennium is not a trivial fear of leading packaged goods companies and quick service restaurants.

The food industry's response to these threats appears to be evolving through three phases: denial, appealing to consumer sovereignty, and developing win-win opportunities. In the first phase, many food companies and trade associations denied their role in obesity by noting that rising obesity can also be associated with rising levels of inactivity.<sup>3</sup> The contention is that if the food industry is to be blamed for obesity, so are automobiles, cable TV, video games, remote controls, elevators, attached garages, and the Internet.

The second phase of response to obesity criticisms is a free market appeal to consumer sovereignty—let the customer decide. This often involved an emphasis on moderation and choice.<sup>4</sup> In this phase, many food companies (particularly quick service restaurants) offered to customize current offerings for their patrons (veggie burgers become hamburgers without the burger) while advocating an increase in activity. Some Taco Bell franchisees, for instance, co-promoted local fitness club memberships. The basic theme of this second phase was best articulated in the Burger King Bill of Rights that was printed on the tray liners of the restaurant chain in early 2005 (see Figure 1).

**FIGURE 1.** Burger King's Tray Liner Announces that Consumer Sovereignty Is King

The third phase of response to these allegations involves developing profitable win-win solutions to help consumers better control what they want to eat. Clearly no company would want to modify a product in a way that discourages consumers from purchasing it or consuming it. It may be in their best interest, however, to help consumers better control *how much* they consume in a single setting. Consider the indulgent “C” foods—cookies, cake, crackers, chips, and candy. Overconsuming an indulgent food can not only lead a person to gain weight, but it might also lead them to become satiated and to temporarily “burn out,” not repurchasing the food as soon as they otherwise might.<sup>5</sup> Reducing the per occasion consumption volume of a food may provide a “win-win” solution for both companies and consumers. Not only would it help consumers better

control their single occasion consumption, it could also help promote more favorable attitudes toward the brand and company.<sup>6</sup>

The win-win solutions in this third phase offer a wide range of profitable segmentation opportunities for companies. Take the notion of single-serving packaging. Although such packaging can increase production costs, the \$40 billion spent each year on diet-related

products is evidence that there is a portion-predisposed segment that would be willing to pay a premium for packaging that enabled them to eat less of a food in a single serving and to enjoy it more. For instance, results from a survey of 770 North Americans indicated that 57% of them would be willing to pay up to 15%

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more for these portion-controlled items.<sup>7</sup> Although targeting this “portion-prone” segment will not initially address the immediate needs of all consumers, it can provide the critical impetus that companies need to develop profitable win-win changes.

It is important that well-meaning critics understand that food companies are not focused on making people fat; they are focused on making money. The answer to the obesity issue is not increased regulation, but in market-based changes that help consumers develop a new appetite for healthy foods.<sup>8</sup> Innovative solutions for de-marketing obesity will be solutions that leverage the basic reasons why we eat the way we eat.

## Two Principles of Food Acquisition and Consumption

Until the beginning of the industrial age, food acquisition was a major activity for most people. The efficiency and prosperity of industrialization made it easier and more efficient for us to do our “hunting and gathering.” Food became plentiful, tasty, and relatively inexpensive. Yet two basic principles have influenced the acquisition and consumption of food across both earlier and later generations: The Law of Least Effort and the Taste-Nutrition Tradeoff.

### *The Law of Least Effort*

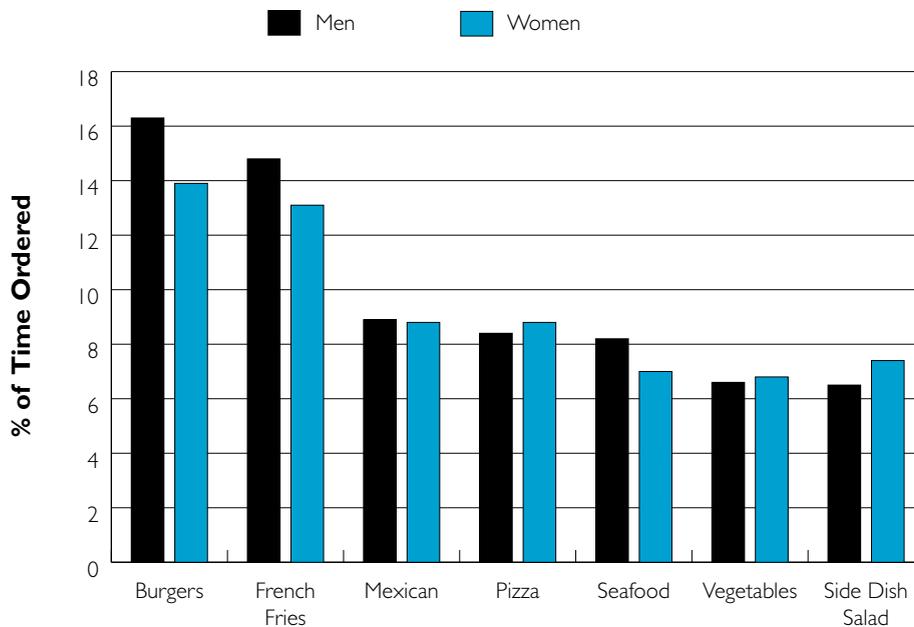
Innovations through time have generally reduced the amount of effort it took to move (e.g., the wheel), to learn (e.g., the printing press), or to communicate (e.g., the telephone). Our motivation to conserve our effort also explains why new houses have attached garages with garage door openers, why ice makers and dishwashing machines are never *de*-installed, and why driving is often preferred to walking or biking. Even where people do walk (such as in New York City) or bike (as in Amsterdam), it is often because it is still easier or requires less effort than struggling in traffic or trying to find a parking spot. The same principle applies—these people still seek greater convenience and a lower cost.

This desire to follow the path of least effort results in a number of changes to our food distribution system that are market-driven and which also make the environment fat-friendly for consumers with weak willpower. Because of this “Law of the Least Effort,” we get convenient, easy-to-open (and consume) packaging, vending machines, drive-through restaurants, and free pizza delivery. We get the chance to buy ready-to-eat foods instead of having to prepare them.

### *The Taste-Nutrition Tradeoff*

Three strong taste preferences have been genetically passed on to us over the generations. The taste for fat, salt, and sugar. Fatty foods helped our ancestors weather food shortages. Salt helped them maintain an appropriate water balance in their cells, helping avoid dehydration. Sugar and the sweetness associated with it helped them distinguish edible berries from poisonous ones.

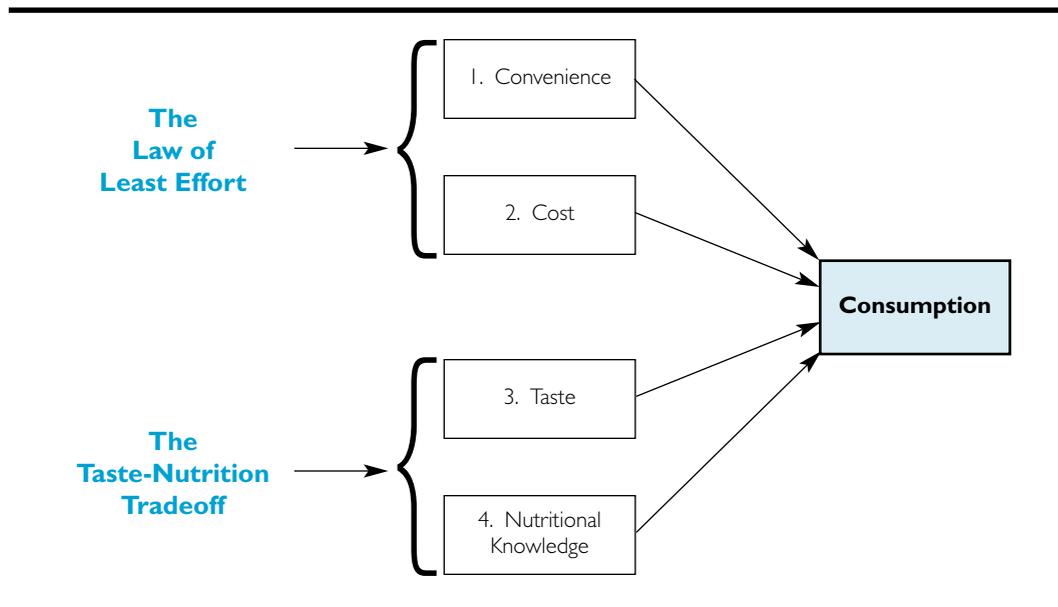
**FIGURE 2.** Burgers and Fries are Ordered Over Twice as Often as Vegetables and Salads (NPD Group 2003)



By giving us the taste for fat, sugar, and salt, our genetics led us to prefer the foods that were most likely to keep us alive. It also led us to want to eat a wide variety of foods. The more types of foods we could eat, the more we were likely to consume the wide range of unknown nutrients we needed. Our natural inclination for variety made sure we got enough of these nutrients without us needing to know the difference between Vitamin C, riboflavin, and a complex carbohydrate.

In eras of food scarcity or insecurity “good taste,” meant “good health.” The more fat, salt, and sugar our ancestors consumed (within limits), the more likely they were to survive. Today, the surplus of food in the developed world has led to perceptions that taste and health are inversely related. The more fat, salt, and sugar a food contains, the *less* healthy it seems to be perceived when food is abundant. Nevertheless, we are still hardwired to prefer the “good tasting” food and all the fat, salt, and sugar it provides.

Consider the food eaten in restaurants. Burgers, French fries, pizza, and Mexican food comprise over 50% of all food purchases (see Figure 2). This is five times the total frequency in which vegetables and side salads are ordered.<sup>9</sup> For every one salad sold at Burger King, ten Whoppers are sold. For every 100 Whoppers sold, one Veggie Burger is sold.<sup>10</sup> Salt, fat, and sugar have a genetic upper-hand when it comes to food choice. These are not ingredients we eat

**FIGURE 3.** Four Drivers of Consumption

because of clever marketing. They are ingredients we would seek out regardless of marketing.

It is important to realize that these two principles related to food acquisition and consumption have driven our hunting and gathering tendencies for generations. Knowing this gives us an idea of what is realistic to recommend and what would be ineffective because of our basic nature.

### Reversing the Drivers of Obesity

These principles of food consumption are timeless, but the way they influence us has changed as our economy has developed. The Law of Least Effort influences consumption by necessitating a balance between convenience and cost. The taste-nutrition tradeoff influences what we consume after we resolve the differences between what we want to eat and what we think we should eat (see Figure 3).

#### ***Convenience: Alter Convenience by Altering Package-Size and Portions***

The more convenient the food, the more we tend to consume. While it is good for a dieter to have a bowl of fruit on the counter, it is not good for them to have ice cream in the front of the freezer. As effort goes up, consumption goes down. For instance, secretaries who had been given 30 Hershey's kisses in glass bowls that were set on their desk ate nearly twice as many candies each day as those given 30 kisses in bowls that were placed only six feet away.<sup>11</sup>

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**TABLE I.** Four Reversible Drivers of Food Over-Consumption

<b>Consumption Drivers &amp; Win-Win Solutions</b>	<b>Relevant Research Findings</b>	<b>Potential Implications for Responsible Marketers</b>
<p>Convenience: Alter Convenience by Altering Package-Size and Portions</p>	<ul style="list-style-type: none"> <li>• When people eat convenient foods, the size and shape of packaging influences how much they believe is appropriate to eat.</li> <li>• Packages, portion sizes, and “meal deals” implicitly suggest what is an appropriate amount of food to eat.</li> <li>• 57% of the consumers in some categories are willing to pay 15% more for packaging that helps them better control how much they eat.</li> </ul>	<ul style="list-style-type: none"> <li>• Realize that a sizable segment of consumers are willing to pay a premium for package modifications that help them better control how much they eat.</li> <li>• Consider multi-packs with smaller individual servings.</li> <li>• Put smaller volume inside “implied” servings (3 cookies instead of 6).</li> <li>• Design packaging that is slightly more difficult to open, access, and eat from.</li> <li>• Angle the bottoms of boxes making them hard to simply prop up and eat from.</li> </ul>
<p>Cost: Change the Product, Not the Price</p>	<ul style="list-style-type: none"> <li>• Generally, when prices go up, consumption goes down, except for hedonic or indulgent foods</li> <li>• Increasing a food's price increases the likelihood that people look for similar options, but not necessarily healthier options.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce selected sizes, but not price.</li> <li>• Downsize portions for individual packages with the “just noticeable difference” principle in mind (e.g., “Hungry Snacker” size and “Just a Taste” size).</li> <li>• Consider premium-priced smaller packaging.</li> </ul>
<p>Taste: Change the Recipe, But Keep It Good</p>	<ul style="list-style-type: none"> <li>• The perceived taste of a food is partly suggestive. If you think it will taste good, it tends to taste good.</li> <li>• Small changes in energy density can reduce calorie levels without influencing perceived taste.</li> </ul>	<ul style="list-style-type: none"> <li>• Modify the formulation of foods to make them less energy dense, but similarly sized.</li> <li>• Decrease energy density (calorie content) by adding less caloric ingredients, such as vegetables, water, and air.</li> </ul>
<p>Knowledge: Provide Understandable Labels, But Be Realistic</p>	<ul style="list-style-type: none"> <li>• Nutritional knowledge can influence choice among some groups, but there is no compelling evidence that information and labels influence consumption volume.</li> <li>• Consumers have a confirmatory information bias (we read and believe what confirms what we want to believe and do).</li> <li>• Knowledge influences consumption most when big differences exist between perception and reality (calorie levels in popcorn, Mexican food, and so on).</li> </ul>	<ul style="list-style-type: none"> <li>• Place markers on the side of the package to indicate how much a serving size and to provide a “natural” stopping point.</li> <li>• Put indicator lines inside packages to help consumers better monitor how much they have eaten in a single serving.</li> <li>• Put messages with links on packaging to help educate consumers.</li> <li>• Consider co-promoting healthy options, recipes, or companion products on packaging.*</li> </ul>

The convenience of eating a food can also be influenced by packaging the food in a way that makes it less convenient for people to mindlessly eat without monitoring how much they have consumed. One problem with eating a large package of a product is that consumption is a continuous process wherein one continues to eat until the decision is made to stop. Because of the signal delay in our gastrointestinal system, we can easily continue to eat after we have eaten enough to fill us.<sup>12</sup> Unless we are eating very slowly, or unless something actively interrupts our consumption, this can lead us to regretfully overeat. Once a person begins eating a food, they can mindlessly continue to eat until he or she actively decides it is time to stop, or until there is a break or interruption in the process of eating.

One way to interrupt this process is to create an artificial stopping point.<sup>13</sup> This can be done, for instance, by separating a large package into several smaller sub-packages. It can also be done through the use of internal sleeves that cause a person to actively make a decision whether he or she wants to continue consuming past the point of finishing one sleeve of six cookies. It can also be done by offering individual servings that are clearly indicated by scoring portions of a bag that have been divided into single-serving or even half-serving sections.

Such interruptions in the convenience of mindlessly eating a food allow consumers a chance to more consciously reflect on whether they really want to continue eating. This was illustrated in the “Red Chip” study that we did with Dr. Paul Rozin and Andrew Geiger at the University of Pennsylvania. In the Red Chip study, we opened commercially available tubes of potato chips and dyed every 7th chip red; we took other cans and dyed every 14th chip red; and we took a last group of cans and left them plain—no red chips. We then invited 150 people in to watch a video and to enjoy this new version of chips. Those who ate from the cans where every 14th chip was red ate an average of 15 chips. Those who ate from the cans where every 7th chip was red ate an average of 10. Those eating from cans with no red chips ate 22. Besides helping people monitor how much they ate, the presence of a red chip “interrupted” the convenience of mindless eating and gave these people the chance to reconsider whether they wanted to continue eating past the benchmarks.<sup>14</sup>

### ***Cost: Change the Product, Not the Price***

Frequently, when prices increase by small amounts, consumption goes down.<sup>15</sup> While this is true with beef and potatoes, it does not always occur with the more inelastic demand functions that govern tempting, hedonic foods, such as candy, cookies, and ice cream. When the price of these hedonic foods goes up a small amount, we either buy them anyway to indulge, or we simply switch to another brand of candy, cookie, or ice cream. Large increases in food prices may increase the likelihood that people will look for other options, but it does not mean that they look for healthier options. They do not change their wants and food desires. It simply changes where they buy their French fries and candy bars.

Besides influencing how much people pay (per unit) for a product, packaging is also related to how much a person consumes of that product during a

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single consumption situation. One comprehensive set of studies examined how different size packages of 36 different food products influenced how much people poured and consumed.<sup>16</sup> In a wide variety of situations, people were asked to pour various amounts, such as how much spaghetti they would pour if making a dinner for two, or how much oil they would use if frying chicken for two. Some people were given small-size packages and others were given packages that were twice this size. Across all 36 foods, people poured 15-48% more from the larger packages. There are a number of reasons why people pour and eat less from a smaller package: It is easier to control (to not overpour), it seems more scarce and valuable, and it perceptually suggests that a smaller serving size is appropriate.<sup>17</sup>

Manufacturing smaller, premium-priced packages might effectively restrict overconsumption for a number of reasons. Although these products would not be priced competitively (per unit) compared to the larger packages, they would satisfy the person who was willing to trade-off value in order to counteract a lack of willpower.

One concern with downsizing all food packaging in a product line would be that some segments of consumers would believe they were not getting the value (the price per ounce or per unit) they desire, and they would simply defect to a competitor. One solution to this would be to offer reduced-sized packages—along with the normal-sized packages—and to simply charge a premium (per unit) price for the smaller products. In this way, both groups would be satisfied. The segment who wanted to remain with the larger (lower unit cost) package would be able to do so, and the segment who wanted to pay extra in order to combat their lack of self control could buy the more premium-priced smaller package. Coca-Cola, for instance, has recently made soft drinks available in eight-ounce cans and 13.2-ounce bottles, instead of only in the 12-ounce cans and the 20-, 32-, and 64-ounce bottles.

Changing package sizes also changes suggested or implied serving sizes.<sup>18</sup> Another way to change suggested serving sizes more directly is to rethink how large a recommended serving size should be of a particular food. Manufacturers tend to base their serving sizes on the targeted number of calories that are typically assumed as a category norm for that type of food. For instance, the amount of calories in a half-pound bag of chocolate candies is a reflection of category norms. If 240 calories are considered the norm for a single serving in that category, this might lead a manufacturer to simply calculate the serving size on the half-pound bag as being 3.25 servings. Altering the serving size—by re-labeling it as 4.0 servings—may influence consumption, particularly if combined with some of the sub-packaging ideas noted previously.

### ***Taste: Change the Recipe, But Keep It Good.***

It is widely believed that taste is “non-negotiable” when it comes to modifying the calorie and fat content of foods. Yet we must realize that our taste evaluations of foods are very suggestible. Consider packaged goods. Even small changes on a label can change a person’s taste perceptions of that food. Many

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people, for instance, do not expect soy foods to taste good. In one study, simply labeling an energy bar as containing “10 grams of soy protein” led one group of 80 people to rate the food as less tasty and as having an “unpleasant aftertaste” compared to another group of 80 people who ate the identical energy bar that was instead simply labeled as containing “10 grams of protein.” In restaurants, giving descriptive names to menu items (“Succulent Italian Seafood Filet” versus “Seafood Filet”) improved taste ratings, texture ratings, and patronage intentions compared to when these identical items had less-descriptive names.<sup>19</sup> By understanding that taste evaluations are suggestible, we can begin to realize that while *perceived* taste is not negotiable, the actual ingredients involved can be negotiable.

While taste influences *whether* a food is eaten, it only partly influences *how much* is eaten. If a food tastes good, part of what influences how much a person will eat is simply how much that person typically eats. People become accustomed to consuming a certain volume of food during the day, yet the volume they consume is somewhat independent of the calorie density of the food.<sup>20</sup> To put this differently, if a person is accustomed to eating an average of four platefuls of food in a typical day, the calorie content of those plates can vary quite a bit without a person realizing they are eating different amounts of calories.

One way to help influence the amount of calories that people eat can be to modify the formulation of these foods. If some part of the fat in a food is replaced with water, fiber filler, vegetables, or even air, it would appear to be the same volume, but its calorie content (energy density) would be lowered<sup>21</sup> and its ingredient costs could be modified and passed on to the consumer. Research regarding slightly modified and reformulated foods suggests three key conclusions. When the calorie density of a food is decreased: people appear to eat the same volume that they would usually eat; they rate themselves as equally satisfied as those who ate the full-calorie dense foods; and they do not perceive the foods as tasting worse. Indeed, most sensory tests show that consumers cannot detect small to moderate changes in a food’s taste if the energy density is reduced through the use of water, air, or vegetables.<sup>22</sup>

The failure of a myriad of “low fat” products, such as the McLean sandwich, seemingly—but erroneously—points to the folly of low-calorie foods. What needs to be realized is that these foods were typically *new* products that tasted new, were advertised as *new*, and were expected (by consumers) to be *new*. What can be done instead is to quietly and gradually alter existing products in modest ways that reduce calorie density. In this way there are no potentially negative expectations of a “healthy food” that could cause people to convince themselves they will dislike it before they actually taste it. Small modifications in formulations can lead to reduced calorie intake without actually reducing the size or volume of any product package or recommended serving size. High energy density items, such as those containing a good deal of fat, can be partly replaced (up to perhaps 20%) with low-density items (such as protein or fruits and vegetables) without people being aware of it.<sup>23</sup>

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Size ends up being one of the biggest drivers of how consumers perceive “value.” The bigger the food, the better the value. While adding water, or air, or filler may do little to the taste, it decreases calorie levels while maintaining the perception of value. Even if such efforts only reduce calorie levels by 10%, such a decrease in one’s daily calorie consumption would reverse weight gain in 85% of the population.<sup>24</sup> It is important to remember, however, that any such reduction should be gradual. This would be a pound-by-pound reduction, just as it was a pound-by-pound process by which it had been gained.

While some believe that modifying an existing food product is more difficult than launching a new one, this is not the case if the modification is small or is gradually made. Small changes are key. If perceived taste is viewed as non-negotiable by a company, any product-related changes must be gradual — “stealth modifications.”

### ***Nutritional Knowledge: Provide Understandable Labels, But Be Realistic***

For many years, one driver of how much food people consumed depended on whether they believed the food was safe to eat. Sweet berries were probably safe to eat and sour ones were not. Meat that smelled good could be eaten, but meat that smelled bad could not. Today our information comes through labeling. Yet because most foods have been pre-approved by the FDA, by meat inspectors, or by the local grocer by the time it is in front of us, we need not be as vigilant as was once necessary. It is not uncommon for consumers to ignore nutrition information or to seek out only that which confirms what they want to believe and supports what they want to do. Indeed, accurate calorie and ingredient labeling appear to have less influence on consumption than we think. Most people are typically too busy or distracted to eagerly learn the details about the foods they eat. Even when they do know the details, it does not always change their behavior.<sup>25</sup> For every 100 people who know that it is good to do sit-ups and bad to eat potato chips, most of them will forego the sit-ups but not the chips.

The belief that “Nutrition Knowledge is Power” is a bias shared by many regulatory agencies, many consumer groups, and many health practitioners. It assumes that food choices are made by mindful, involved individuals. In reality, most consumers have much more to think about than what they are eating. On a particular day, they might be thinking about how their children are doing at school, what they will do after work, or how they wish their spouse were happier with his or her job. Consumers simply have too many things to think about than to mindfully process all of the relatively less essential information to which they are exposed.<sup>26</sup> As a result, they often use rules-of-thumb. Such rules-of-thumb can get them in trouble when they underestimate the calorie content of a meal and end up “overeating” because they thought the food was healthy.

A comparison between Subway and McDonald’s restaurants illustrates this point. Subway is heralded as helping fight obesity by providing low-calorie substitutes and by having nutrition information (for some low calorie sandwiches) omnipresently printed on napkins, cups, and table tents. In contrast,

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McDonald's restaurants are often criticized for not readily providing this information. If knowledge is power, providing all that information at a Subway restaurant should make people better informed and more accurate in their estimate of how much they have eaten.

To determine this, we teamed up with Dr. Pierre Chandon, a talented marketing professor at France's INSEAD, and interviewed 250 people who had just completed eating their lunch at either a Subway or a McDonald's restaurant in five U.S. cities. We asked them a number of nutrition-related questions, along with what they ate, and how many calories they believed they ate. Despite the omnipresence of nutrition information at Subway restaurants, only 14% of those who dined there less than five minutes earlier could accurately recall any of this specific information. Despite the presence of this nutrition label-type information, this information was not utilized and the "health cue" it provided actually caused people to believe their Italian Sub with cheese, mayonnaise, and chips was a nutritious choice. Subway diners underestimated what they ate by 37% compared to 12% for those eating at McDonald's. Subway diners ended up believing they were eating many fewer calories than was actually the case. The problem is that they focused on external cues—ads, labels, spokespeople, impressions, and so on—to determine the healthfulness of the less-than-healthy mayonnaise and cheese-laden sandwich and chips they ordered.<sup>27</sup>

Misperceptions caused by external cues or signals have implications for misguided efforts to try and simplify nutrition information into an iconic form, such as red, yellow, and green stickers on food. These efforts, while well-meaning, may actually backfire if they lead consumers to overconsume the foods that are simplistically labeled as good, green, or healthy. While companies have taken some initiative in this area,<sup>28</sup> to legislate what foods should and should not be eaten would have a number of unintended, unwelcome consequences. Once the line is crossed between "good health" and "personal rights," it will become much more difficult to gain public trust for future initiatives to improve public health.<sup>29</sup>

How then can label information be more effective? One contention is that label information, such as calorie content, might be most effective if it focused on the consequences of eating a product ("you'll gain 1/8th of a pound") instead of simply the characteristics or attributes of the product itself ("this has 400 calories"). There is emerging evidence that labels focused on the consequences of eating ("eating this bag of chips is the equivalent of gaining 1/20th of a pound or the equivalent of walking 1.6 miles") may be more effective than those focused on attributes such as calories. Yet the bottom line on labeling is this: while it is important to provide information, we must be realistic. It will probably have a minimal effect on most people and a negligible effect on the rest.

## Summary

Food companies are not focused on making people fat, but on making money. If they are not profitable, their shareholders will abandon their stocks,

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fire their executives, put their employees out of work, bankrupt their suppliers, and collapse their pension plans. The first steps toward an obesity solution do not involve increased government regulation; they involve market-based changes that help consumers develop a new appetite for healthy foods.

For thousands of years, people have sought convenient, inexpensive, safe, tasty foods that they can eat in large quantities. This is exactly what food companies have offered us. Yet it is important to realize that nobody becomes obese overnight. It is estimated that 80% of the population gains weight because of a calorie excess of less than 50 calories a day.<sup>30</sup> Yet 50 extra calories a day can gradually become a big problem over the long run. Regardless of what de-marketing solutions are implemented, they will not be a “quick fix.” They will, however, be reasonable steps that can turn the tide back 50 calories at a time.

Should these changes be made quietly or with fanfare? If the fear is that calling attention to these efforts would alert consumers to issues that were previously of no interest or concern to them, they should be made quietly. In contrast, if promoting them would honestly pre-empt persecution, or if the positioning as a responsible industry leader is desired, the second option should be taken. Still, it is important to not promise more than what can be reasonably attained.<sup>31</sup> If too much is promised, and immediate effects are not seen, the effects would be frustratingly disappointing at best, and would backfire at worst.

We are at a point of development where much of the incremental improvement in our life span—and especially in our quality of life—is likely to come more from behavioral changes in our lifestyle (better nutrition and more exercise) than from new medical treatments or medications. When it comes to contributing most to the lifespan and quality of life in the next couple of generations, smart, well-intentioned marketers may be well-suited to effectively help lead this movement toward behavior change. Obesity is a good place to start.

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