

Sustainable Food and the Weight Management Program Industry: A Comparative Case Study

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Abstract:

Overconsumption of food in the US has led to skyrocketing rates of obesity and the rapid expansion of the diet industry. The demands of the food industry have also aided the creation of an industrialized agricultural system whose practices can lead to a number of environmental and social harms. In response, fast-moving consumer goods companies are acting to ensure they are sourcing foods more sustainably. Governing bodies within the field of nutritional science are also reformulating the disciplines' core principles to include ecological considerations. Sitting at the intersection between fast moving consumer goods companies and nutrition science is the weight-management industry—a sector that may be uniquely positioned to address both obesity and sustainable food sourcing concerns at once. Three companies were examined in this study: Weight Watchers, Jenny Craig, and Nutrisystem. Of these three, Jenny Craig is taking the most action regarding sustainable food sourcing, however, the company is not yet educating the public about their efforts. Overall, all three companies made little to no mention of sustainable food principles on their websites. While incorporation of sustainable foods into companies' programming could potentially provide clients with greater meal satiety, prolong membership, and capture new market trends, commonly cited barriers included cost considerations, a potentially small niche market, supply availability, lack of concrete data on health benefits, lack of concrete definitions for sustainable food, loss of mission focus, and lack of control over supply chain and co-manufacturers. However, as the sustainable food movement continues to gather strength in the US, it is recommended that these companies: continue to make an effort to co-brand or co-manufacture with companies with a strong sustainable sourcing track record; join food industry coalitions or partner with NGOs on sustainable sourcing issues; incorporate more information into their educational programming or onto product labels; build community gardens; test-market premium products or membership services; continue to test-market fresh-delivery programs; set standards for co-manufacturers to meet for sustainable sourcing; set goals or standards for internal product development and incentivize meeting them;

and finally, establish a culture that encourages environmental sustainability in general within corporate office locations.

Introduction:

This Master's Project is a response to the phenomena of food overconsumption in the United States, which has led to increased rates of obesity and encouraged the establishment of an industrial food system that can degrade the natural environment (UCS, 2008). Obesity is increasing rapidly in the US (CDC, 2011), and at the same time, so too is the interest in creating more localized, sustainable, organic, fair, and humane food systems (Walsh, 2011). Commercial weight loss programming companies could be uniquely positioned to address both issues of sustainable sourcing of food as well as improved nutritional health of the population: These companies, such as Weight Watchers, Jenny Craig, and Nutrisystem, maintain large client bases (every week 1.3 million members attend 45,000 Weight Watchers meetings) (WTW2, 2012) and execute far-reaching advertising campaigns that possess a high degree of influence across the population segment afflicted by obesity (Kilbourne, 1996; Stephens 1994; Dimensions, 2013). A number of fast-moving consumer goods companies have acted to source their products more sustainably, but little information exists on sustainable food sourcing practices within the weight management industry. The research question I will be examining is therefore as follows: What do weight management program companies communicate to the public about their sustainable food efforts, and what opportunities and barriers do weight management industry professionals believe exist for the incorporation of sustainable food concepts into their product lines and educational programming?

Background:

Obesity on the rise:

The overconsumption trends present in developing countries such as the United States are a huge impediment to the achievement of a sustainable world¹. According to the Center for Disease Control, currently over one-third of US adults are obese and the associated medical costs in 2008 were estimated at \$147 billion (CDC, 2011), effectively amounting to 10% of the healthcare budget (GlobalData WWI, 2013). Twenty years ago, no US state's obesity rate exceeded 15%, whereas today only one state has a rate less than 20% and 38 states' obesity rates are greater than 25% (Trust for America's Health, 2012). By 2015, the number of overweight and obese individuals worldwide is expected to reach 3 billion (GlobalData WWI, 2013). The plight of Americans in this regard—of too *much* food—starkly contrasts with that of the 1 billion people estimated to have too little food throughout the world. As developing countries increasingly aspire to American standards of living, this overconsumption of our food resources will lead to a strain on our already taxed food production capabilities if we do not drastically change current practices (Meadows et al, 2004).

The need to address the sustainability of our food system:

A growing population, paired with trends of increasing affluence and overconsumption has resulted in the creation of an industrialized food production system that often operates unsustainably in the developed world (Bere, 2009). Often conventional agriculture management practices degrade the natural resources they are reliant upon through: massive soil erosion and damage to soil quality; heavy water demand; water quality impairment due to excess fertilizer usage and runoff; as well as herbicide/pesticide usage that harms air, water, and soil quality,

¹ A sustainable world here is meant to be a world where our utilization of resources does not compromise the ability of future generations to utilize those resources. This is in accordance with the

endangers farm workers health, and quickly breeds pests with heightened chemical resistances (Horrigan, 2002). Further, conventional practices of monocultures can reduce local plant and animal biodiversity. The livestock sector is also responsible for about one-fifth of the total anthropogenic greenhouse gas emissions worldwide (Steinfeld, 2006), which is higher even than the transportation sector, where food production racks up additional carbon emissions because of the long distances our edibles now traverse in order to reach our refrigerators in a global society (Pretty, 2005). Finally, our fish stocks are being depleted alarmingly: in the North Atlantic, the amount of fish biomass available for consumption has shrunk by a factor of nine in the last one hundred years (Christensen, 2003).

However, many criticize more “sustainable” methods of agriculture such as organic farming (which focuses on soil conservation practices, does not employ synthetic fertilizers, and uses integrated pest and nutrient management) for being lower yield (Seufort, 2012). In a world where we must feed an estimated 9 billion people by 2050 (UNDESA, 2009), maximum yield will be necessary in order to sustain the human population. Therefore critics argue that organic farming will require additional land in order to produce the equivalent yields, resulting in further deforestation and loss of biodiversity (Seufort, 2012). In 2012, a comprehensive study published in *Nature* compared 316 organic and conventional crops (with 34 species from 62 sites) and found that on average the organic crops had 25% lower yields than the conventionally farmed crops (Seufort, 2012). That is not to say that incessantly pushing for higher yields will not degrade the environment to the point that conventional yields may also decrease. Switching from conventional to organic can sometimes take years for the land to become adequately economically productive due to the time required for the ecosystem and soil biological activity to recover, but yields will steadily grow in this case (FAO, 2012). Thus, while environmental sustainability can sometimes seem too elitist a principle, conventional agricultural practices will continue to degrade the land and damage critical ecosystem services unless they are somehow modified. The use of synthetic fertilizer applications can serve as often only a temporary solution to poor

soil health and excessive usage can damage long-term soil health and yields (Mulvaney, 2009).

While debate remains over whether conventional agricultural practices are harming our environment to the point where the future availability of our food stores will be compromised, strong evidence exists for the negative social and cultural effects of our current global food chain. For instance, the multi-billion dollar US agricultural industry is reliant upon 3 million migrant and seasonal farmworkers, and these represent one of the most economically disadvantaged populations within the country (NCFH, 2012). Farmworkers seldom have access to worker's compensation, occupational rehabilitation, or disability compensation benefits and often are housed in sub-standard conditions, if housed at all (NCFH, 2012). Farmworkers are an economic boon, however, and reducing the need for them by switching to less labor-intensive crops has negatively impacted some productive agricultural regions and decreased the amount of jobs accessible to permanent local residents (NCFH, 2012).

Today, regional diets adapted to a particular climate are also slowly being obliterated by the mass market flood of industrial and processed foods that are often sweeter, fattier, saltier, highly available, ready-to-eat, and low-cost (Drenowski, 2005). This change in our food environment is seen as one of the main factors behind rapidly increasing obesity rates (Eaton, 2002). In addition, people are leaning away from the traditional foods eaten by their ancestors in a particular region, as well as from foods that are in their most original, or "whole" form. Promotion of regionally adapted, in-season food varieties into diets can benefit the local environment, increase the amount of nutrient-rich foods received by local consumers, and maintain the cultural diversity surrounding food habits (Bere, 2009).

In order to create a more sustainable food system that is not dangerously environmentally or socially destructive Alberta Rural Sustainable Alternatives Network recommends (Alberta Rural Sustainable Alternatives Network, 2012):

1. Food comes directly or indirectly (livestock) from a sustainable, healthy soil that gives and receives its nutrients in a cycle and over time grows its food-

- producing capacity rather than losing it
2. Food production is in sync with the natural environment and supports the biodiversity on which food production directly or indirectly depends
 3. Food can be produced at local climate conditions and with the amount of water available in the area
 4. Production of food at all parts of the supply chain strives to maximize use of sun energy and minimize use of fossil fuels
 5. Food can be obtained from the wild if it is done without damaging the natural ecosystems
 6. Livestock is an indispensable part of a healthy sustainable farm environment and its production is mutually beneficial to animals and the larger ecosystems of which they are a part
 7. Food production supports the diversity of both plants and livestock and also diversity within species (different breeds and varieties)
 8. Food is grown or raised and processed locally, avoiding the costs and environmental impact of transportation. Geographically, the closer it's production is to the point of consumption, the better
 9. Food is processed without industrial ingredients, complex industrial equipment and facilities that require excessive amounts of energy to build and operate
 10. Food requires minimum levels of processing; the less processed it is the better
 11. Processing enhances food's nutritional qualities and/or preserves foods for off-season consumption
 12. Food is best if eaten in season; if it is preserved, this should be done with minimal damage to its nutritional qualities and by using renewable energy
 13. Food sustains human health; first, it must not be harmful, but even more importantly, it has to provide nutrition that will allow people to stay healthy over generations
 14. All groups involved in food production; farmers, processors, workers, business people, traders, etc. can sustain their livelihoods at the level comparable to other sectors of the society
 15. Food is produced by a very diverse and large group of local farmers and food entrepreneurs; together they form a co-operating, resilient and sustainable web of food supply
 16. Food needs to be tasty, cherished and celebrated when eaten
Food contributes to, builds and helps sustain cultures of which it is part

“Organic” does not necessarily connote to “sustainable”, however, and no official and widely accepted definition of sustainable agriculture exists (Heckman, 2005).

The food and beverage industry's move into sustainable food:

Corporate purchasing power can create far more institutional change to our food systems than the purchasing choices of a few sustainability-minded individuals at the supermarket. Many companies that have worked to abide by more sustainable food purchasing standards have also seen an improvement in their brand recognition as well as in sales. For example, the fast-food chain Chipotle has increasingly become a public champion of the environmental, social, and health benefits of eating sustainable food (Marati, 2012). Through Chipotle's "Food With Integrity" campaign the company now claims it serves more "naturally raised"² meat than all other chain restaurants (Baylis, 2012). Further, in 2010, about 40% of Chipotle's beans were organic and all the cheese was from milk produced without rBHT. Chipotle now has a goal to utilize over 10 million pounds of local produce³. While no definitive causal link can be drawn, this strategy may have created a competitive advantage for the company and helped to drive incredible growth: by December 2010, Chipotle had 1080 restaurants and \$1.8 billion in sales (Baylis, 2012). Whether their sustainable food sourcing initiatives have been a part of driving growth or not, Chipotle has certainly identified these programs and strategies as core to the success of their long-term business (Chipotle 1, 2013).

In 2010, questions about transparency of Chipotle's supply chain and the company's support for worker rights put Chipotle's reputation at risk. The company responded with a 2011 educational campaign aiming to connect emotionally with consumers, to describe the benefits of sustainable foods, and explain why Chipotle sources them. Between this effort and that of their Chipotle Cultivate Foundation they have been able to leverage their sustainability efforts as a unique marketing tool, even winning worldwide recognition for a short film on their efforts at the Cannes Film Festival in 2012 (Baylis, 2012). In an increasingly green-conscious

² Open-range, antibiotic free, with a vegetarian diet (Chipotle 3, 2013).

³ Sourced from farms within a 350-mile radius of the restaurant location the produce will be served (Chipotle 2, 2013).

market, this sustainability push could serve as a major market differentiator for Chipotle.

Many companies view sustainable sourcing of food not simply as bottom-up pressure from consumers, but also materiality risks that could threaten the viability of their business in the future and thus as items requiring real action. Of the top ten worldwide food and beverage companies listed in the Fortune 500 list, Unilever ranked 1st in 2010 for their sustainability efforts by the international sustainability consulting firm Two Tomorrows (Two Tomorrows, 2010). Standing out within Unilever's sustainability strategies are its sustainable sourcing practices, including its co-founding of initiatives such as the Marine Stewardship Council and the Roundtable on Sustainable Palm Oil as well as early support of fair trade. Unilever's "Sustainable Living Plan" includes an aspirational goal to sustainably source 100% of their agricultural raw materials by 2020. In order to reach that target, Unilever is focusing on its principal agricultural raw material groups: palm oil, paper and board, soy, tea, fruits and vegetables, cocoa, sugar, sunflower oil, rapeseed oil, and dairy. As of February 2013 its "Sustainable Living" website reported the Unilever was on schedule for reaching its 2020 goal in all but sunflower oil. The company also intends to utilize 100% cage-free eggs in all products, and reports that it is currently on-target in this area as well (Unilever, 2013).

Wal-Mart, the world's largest grocer, states on its website that because of its global scale and resources, it can play a significant role in contributing to solutions for agricultural sustainability. While Wal-Mart had announced over 39 public sustainability goals by 2010, the company realized that few of them addressed food, and has since acted to rectify that. Since 2010 the company has:

- piloted local sourcing projects in several US states;
- improved direct-sourcing programs to increase farmers' incomes;
- started and expanded training programs for farmers on best practices for soil conservation and other sustainable agricultural practices;

- begun the use of a sustainable produce assessment to help farmers identify how sustainably they are farming their land, and to serve as a standard to measure against other farms;
- collaborated with NGOs and universities to assist them in their efforts
- instituted supply chain tracking programs for crops infamous for environmental degradation such as cotton, beef, and palm oil;
- required US seafood suppliers to become third-party certified for sustainable practices;
- entered into a number of partnerships to continue to improve the sustainability of the food sources Wal-Mart utilizes (Wal-Mart, 2012).

Many of these companies have hundreds or thousands of suppliers, and so addressing supply-chain issues can be arduous. As a result, several companies are banding together in order to deal with these issues through coalitions such as the Sustainable Agriculture Initiative and AIM-PROGRESS. These entities provide a setting for drafting standards for working conditions and environmental goals for product supply chains. The coalitions also combine efforts to train suppliers, bolster community welfare, and level the commercial playing field (Two Tomorrows, 2010). Fast-moving consumer goods companies are listening to the increased demand for transparency in supply chains from their consumers as well as the risk of potential regulation. In 2010, California passed the Transparency in Supply Chains Act (State of California, 2010), which has the primary goal of eliminating human trafficking. It is likely that the push for eliminating social and environmental suffering from supply chains will continue, both from the public and the US government.

Large companies such as Chipotle, Unilever, and Wal-Mart are also beginning to create goals for healthier food components, as sustainable sourcing alone does not lead to nutritionally-sound products. For all Chipotle's efforts to source sustainably, it still serves burritos that can contain upwards of 1,300 calories—double a McDonald's Big Mac—and has been featured on a number of unhealthy

foods lists (Marati, 2012). Who then, is uniquely positioned to address the issues of obesity and sustainable food sourcing at once?

The Weight Loss Management Industry:

The overconsumption and obesity epidemic is certainly acknowledged by Americans themselves, because while the number of Americans who are obese has increased, so too has the American population's investment in the commercial diet industry⁴, which has expanded from generating revenues of \$30 billion in 1990 to \$60.9 billion in 2010 (Johanson, 2005; LaRosa, 2011). Within the diet industry, companies have emerged that combine diet literature with educational programming, membership services, specialized packaged foods, and in-person or online counseling. For the purposes of this report they shall be referred to as "commercial weight loss programs" or "weight-management companies". Marketdata analysts estimate that these commercial weight loss programming companies experienced a 3.3% growth rate in 2010 (LaRosa, 2011), and the analyst service GlobalData estimated that the weight-management industry's total revenues for fiscal 2010 were \$61 million in the US alone. GlobalData also anticipates large opportunities for growth globally due to rising obesity rates (GlobalData WWI, 2013).

Within these commercial weight-programming companies, customers are provided with a multi-prong approach to weight loss that can include menus, nutritional advice, packaged food deliveries, real-time consultations, and community or group support structures. Weight Watchers and Jenny Craig routinely rank in the top 1st and 2nd places in *US News & World Report's* "Most Effective Diets", with Weight Watchers currently ranked #1 and Jenny Craig at #2 (US News & World, 2012). Lower rankings include companies such as Nutrisystem (#18) that primarily focus on meal deliveries for their business (US News & World, 2012). Weight Watchers generated \$1.8 billion dollars in revenue at the end of the 2011

⁴ The commercial diet industry consists of: weight loss supplements, weight loss programming, specialized food packages, and diet books.

fiscal year (Weight Watchers International, 2012), Nutrisystem \$401.3 million (Businessweek.com, 2012), and Jenny Craig was acquired by Nestle in 2006 for \$600 million (Doherty, 2012).

These commercial weight loss programming chains have an incredible reach—currently, in any given week, around 1.3 million individuals attend over 45,000 Weight Watchers meetings offered around the world (WTW2, 2012), and Jenny Craig maintains over 650 locations in North America alone where they provide in-center support to clients (Jenny Craig 2, 2012). As a result, large companies such as Jenny Craig and Weight Watchers have the ability to influence individuals' education surrounding food and overconsumption on a far-reaching scale.

Weight Watchers International:

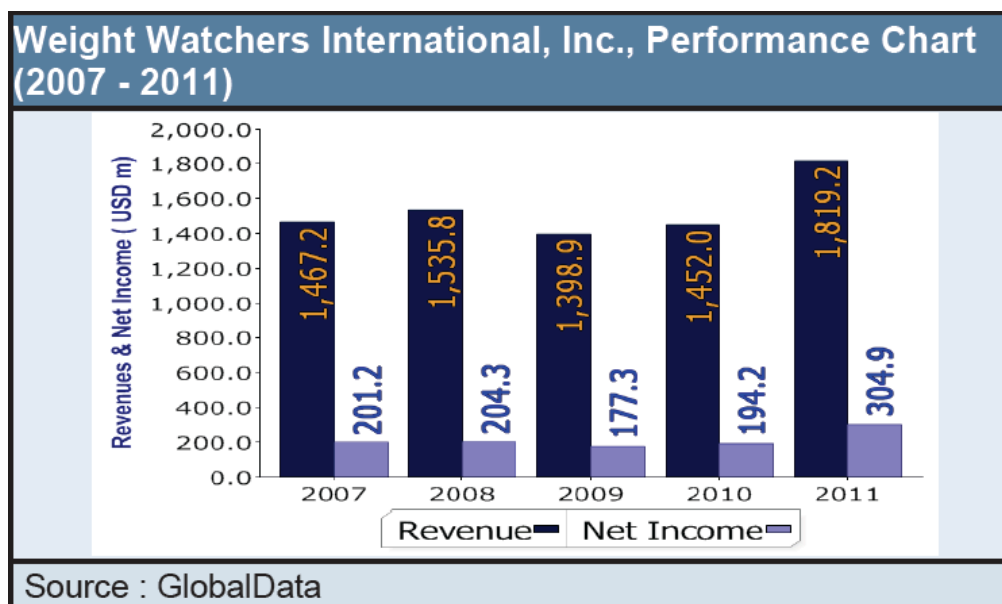
Weight Watchers International Inc. (WWI) is a publicly traded company that operates globally through both owned and franchise services and maintains approximately 28,000 employees. WWI offers a large array of publications, products⁵, and programs for clients who desire assistance with weight management. Revenues are generated primarily through Meetings fees, in-Meeting product sales, internet and licensing, and franchise royalties (GlobalData WWI, 2013). 77.8% of revenue for the fiscal year ending in December 2011 was generated from meetings and products, and 22.2% of revenue from the same period was from WWI's online WeightWatchers.com business. WeightWatchers.com had roughly one million active Weight Watchers online subscribers in fiscal year 2010, and online plans provide customers with interactive, personalized tools that enable clients to track their weight-management plan over the Internet (GlobalData WWI, 2013).

WWI's North American region accounted for 69.3% of total revenue for the fiscal year ending December 2011, followed by Continental Europe

⁵ WWI products include: bars, snacks, POINTS value guides, cookbooks, Weight Watchers magazines and POINTS calculator tools for weight management (GlobalData WWI, 2013).

(12.7%), the United Kingdom (10.6%), and Australia, New Zealand and other (7.6%) (GlobalData WWI, 2013). As of the end of fiscal year 2011, WWI is in an excellent financial position with reported revenues of \$1,819.16 million. This amounts to an increase of 25.28% over 2010. WWI's operating profit also increased 39.96% from 2010 to 2011's December fiscal year end, and the net profit increased 56.96% in the same period. WWI's performance over the last 5 years has also been strong (GlobalData WWI, 2013).

Figure 1: Weight Watchers International, Inc. Performance Chart



Key to the Weight Watchers' business model is their educational programming and support framework. The company uses of a system of assigning point values to food in order to ensure that clients choose healthy, filling foods. Their *PointsPlus* program was launched in November of 2010, and this newer system assigns each food item a "Points" number based on its protein, carbohydrate, fat, fiber, and calorie content (Haupt, 2013). Each client, or "member", also receives a personalized Points allotment per day based on his or her gender, weight, height, and age. Nutrient-dense foods that provide longer-lasting satiety earn lower Points values than more processed food items, however, the client can ultimately eat whatever they desire—the goal is to stay within their personalized Points allotment

each day. Weight Watchers lists the Points values of over 40,000 foods on their website, with fruits and vegetables carrying zero point values. The Weight Watchers website also offers hundreds of recipes that utilize the Points value system for the ingredients in order to help their members better integrate the system into their lives (Haupt, 2013).

Besides the *PointsPlus* system, Weight Watchers also offers comprehensive support systems to their members in the form of online groups as well as in-person group meetings. On any given week, about 45,000 support group meetings are held throughout the world by Weight Watchers for their members (GlobalData WWI, 2013). In-person meetings involve the sharing of weight-loss tips, recipes, and personal experiences. They also host confidential weigh-ins at each meeting for each member in order to track their progress. Additional online tools include food diaries, Points trackers, community blogs, a science center with weight-loss articles, and a challenge center where members and WWI staff can set forth activities or goals for members to try to accomplish (Haupt, 2013) (GlobalData WWI, 2013).

Jenny Craig:

Jenny Craig, Inc. (JC) is a privately held and fully owned subsidiary of Nestlé and is a US-based weight-management service provider. JC operates over 650 company-owned and franchised centers in the United States, Canada, Australia, New Zealand and Puerto Rico (Jenny Craig 2, 2012). The company provides services for more than 150,000 individuals on a weekly basis (InfoUSA, 2013). These services include the home delivery, or in-center sales of their pre-packaged *Jenny's Cuisine* meals⁶, as well as telephone and in-center one-on-one consultation services. JC centers also provide a variety of videos, cookbooks, and exercise accessories for their clientele (GlobalData JC, 2013). New clients are paired with a JC consultant upon signing up for services and are provided weight loss advice via a weekly in-

⁶ Nutrisystem provides more than 80 varieties of breakfast, lunch, dinner, and snack items to choose from.

center or telephone meeting as well as a personalized program (Jenny Craig 1, 2012).

Recently Jenny Craig has advertised the results of a clinical study that demonstrates successful weight loss through use of their programming (Rock, 2010). JC also integrates concepts from the Volumetrics Approach in their educational programming and development of food products. The Volumetrics Approach was created from the research of Barbara Rolls, a professor of nutritional sciences at Pennsylvania University and is designed to enhance feelings of fullness and satiety with fewer calories by choosing foods with high water, fiber, and protein content and that are low in fat (Jenny Craig 3, 2013) (Rolls, 2005). Jenny Craig has also partnered with the American Heart Association to support the organization's goal of improving American's cardiovascular health by 20% by 2020⁷ (JC Media, 2012).

Jenny Craig is not a publicly traded company, and thus its financial information is not readily available. However, according to JC's Director of Product Development, Rhondi Shigemura-Webster, JC saw growth from 2008-2010, 2011 was flat, and in 2012 JC experienced a downturn in business (Shigemura).

Nutrisystem:

Nutrisystem, Inc. (NS) is a publicly traded, US-based company specializing in weight loss programs for men, women, seniors, and individuals with Type II diabetes. Nutrisystem employs over 73 weight loss counselors, 199 sales agents, and 90 customer service representatives (GlobalData NS, 2013). Nutrisystem's weight-management offerings include a pre-packaged food program, online tools, and counseling services. Trained counselors are available to answer questions and make recommendations to customers; however, the bulk of Nutrisystem's programming is concentrated around its pre-packaged meals. Around 130 meal varieties are

⁷ To be accomplished via weight-management through JC's programming as well as by encouraging clients to exercise more and to participate in the American Health Associations' fundraising walks.

available and are engineered to include low Glycemic Index⁸ items (GlobalData NS, 2013).

At the end of Nutrisystem's fiscal year for 2011, food items made up 99% of the company's total revenues (GlobalData NS, 2013). Customers can purchase monthly food packages containing fresh-frozen and shelf-stable meal items with 28 days of breakfast, lunch, dinner, and dessert. Customers are to supplement the meals with fruit, salad, vegetables, dairy, and low-glycemic carbohydrate items. There are also transitional programs, such as the "Flex", which slowly wean the customer off the pre-packaged meals and increase their responsibility for grocery shopping and food preparation, as guided by Nutrisystem. These programs include recipes and portion control tools. Online interactive tools and phone tools involve a "Mindset Makeover" guide for behavior modification around food (GlobalData NS, 2013).

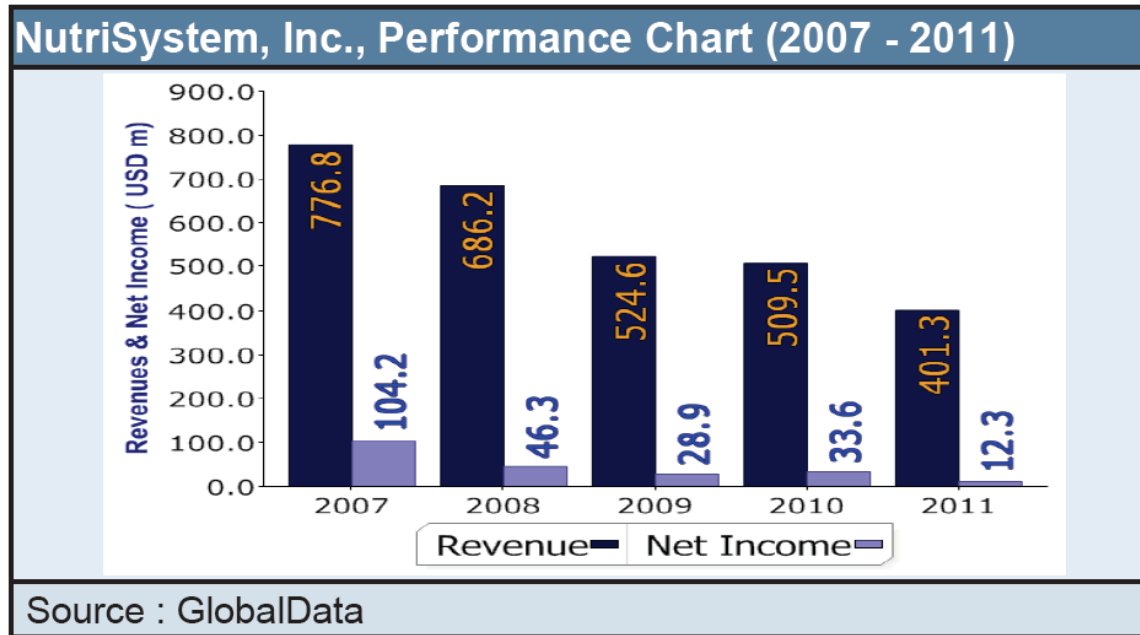
In May 2012, the American Diabetes Association named Nutrisystem a Strategic Partner for its commitment to fight diabetes, and in June 2012, the company announced that a new clinical study had demonstrated reduced glycemic variability in individuals utilizing Nutrisystem's Type II diabetes program (GlobalData NS, 2013).

Nutrisystem has taken some significant hits recently: At the end of fiscal year 2011 revenue had decreased to \$401.34m from \$509.51m in 2010, with an operating income dive from \$53.22m \$19.13m over the same period (a decrease of 64.05%), and thus a decrease of net income to \$12.26m in 2011 from \$33.65m in 2010. An additional decreasing trend in operating margin indicates that operating expenses are growing at a higher rate than revenue (4.76% at the end of 2011 as

⁸ "The glycemic index (GI) is a ranking of carbohydrates on a scale from 0 to 100 according to the extent to which they raise blood sugar levels after eating. Foods with a high GI are those which are rapidly digested and absorbed and result in marked fluctuations in blood sugar levels. Low-GI foods, by virtue of their slow digestion and absorption, produce gradual rises in blood sugar and insulin levels, and have proven benefits for health. Low GI diets have been shown to improve both glucose and lipid levels in people with diabetes (type 1 and type 2). They have benefits for weight control because they help control appetite and delay hunger. Low GI diets also reduce insulin levels and insulin resistance" (University of Sydney, 2013).

compared to 10.44% for fiscal 2010) (GlobalData NS, 2013). These trends are not unique to one fiscal year, as can be seen in Figure 2.

Figure 2: Nutrisystem, Inc., Performance Chart



Trends in the industry:

Within the commercial weight loss programming industry, brand perception and a focused marketing strategy are keys to success (GlobalData WWI, 2013). All three companies—Weight Watchers, Jenny Craig, and Nutrisystem—utilize celebrity spokesmen and women who have reached their weight loss goals through the company’s programming in order to market their respective systems as successful⁹. All three companies also feature client success stories in order to demonstrate the possible results achievable through their programming and services. Recently, all three companies have been advertising the results of clinical trials that prove the efficacy of their programming, and emphasize their integration of innovations in nutritional science into their systems and food products (e.g. The Volumetrics

⁹ WWI has contracts with Jennifer Hudson and Jessica Simpson. JC has used Mariah Carey, and Nutrisystem has used Marie Osmond and Terry Bradshaw.

approach, Glycemic-Index). NS and JC have also entered into strategic partnerships with well-established non-governmental institutions.¹⁰

The weight-management industry as a whole is highly competitive. WWI, JC, and NS must not only combat for market space with other weight loss programming companies such as Medifast and Adkins, but also with other products and services such as:

- Self-help products including: weight-management regimens, books, tapes, magazines;
- Dietary/nutritional supplements;
- Meal replacement products (typically bars and shakes);
- Pharmaceutical products such as appetite suppressants and metabolism boosters;
- Internet weight-management approaches or new diet plans;
- Weight-control services provided by doctors, nutritionists and dieticians;
- Health and wellness clubs (including gyms); and
- Surgical procedures (GlobalData NS, 2013).

Strong competitors can emerge from any of these areas to cut into WWI, JC, or NS's market segment, especially as new methods of weight-management or products are developed and marketed (GlobalData NS, 2013). Scientific advances in pharmaceuticals for weight loss or innovations in food technology (such as fat or sugar substitutes) could also harm the weight-management programming companies' competitive edge. Staying on top of current trends as well as researching, designing, and developing new technologies, food products, and programming to fit into this rapidly changing landscape is imperative for future success within the industry.

According to Marketdata Enterprises'¹¹ Research Director John LaRosa, the key to strong growth for the weight-management programming industry will be to

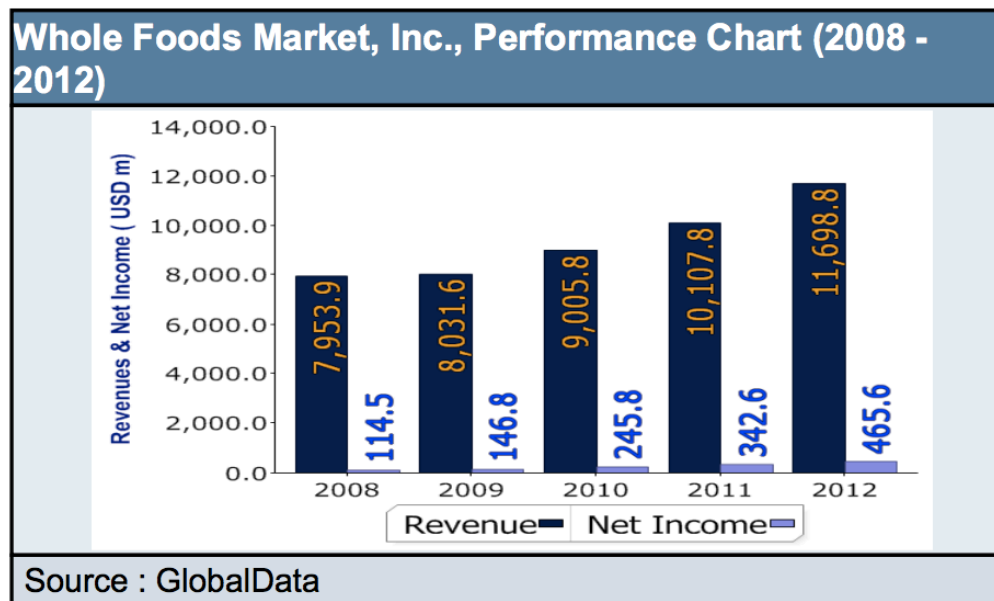
¹⁰ American Health Association and the American Diabetes Association

¹¹ Marketdata Enterprises, Inc. is a market research firm that has studied and produced reports on the weight loss industry since 1989 (Marketdata, 2012).

transition from the “mass market to non-traditional distribution channels and more custom programming” (Marketdata, 2012). LaRosa notes that health mini-clinics are appearing at drug stores chains, supermarkets, and big box mass merchants that increasingly deal in weight loss, and estimates the number of these clinics will reach 2,700 by 2016. These clinics are already set up to provide some health services, such as Flu shots, however, there are typically peak seasons for these services. Thus, selling weight loss programming could result in a steadier stream of business for these clinics (Marketdata, 2012). Even Whole Foods has recently launched a “Wellness Clubs” program out of several of their grocery stores aimed at helping customer’s reach a healthy weight through meal plans, nutrition, and exercise education (Whole Foods Market, 2013).

Consumer demand for “green” products and sustainable food:

Sustainably sourced foods that are perceived as more “natural” or “whole” can be marketing gold. For example, organic and natural grocery retailer Whole Foods has maintained strong growth since 2009, with the net profit increasing almost 36% from 2011 to 2012 (see Figure 3) (GlobalData WF, 2013).

Figure 3. Whole Foods Market, Inc., Performance Chart

Whole Foods stock also outperformed Wal-Mart, Tesco, Costco and Sainsbury's in 2012, generating large returns over that year as well as in the previous five (Godelnik, 2012). While Whole Foods has been criticized for a lack of concrete food sustainability goals, sustainable sourcing of food is stated as one of their core values, is visibly marketed on many of the products it carries, and the concept sells extremely well. This consumer demand for sustainable food is backed by other evidence: For example, the number of farmers' markets has skyrocketed from 1,755 registered with the USDA in 1994 to 7,864 at the end of 2012 (USDA, 2013). And according to the Organic Trade Association, a 2011 survey revealed that 78% of American families are buying organic foods. In 2010, total U.S. organic sales of both food and non-food products were \$28.682 billion, an increase of 9.7% from 2009. The land dedicated to organic farming is also steadily increasing (OTA, 2011).

Linking nutrition to sustainable food:

In order to fulfill their promise to the consumer, commercial weight-management companies must be on the cutting edge of nutrition science. And on the

cutting edge of nutritional science is the realization that nutrition must go hand-in-hand with sustainable food systems. The Academy of Nutrition & Dietetics (AN&D)¹² published an official position paper on this topic in June of 2007 stressing the importance of dietitians' support for ecologically sustainable food systems.¹³ The report states that: "wise food purchases and food management decisions entails understanding the external costs of food production and foodservice and how these external costs affect food system sustainability" (ADA, 2007). The report emphasizes that dietitians have an obligation to support sustainable agriculture and can do so via client food guidance and helping to create localized, community food systems that safeguard natural resources (ADA, 2007). Figure 4 displays the Academy of Nutrition and Dietetics' list of recommendations for the direction that registered dietitians should provide to clients regarding sustainable food systems. For the full list, refer to Appendix item B.

Figure 4 (ADA, 2007):

Dietary Guidance and Community Nutrition

- Encourage dietary variety among and within food groups and consumption of heirloom varieties.
- Encourage consumption of food produced with fewer agricultural inputs (eg, certified organic, grass-fed or range-fed meats, pastured poultry).
- Encourage the consumption of locally produced foods through farm stands, farmers' markets, food cooperatives, and community supported farms.
- Work to improve access to locally produced foods.
- Get involved in a buy-local campaign.
- Encourage connections between local producers and local institutions.
- Encourage consumption of fresh or minimally processed foods.
- Encourage consumption of protein from plant sources.
- Encourage economic food purchasing that also reduces packaging waste.

¹² Formerly The American Dietitians' Association.

¹³ The AN&D defined 'food system' as "the process of food production, transformation, distribution, access, and consumption" (ADA, 2007).

In addition to the AN&D's recommendations, a worldwide movement is building in the field of nutrition science for a new definition, principles, and conceptual framework that will include understanding and working toward the creation of sustainable food systems (Cannon, 2006). In 2001, a sequence of international scholarly meetings took place at the birthplace of nutrition as a biological science at the University of Giessen in Germany. The motivation for these meetings was to reevaluate the philosophy of nutrition. This resulted in the establishment of the Giessen Declaration in 2005, which redefined nutritional science as "the study of food systems, foods and drinks, and their nutrients and other constituents; and of their interactions within and between all relevant biological, social and environmental systems" (Giessen, 2005). The Declaration also urged the field of nutritional science to become more concerned with the ecological health of the planet as well as the support of sustainable food systems (Giessen, 2005). Following the Giessen Declaration, the New Nutrition Science project was formed through the collaboration of the International Union of Nutritional Sciences and the World Health Policy Forum, with its central principles based off of the conclusions of the Declaration. Namely, it will work to ensure that the field of nutritional science begins to incorporate more social and environmental aspects in addition to biological considerations (Cannon, 2006).

Since then, a number of articles have been published in major peer-reviewed health journals making the argument for the link between planetary health, human wellbeing, and nutrition. These demonstrate how nutrition is dependent upon variety in the diet—and thus, conservation of biodiversity—and also upon fresh, local, seasonal foods in order to capture maximum nutritional health benefits, thus making the case for increased support for sustainable agriculture (Wahlquist, 2005). Scholars from the New Nutrition Science project recommend the following (Leitzmann, 2005)(Koerber, 2004):

1. Enjoy your food.
2. Choose foods of plant origin.
3. Select minimally processed foods.
4. Favor organic foods.

5. Prefer regional and seasonal foods.
6. Purchase environment-benign packaged foods.
7. Choose fairly traded foods.

Project Focus:

While the weight loss programming industry may be uniquely positioned to simultaneously address the obesity epidemic and the fostering of a sustainable food system, it is clear that a decision to move in this direction must positively impact companies' bottom lines and consumer perceptions. However, intense competition from multiple players within the industry demands cutting-edge innovation and adaptation. With pressure across the business realm and from the consumer base to be increasingly green, have companies in this sector identified becoming proponents of sustainable food systems as a market differentiator? For companies whose business is tied to their ability to deliver the healthiest food options possible and to educate their clients about the most recent innovations in nutrition science, it appears that integrating more sustainable sourcing of food into their purchasing and educational programming could be not only an advantageous next step, but one that is necessary for future business viability.

Thus, I set out to answer the research question:

What do weight-management program companies communicate to the public about their sustainable food efforts, and what opportunities and barriers do weight-management industry professionals believe exist for the incorporation of sustainable food concepts into their product lines and educational programming?

Methods:

This project took the form of an exploratory, collective case study. The case study is a methodological tool for trying to understand complex social phenomena

(Yin, 2009). It involves researching an issue via one or more cases within a bounded system over time through in-depth data collection consisting of multiple sources of information (Creswell, 2007). My research was confined to the study of three weight-management industry companies, thus bounding it within a system, and was conducted over the period of approximately one year from March 2012 to March 2013. My project employs a collective, or multiple case study approach in order to show several perspectives on companies within the weight-management industry (Creswell, 2007). The project is an exploratory case study in that it seeks to discover information and trends, but not necessarily to explain them or answer “why” questions (Yin, 2009).

I have chosen to focus on Weight Watchers, Jenny Craig, and Nutrisystem due to the programming, support, and educational aspects of their systems. Each maintains the following characteristics: 1) pre-packaged meal items sold under the company logo, 2) weight loss counseling by a company representative (either in-person or online) and an emphasis on support, 3) educational programming on nutrition and weight loss, and 4) online community forums. Biggest Loser Diet does not yet have the personalized counseling component, and its support system is unique in that it centers around the TV show, *Biggest Loser*. All three companies were also ranked in the top twenty of *US News & World Report's* “Most Effective Diets”, with Weight Watchers ranked #1, Jenny Craig at #2, and Nutrisystem at #18. (US News & World, 2012). See Appendix item C for the full rankings.

Originally, I had chosen to focus only on Weight Watchers and Jenny Craig, but due to the low response received from Weight Watchers to interview requests, I felt that my comparative case study would be stronger through adding a third case, Nutrisystem, where I was able to establish contact with a Nutrisystem employee with in-depth knowledge of the company.

Literature Review:

A good case study requires a thorough literature review (Yin, 2009), and so I performed an extensive literature review of the commercial weight loss programming industry, as well as researched the link between sustainable food and health, trends in consumer demand for sustainable food products, and sustainability efforts within the larger food and beverage industry.

Material Content Collection:

I performed a content collection for the websites of Jenny Craig, Weight Watchers at two separate time markers, and on Nutrisystem only once. Nutrisystem was added to my comparative case study after I had completed the first round of content analyses on the websites of Jenny Craig and Weight Watchers. By completing my second content analysis of the JC and WWI websites, I was able to determine that both had changed very little over the few months between data collection dates. Thus, I determined that a single data collection on Nutrisystem's website would be adequate and comparable to my collections of JC and WWI data.

The website content collection I performed was greatly aided by the program NVivo, which allows the researcher to capture screenshots of webpages in the form of PDF documents, and can store these items for later use. The purpose of collecting the company website pages accessible to the public was to determine the degree to which the three companies were discussing sustainable food principles and using them within their products and educational programming. Therefore, I only utilized webpages that were generated by the companies themselves and excluded blog posts generated by customers. Further, the content collection was restricted to webpages a potential customer had access to. Membership access webpages were excluded. I captured PDFs of 1, 441 total webpages from the three companies over the two collection periods.

For each company's webpages I created an organizational node structure that designated each page as belonging to a certain company and as either the first or second round of collection (for WWI and JC).

Interviews:

A core component of my research involved interviews. For this purpose I chose three subject populations:

- 1) Employees, support group leaders, weight-management professionals at Weight Watchers, Jenny Craig, and Nutrisystem;
- 2) certified dietitians outside of the weight-management industry; and
- 3) sustainable food scholars or experts.

After receiving approval from the Duke IRB to interview individuals, I researched appropriate candidates for each category and contacted them by phone or email. Each group was asked a separate set of questions pertaining to the industry and their professions, rather than their personal experiences.

While I was able to access nutritionists and sustainable food experts outside of the weight-management industry, accessing individuals within Weight Watchers, Jenny Craig, and Nutrisystem whom would discuss their business with a researcher proved extremely difficult. Ultimately, Weight Watchers was wholly unresponsive, whereas at Jenny Craig I was able to gather data from three separate individuals: a dietitian and program developer, a consultant, and the Director of Product Development. At Nutrisystem I was able to speak with their Senior Vice President and Chief Supply Chain Officer.

One limitation to acquiring interviews may have been my interview-request approach. I found that I had initially approached each company asking if they would speak with me on behalf on my research project, which often garnered little response. However, once I framed my request to more positively emphasize that I thought my research topic was a win-win concept for the company to explore, I was able to receive more of a response from both Jenny Craig and Nutrisystem.

I interviewed three registered dietitians within the Duke Health system, one of which was the Director of Nutrition for Duke University. I am also including some feedback from the dietitian and consultant I received responses from at Jenny Craig. In addition to these health professionals, I interviewed a published, sustainable food scholar as well as an employee of Bon Appetit, the sustainably sourcing, farm-to-fork catering company utilized by Duke University for its food services. Finally, I interviewed the Director of Food and Nutrition services at UNC Hospital. Ultimately, I determined that the catering company's sourcing system and that of the hospital were too dissimilar to the weight-management industry's systems in order to be included in my analysis. The dietitians and sustainable food experts were asked if sustainable food principles could have a place within the weight loss management industry.

Analysis:

Materials Content:

Once each company's website pages were downloaded into NVivo, I performed several word search queries. The primary purpose of the web content analysis was to gauge whether sustainable food concepts were present in any of the three companies' online marketing materials. Thus, in order to identify the presence of sustainable food principles within the company websites, I selected a number of search terms that correlate with sustainable food. These were:

- sustainable food
- organic
- seasonal
- whole food
- local food
- pesticides

For each text query search I specified a variety of stem words and other terms to be included. For example, for the 'local food' text query search I included terms such as 'CSA', 'farmer's market', 'local produce', 'farm', and 'local foods' to include within the search parameters.

I also performed word frequency queries to determine the top 20 words found on each website (see Appendices D-F), and to create a word cloud of the top 100.

Interviews:

After completion of the interviews, I loaded the written notes and transcripts from the sessions into NVivo and utilized their coding system to track themes.

Results:

Materials Content (Company Webpages):

Text Frequency Search:

There were only small differences in the Jenny Craig and Weight Watchers' websites between my first and second phases of materials collection. Thus, I have only included my results from the second phase of materials collection. Figure 5 lists the number of times the text search query terms were referenced in the webpages for each company.¹⁴ Green coloring indicates relatively high numbers of references, yellow indicates the middle range, and red indicates lower numbers of references. As exhibited by the table, organic foods were the most referenced, but only by Weight Watchers, and overall all three websites had sparse mentions of sustainable, local foods. These references mostly came from a few articles on the Jenny Craig and

¹⁴ The number of times a word or phrase is referenced on the webpages is noted on the table, NOT the number of individual webpages. For example, many of the references for 'organic' were from the same article on a Weight Watchers webpage.

Weight Watchers websites dealing with farmers markets. However, seasonal food did have a stronger presence, and in a wider variety of individual webpages. Overall, sustainable food concepts were minimal to non-existent within the 1, 441 webpages examined from the three company websites.

Figure 5. Materials Content Results:

Search Term	Jenny Craig #2	Nutrisystem	Weight Watchers #2
local food	3	0	12
organic	2	1	47
pesticides	2	0	6
seasonal	22	0	25
sustainable food	0	0	2
whole foods	2	0	2

Word Tree:

The Word Tree in Figure 6 also demonstrates that the use of the word “sustainable” was primarily used to refer to weight loss. The Word Tree lists in descending order the most frequent word combinations linked to the word “sustainable” within the three companies’ webpages.

Figure 6. Word Tree Demonstrating the Use of the Word “Sustainable”



Word Frequency Search:

A word cloud of the 100 most frequent words from each website are shown in Figures 7, 8, and 9, with a ranked list of the top 20 in the Appendix (JC and WWI are from the second collection period). None of the top words listed can clearly be connected to sustainable food.

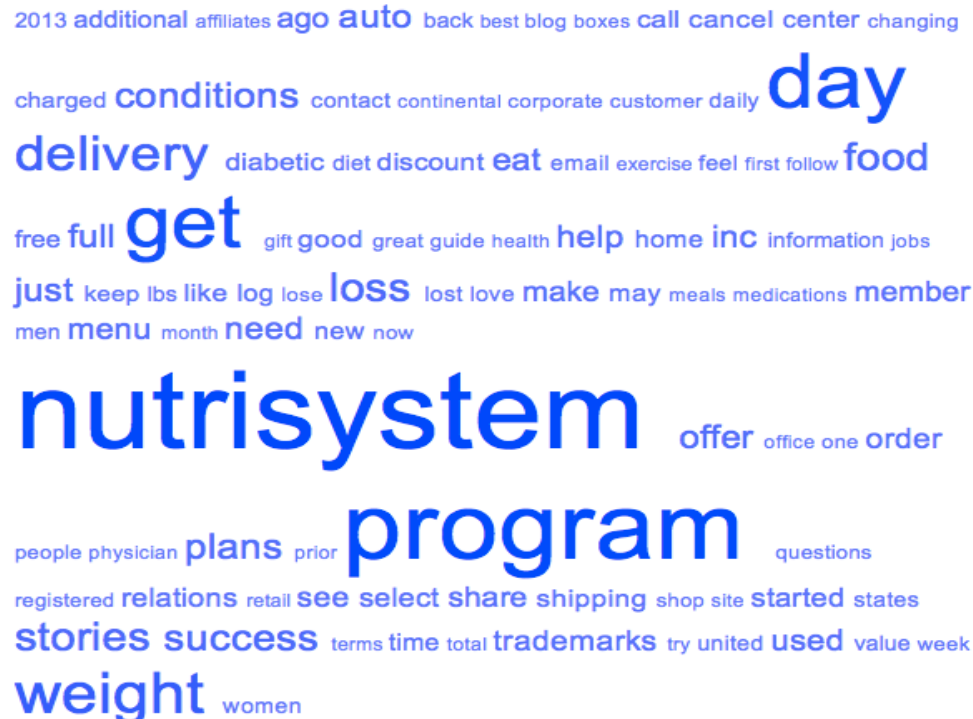
Figure 7. Weight Watchers Word Cloud:

2009 2012 activity advertise also body calories category change com **comments**
community conditions cooks **days eats** entire even exercise family fats feel **finds** fitting
foods friends gain **getting** goods greatly **health** healthy **helps** homes inc
international invited **just** know last leave life **likes** little **log** looks losing **loss** lost
lovingly **making** may **meetings** much **needs** new **now** obesity **one** people physics
plans points **pointsplus** posts pounds **programs** recipes **register** requirements research
rights room **science** sees **site** starts story study subscribers **success** system taking terms
think timing trademarks trying two **using** values want **watchers** ways weeks
weights weightwatchers wellness works year

Figure 8. Jenny Craig Word Cloud:



Figure 9. Nutrisystem Word Cloud:



Dietitian and Sustainable Food Scholar/Expert Interviews:

Dietitians and sustainable food scholars were asked to discuss their opinions on the question: What opportunities and barriers exist for the incorporation of sustainable food concepts into the product lines and educational programming of the weight-management industry? Dietitians responded by discussing the pros and cons of integrating sustainable foods into weight-management companies systems.

Pros and Opportunities:

Seasonal, regional (local) foods:

In our current food system, local varieties are largely ignored in favor of the few crop species that can be found year-round at the supermarket (Alphin). Encouraging people to eat seasonally introduces more diversity into the diet (Alphin) and also decreases the amount of time from when the fruit or vegetable is harvested to the grocery store shelf (Alphin, Apadula, Granville). Due to the requisite long travel time for most fruits or vegetables, they are often harvested before they are ripe (Alphin, Apadula, Granville), or even unnaturally ripened (Granville).

“I think of it like at the end of a pregnancy, you get a lot of nutrients, the baby gets a lot of nutrients—sort of like doing a C-section too early, you risk health problems and immature lungs—it’s the same way with tomatoes and other plants. If you pick them too early because you know they will ripen along the process, you are missing out on some of the nutrients” (Alphin).

For most fruits and vegetables, especially green leafy vegetables and B-vitamins (Apadula), the minute they are harvested the vitamin deterioration starts (Alphin, Apadula, Granville). “We pick the spinach—it sits. We ship the spinach—it sits. It sits on the grocery shelf, then someone buys it and it sits in the refrigerator, and the vitamin content deteriorates over time” (Apadula). In addition, the more fresh and better tasting, the longer someone will feel satiated. Enhancing feelings of satiety during a meal will prolong the interval of time before an individual feels

hungry again. Finally, for the more environmentally conscious, less food travel time results in a lower carbon footprint (Alphin, Apadula, Granville).

Whole or “clean” foods:

According to the dietitians, foods in their most whole form are the healthiest. The less processed, manufactured, and altered, the better (Alphin, Apadula, Granville, Wangsgaard). The more highly processed foods are (especially carbohydrates), the more they are broken down into sugar, and high intakes of sugar promote body fat and obesity (Alphin). Highly processed foods are more calorie-dense and contain easily accessible calories in the form of added sugars and fats. These added calories do not necessarily have nutritional quality, resulting in foods with maximum calories and minimum nutrition (Alphin, Granville). Less processed foods are less calorie dense and also retain more fiber, which will keep a person satisfied, or more full, longer than even protein (Alphin, Granville). “Nutrient-wise, we can dump a lot of stuff back in after the food has been thoroughly processed, but why not keep all the nutrients there to begin with?” (Alphin). The products weight-management companies sell are highly processed and can be high in sugar, so clients miss out on the nutrients that could be provided by a more local, sustainable food product (Alphin).

Using foods in their more “whole” forms can also require more preparation and thus more involvement and connection with food than simply heating up a meal (Anderson, Apadula). Knowledge of how to shop for, purchase, and prepare “whole” foods can provide more long-time life skills than reliance on pre-packaged foods (Alphin, Anderson, Apadula). Further, most individuals are simply not getting enough fruits and vegetables to begin with, making this a top priority above all else. Following this, dietitians stress minimally processed, fresh foods rich in nutrients as the chief priority for health and weight-management (Alphin, Apadula, Granville, Wangsgaard). Food labeled ‘organic’ may not actually equate to less-processed and fresher food, and therefore many dietitians encourage caution in supporting all organic products for client health (Granville).

Psychological boost:

Individuals feel strongly that they want to do the right thing; to support the planet's health as well as their neighborhoods, local communities, and farmer's. It enhances the meal and the person's sense of well-being to know where their food comes from and that they are supporting a food system that will conserve natural resources (Alphin, Apadula, Granville). This can also enhance a feeling of satiety, as "your appetite is your psyche" (Alphin). When your appetite or psyche is not satisfied, that is when an individual risks eating more in order to find satisfaction, which often has nothing to do with the food itself (Alphin). Overall, individuals should be encouraged to be more "mindful" about their eating—being more "in the moment" with their food. Feeling more connected to food and enjoying better quality food can create more awareness for healthy eating as well as enhance meal enjoyment (Apadula). Ultimately, weight-management is about making a lifestyle change that is accepted on a psychological level (Apadula). Further, people naturally tend to equate sustainable food with health (Granville).

New trend for market capture:

Sustainable food sourcing grabs customers' attention. The majority of people no longer want to hear news about eating disorders or the best way to lose five pounds (Apadula). "People really want to feel connected to their food" beyond weight loss (Apadula). In addition to the increased desire to connect with food, there are also more individuals turning to vegetarianism and veganism as a conscious purchasing decision because of its impact on the environment as well as inhumane CAFO and slaughter conditions (Apadula).

Co-branding:

Partnering with other companies with “whole” foods product lines such as Amy’s Kitchen¹⁵ or others within retailers such as Whole Foods with a good track record for sustainable sourcing can aid company image (Alphin).

Take wellness to the next level and keep members longer:

Whole and sustainable foods education may not be able to be incorporated at early stages of the weight loss process, but later during the maintenance stage it may be very helpful in keeping the program interesting and new, as well as fostering a deeper sense of wellness (Alphin, Apadula, Granville). “Some of the lifetime members—you think they don’t know the Food Points value of every food that exists?” (Alphin). Often members of these programs will learn what they can and then stop. Why not keep them learning more longer? Does the business model have to be entirely focused on short-term turnover? (Alphin, Apadula). Individuals all have different motivations and require personalized plans, attention, and flexibility. Offering a chance to delve into education around our food system and the benefits of sustainably sourced, local foods may interest some clients and keep them around longer (Granville).

Support:

In a residential program for obesity conducted at the Duke Diet and Fitness center, support and exercise were shown to be the keys for long-term success (Apadula). Support with a common theme can be the most useful—for example, ‘mothers with toddlers’—so that individuals have something to connect on other than their mutual desire to lose weight. Duke’s Eating Disorders and Body Image Treatment Team has been considering forming a support group that would volunteer at the farm and get involved with local foods (Apadula,). Perhaps support groups can be formed around this theme within the weight-management industry’s programming (Apadula).

¹⁵ Amy’s Kitchen is a vegetarian product line of frozen and ready-made foods whose core values center on sourcing food responsibly (Amy’s, 2013).

Educate, but with resources:

Have a list of what is already going on in different cities, towns, communities and how clients can connect with those resources and get involved. Online memberships could provide access to these lists of resources (Alphin).

Gaining traction in the dietitian profession:

“[Sustainable food sourcing] is gaining momentum to a point where I think it’s going to continue to build” (Granville). However, most of the counselors or consultants in the weight-management industry are not registered dietitians, they are individuals who went through something similar themselves (Alphin).

Food waste:

Wasted food is also not part of a sustainable system. Finding ways to deal with food waste will also make food more sustainable (Granville).

Cons and Barriers:

Cost concerns:

People may strongly desire a better, more wholesome product, but cost is a challenge as the supply of sustainably sourced foods is relatively low and already sold at a premium. Add this to the cost of a program membership and food products, and this may become prohibitively expensive (Alphin, Apadula, Wangsgaard).

Client’s ability to cook foods:

Can they use the “whole” foods they receive and prepare a healthy, satisfying meal with them (Granville)?

Niche market:

How much does the average consumer really care about these issues? Is it mostly wealthy individuals who will be able to afford premium costs? Farmers

market and CSAs are currently only utilized by a few number of individuals (Alphin, Apadula, Granville).

Core mission, client expectations, and simplicity:

The weight-management industry is designed to enable individuals to lose weight and keep it off, and their clients are often looking for quick fixes. For weight-management, an early goal is to simply get a client to eat more fruits and vegetables. Certain nutritional basics need to be covered first, and in order to keep the educational message simple and easy to follow, incorporating education on more “whole” foods should be included later in the program—not from the outset (Alphin, Apadula, Granville, Wangsgaard).

Quantitative vs. qualitative health:

The core mission of the weight-management industry is based on quantitative success—numbers of calories consumed daily, points allocations assigned to foods, and pounds lost or gained. Holistic health and wellbeing can be lost in the race to drop pounds, and self-worth can become attached to a number. However, the industry relies on those numbers (Alphin, Apadula, Rudy). Within these systems, food can be focused on as a number or point, and not seen for other values. Evaluating the meal for elements such as visual, textural, or psychological satisfaction can be lost (Alphin, Apadula). However, utilizing more “whole” or sustainably sourced foods has not been scientifically proven to encourage weight loss (Alphin). Further, in a study done by the National Weight Control Registry, the individuals who lost 30 pounds or more and kept it off for two or more years had the common components of 1) staying within a certain calorie range (1200-1800 calories per day), 2) kept food journals, and 3) exercised every day (Hill, 2003). “So for some people it is just about the numbers” (Apadula).

Idealized body weights:

While we have an obesity epidemic, unrealistic goals have been set for the majority of men and women regarding looks, narrowing health goals to extreme weight loss (Alphin, Rudy).

Meal satisfaction:

Many factors go into this other than where the food comes from. These include, freshness, color, texture, volume, temperature, and external factors such as ambience, time available to spend on the meal, social company, as well as personal, physical, and mental wellbeing (Alphin, Apadula). “Whole” foods can contribute greatly to this, but are not the only factor driving meal satiety (Alphin). Knowledge is important, but does not seem to be key—there is also an emotional component that can be very important (Anderson).

Scientific validation of health benefits:

More studies are being commissioned on whether organic foods have more minerals or nutrients, and the number of studies on this topic is likely to increase (Granville). Currently there are competing studies claiming organic is healthier or is not (Granville). However, the point is moot on organics and pesticides if the nutritional quality of food is degraded so much via transport. Ultimately, higher nutrient content is best (Granville).

Need for definitions:

Advocating for sustainable or local foods is difficult when these terms are not officially defined, or have a variety of definitions by different groups (Granville).

Availability of supply:

Can the small supply of sustainable food production be enough to meet the demand volumes of large corporations (Granville)?

Client accessibility:

Can clients afford to purchase sustainable foods? Do they have farmer's markets in their community (Granville)?

Consumer choice:

Consumers want these choices to be made for them. "When people go to Whole Foods and are willing to pay more money, it's because they feel that Whole Foods is their social conscious for them. So they trust that Whole Foods is choosing the right products from companies that care about the environment" (Granville).

Weight-management industry professionals interviews:

"'Sustainable' to a company means different things to different companies"
(Shigemura).

Trends in the industry:

- Increasingly, companies are seeking validation for their programming through the results of clinical trials (Shigemura).
- A move towards encouraging more a more holistic health approach targeting food, body, and mind, not sole emphasis on food. A strong emphasis on behavioral change is included within this (Shigemura).
- Use of tools, especially online or mobile weight loss tools, is increasing (Wangsgaard, Shigemura, Burton).
- Online presence via membership and social media is strongly increasing, especially for support systems and counseling (Wangsgaard, Shigemura, Burton). JC believes that the online business/community could be 50% of their revenues by 2017-2018 (Shigemura).
- Support systems are increasingly important for weight loss and all three companies put a strong emphasis on the support or counseling offered through their system (Wangsgaard, Shigemura, Anderson, Burton). This is

- corroborated by the offerings on Weight Watchers online (Weight Watchers 2, 2013).
- Growing establishment of partnerships and co-branding: JC: American Health Association (Wangsgaard). Nutrisystem co-branding with brands that source food more sustainably (Burton).
 - 80% of dieters now are “DIY”, or “Do it Yourself-ers” who create their own patchwork weight loss programs. This is up from 70% in 2004. Now these DIYers are increasingly relying on online resources—digital apps, materials found on the web, and free online food tracking tools—and use the grocery store to put together their meals. Thus, grocery stores and retail brands are targeting them with “better for you”, healthier products as it is such a huge market (Burton). Thus, personalization and flexibility are key (Anderson, Burton, Wangsgaard).

“Green” initiatives:

When answering questions about sustainable food sourcing efforts, Jenny Craig and Nutrisystem responded by also listing their overall environmental or sustainability efforts. While these did not pertain to sustainable food sourcing, the companies felt compelled to share this work when prompted about sustainable food sourcing. Thus the company personnel I interviewed clearly connected sustainable food with an overarching theme of environmental awareness and responsibility.

Jenny Craig:

Packaging: JC is working on packaging strategies to reduce the footprint of all Jenny-at-Home delivery products. Key initiatives include: reduction of packaging material, elimination of Styrofoam coolers for frozen food delivery, and improvement and usage of more recyclable materials in packaging materials for Jenny-at-Home deliveries (Shigemura).

Nutrisystem:

Nutrisystem is also working to cut waste and increase their supply chain efficiency, as well as examining options for increased usage of recyclable materials in their packaging and reducing overall materials utilized (Burton).

Sustainable food initiatives:Jenny Craig:

JC first stressed the advances their parent company has made in the area of sustainable food sourcing of cocoa, as JC utilizes some of Nestle's manufacturing facilities and ingredients. However, the efforts of Nestle are not the focus of my research, but rather JC itself, and I requested that interviewees answer my questions only in relation to JC.

JC stated that at least one of their manufacturers is very "sustainability-minded" as they maintain an extremely energy-efficient plant, strongly advocate for sustainable sourcing of seafood through the Marine Stewardship Council, and utilize aquaculture to decrease the rate of depletion of the world's fishstocks (Shigemura). The use of aquaculture has been a source of major contention as a sustainable food source (Kelleher, 2006), but JC personnel viewed it positively (Shigemura, Wangsgaard).

JC also uses some seasonal produce and ingredients in their products (such as pumpkin, cranberries, and strawberries) only during the seasonal peak of those items, and encourages purchasing seasonal produce through their counseling and distributed literature¹⁶ (Shigemura, Wangsgaard). In addition, JC encourages clients to visit local farmers' markets (Wangsgaard). Further, JC has launched community gardens in Southern California in both rural and urban areas where fresh and affordable produce is not easily accessible (Shigemura).

As of January 2013, Jenny Craig has also launched a 6-month pilot program in Northern California to test-market the delivery of fresh produce to clients through a

¹⁶ JC provides clients with a pocket-guide on which produce is in-season and will be the most flavorful as a result.

partnership with a local food co-operative. Clients have two options: 1) the client can go online and order produce for the week and produce is delivered straight to their home, or 2) they can pick it up in JC centers in four locations. For the in-home delivery, the client's order will be picked and set aside by the local food co-op, and then it will be overnighted to the client by JC. Essentially, JC is providing the connection between the food cooperative and their client. At the end of this test program, JC will determine how well the program can scale and examine factors such as how fresh the food was at the time of delivery as well as logistical and supply issues (Shigemura). If this does not have long-term viability, it was suggested that JC look into other partnership options, for example, with companies such as Whole Foods (Shigemura).

In the last year, because of consumer demand and a push from their R & D department, JC has also incorporated sustainability goals into their development objectives and goals for new products. Sustainable ingredients can cost more, however, which the developers must consider. Currently, JC has no incentive program for encouraging developers to incorporate sustainability into products.

Nutrisystem:

Nutrisystem has launched a line of products co-branded with Nature's Agave—a company that actively supports sustainable sourcing of agave nectar (Nature's Agave, 2013)—and put together a portion control pack of agave syrups, thus giving customers looking for sugar and sweetener alternatives a less-processed, sustainably sourced option.

Weight Watchers:

While no interviews were conducted with Weight Watchers, their corporate website maintains a short description of company Corporate Responsibility activities. The "Environment" section mentions an overall effort to strive for energy efficiency and waste reduction, but makes no specific mention of sustainable food sourcing (WTW3, 2013). Their most recently public available Annual Report from

the end of 2011 also makes no mention of sustainable food sourcing, or of any environmental issues at all (Weight Watchers 3, 2011).

Goals for company:

Jenny Craig:

Increase marketing and education around sustainability efforts:

Currently, JC does not market its sustainability efforts, whereas their parent company, Nestle, extensively reports on and markets Nestle's sustainability efforts (Shigemura). One of JC's goals is to bolster the brand connection with consumers, ensuring they learn about JC's green product and packaging initiatives and sustainable food efforts (e.g. packaging, recycling programs, community garden and co-op programming). One limitation to this is a dearth of available resources to devote to this effort (Shigemura).

JC does plan to revamp their website in June and to include more information on their sustainability efforts (Shigemura). JC could increase the amount of articles, information, and resources on sustainable food in addition to what the new website will contain (Wangsgaard).

JC also mentioned that packaging could be utilized as a vehicle to educate consumers around sustainability—having “green” tips on the packaging, telling stories about the food and where it comes from, or including QR codes or barcoding that a client could scan in order to be directed to a webpage on the sustainability of that project. JC is currently researching more ways to incorporate this onto their products, however, there is only so much “real estate” space on packaging and product labels (Shigemura) (Wangsgaard).

Additional JC goals include:

- Establish more community gardens, improve accessibility of fresh produce.
- Focus more on manufacturers who embrace sustainability and utilize guidance from parent company Nestle, which is very advanced in its sustainability efforts (Wangsgaard).

- Change the perception that JC's food products are overly processed, and demonstrate that flash-frozen is a healthy option (Wangsgaard).
- Influence the future generations' to make healthier choices (Wangsgaard, Anderson).

Nutrisystem:

- Research how to incorporate more fresh and flash-frozen products into their packaged foods, since they only provide 65% of a person's daily food intake, and then the customer is expected to supplement with fresh produce. Many clients demand meals that contain 100% of the food for each day in order to increase the convenience factor (Burton).
- Partner and co-brand products with more companies that source all-natural, sustainable foods; evaluate licensing ingredients with dairy or produce suppliers who can co-brand products with Nutrisystem and also facilitate the delivery (Burton).
- A fresh program was tested 3-4 years ago in a test market in NYC, but there were issues with profitability and limited market as food was being hand delivered. It is possible Nutrisystem could revisit this system (Burton).
- *Use partnership resources to green the supply chain:* Nutrisystem has entered into an important partnership with Wal-Mart. Wal-Mart carried a test-run of 5-day Nutrisystem weight loss kits in 500 of their stores (typically it is a 28 day package), complete with a proscriptive meal plan that guides them to fresh produce in the Wal-Mart grocery store (as the Nutrisystem product requires 35% produce and protein additions to the pre-packaged meals). The test run was successful, and as a result, Wal-Mart will be expanding the product offering to 1,500 of its stores. Nutrisystem now has an opportunity to reach a different consumer segment, but also the opportunity to team up with a retail titan and to utilize their resources. Wal-Mart has already communicated their standards for sourcing to Nutrisystem, and will be working with them closely on their supply chain (Burton).

Barriers to adoption, as posed by weight-management industry professionals:*Cost concerns:*

There is an assumption that incorporation of more sustainable foods will increase costs. Certainly any major change to existing systems could be costly, but Nutrisystem and Jenny Craig have not fully explored the costing options as of yet (Burton, Shigemura). If the changes are expensive, however, there is the question of how they will be absorbed, and who will absorb them (Burton). It is still unknown if the customer will really be willing to pay more (Burton, Shigemura).

Adequate supply and food system organization:

Is the food system set up to be able to provide the volume required for purchase by large organizations? The capacity of the food system to supply an adequate volume of sustainable products to purchase could be a serious hurdle (Burton, Shigemura, Wangsgaard).

Supply chain:

JC does not own any manufacturing facilities. Parent company Nestle owns two of the facilities JC uses for manufacturing, and the other thirteen are owned by entities that JC works with in order to co-manufacture their products to JC's nutritional specifications (Shigemura). New initiatives for packaging and products require the full cooperation and collaboration of their manufacturing contractors. Any changes to the manufacturing of a product (for example, altering the packaging to something more environmentally friendly), is dependent upon the equipment owned by the manufacturing facility, or their ability to invest in new capital structure (Shigemura). JC currently has very strong relationships with their current co-manufacturers as well as established, successful products. Thus redesigning these items or contracting with new co-manufacturers would be very difficult (Wangsgaard).

Nutrisystem also contracts out all of their services; from product manufacturing, to warehousing, to distribution (Burton). They rely heavily on the large food suppliers of the country (CPG, or consumer-product-good companies such as ConAgra and Hormell) and work with about 50 different suppliers across multiple categories of foods (e.g. bars, pastry items, soups, frozen products, shelf-stable dinners). Similar to JC, Nutrisystem works with co-manufacturers to produce their food products. Nutrisystem provides the specifications and then the manufacturers produce the product. Currently their procurement policy does not include environmental or social standards, but they are not in a strong position to make those demands of suppliers and co-manufacturers (Burton).

Protect the core mission:

While JC believes in educating the consumer or directing them to more sustainable food products, one of their dietitians does not believe there is an established, direct connection yet with weight loss (Wangsgaard). While the JC dietitian sees the value in it, their main priority is weight loss, portion control, and cravings control (Wangsgaard). It is imperative that JC stick to its core mission and deliverable of weight loss and management, and not dilute their message (Wangsgaard). JC clients receive only twenty minutes per week with the nutritional consultant, and it is important not to overload the client with too much material (Wangsgaard).

Niche market:

JC has centers and clients throughout the world, and is unsure if sustainable food would resonate with clients equally throughout its areas of influence. For example, would someone in North Dakota feel the same as someone in California (Wangsgaard)?

Conclusion:

Little movement and no marketing:

While Jenny Craig is making some concrete strides to incorporate more sustainable food into their programming and product lines, I did not find major movement from Nutrisystem and Weight Watchers in this study. For those green or sustainable food initiatives that are being implemented, all three companies have little to no marketing surrounding these efforts.

Potential added value, but uncertain execution:

Dietitians, sustainable food scholars, and weight-management professionals in the weight-management industry believe sustainable food can be beneficial to health and wellbeing and therefore could add value to their programs; however, they are uncertain of the structure this would take, and ultimately how much could be invested in further inclusion of sustainable food into their systems given their tight profit margins. Nevertheless, the diet industry is an intensely competitive marketplace, and first movers or innovators who are able to get ahead of trends and differentiate their product can be highly successful. The success of Jenny Craig's test run of a partnership with a local co-op in Northern California will be particularly telling.

Joining the sustainable food movement:

While the world may not be able to move away completely from big agribusiness in order to meet the massive food demands of our growing population, perhaps the conventional system can be altered to incorporate more sustainable food sourcing. A strong movement is building for this among large food and beverage companies, and the weight-management industry could become a part of moving the population from processed foods to whole foods and from unsustainable sourcing to more sustainable methods. The health and nutritional considerations of

the weight-management industry companies could help to keep human health and wellness in the forefront of the agri-business reform mindset.

Recommendations:

If the weight-management industry cannot move quickly into supply-chain change due to current arrangements for product lines, it should consider adding educational offerings initially, and in the meantime, continue to move towards co-branding products or co-manufacturing with suppliers that maintain good reputations for sustainable sourcing. Further, the industry can continue to build partnerships with NGOs or other organizations, and join large food and beverage coalitions such as AIM-PROGRESS or the Sustainable Agriculture Initiative in order to utilize these companies' resources and to get in on the ground floor of change in the wider food industry.

Educational opportunities could include:

- Host book clubs or recommend books/films for clients to read on the food industry.
- Lifestyle classes once or twice a month—could one of these incorporate sustainable food education? Or a trip to a local farm?
- Publish more articles online and in educational pamphlets on sustainable food and its benefits.
- Form support groups or online community forums that bring individuals together around sustainable food topics.
- Encourage fitness challenges such as visits to local farms or farmer's markets.
- Provide online resources that allow individuals to identify farms and community gardens in their locality.
- Start community gardens accessible only to clientele, or as a CSR effort for neighborhoods of low economic status.

Companies could also create a premium line of product or membership package related to sustainable food. Internally, standards should be set for procurement and suppliers, and sustainability goals should be set and also incentivized for product development. Encouraging a culture of sustainability within the company itself can also be helpful, as well as setting monetary incentives for employees to come up with solutions for how to integrate sustainable food into the system further.

Making serious moves into the area of sustainable food may not only serve as a market differentiator for weight-management industry companies, but also addresses a major materiality risk, one that the food and beverage industry as a whole is already taking steps to address. As many of the Jenny Craig, Nutrisystem, and Weight Watchers product lines already have a reputation for being highly processed, being seen as unsustainable would be an added detriment.

In order to effectively address the unsustainability of the current conventional agri-business sourcing practices, buy-in from large corporations is required—especially consumer-facing companies that have a large influence over consumer education surrounding eating habits and purchasing decisions. While the food and beverage industry is uniquely positioned to move the agricultural sector toward more sustainable farming and sourcing practices through the power of several retail giants, the weight-management industry has the added benefit of consumer education around food. As the weight-management industry continues to take more of its cues from the latest trends in nutrition science and to seek scientific validation of its programming, the industry ought to take action in response to the push of the Academy of Nutrition and Dietetics to guide consumers toward sustainable foods. Ultimately, the fields of sustainable foods and nutrition science cannot continue to ignore one another, but rather must form a strong partnership moving forward.

Appendix:

Appendix A: Principles of Sustainable Foods according to the Alberta Rural Sustainable Alternatives Network (Alberta Rural Sustainable Alternatives Network, 2012)

1. Food comes directly or indirectly (livestock) from a sustainable, healthy soil that gives and receives its nutrients in a cycle and over time grows its food-producing capacity rather than losing it
2. Food production is in sync with the natural environment and supports the biodiversity on which food production directly or indirectly depends
3. Food can be produced at local climate conditions and with the amount of water available in the area
4. Production of food at all parts of the supply chain strives to maximize use of sun energy and minimize use of fossil fuels
5. Food can be obtained from the wild if it is done without damaging the natural ecosystems
6. Livestock is an indispensable part of a healthy sustainable farm environment and its production is mutually beneficial to animals and the larger ecosystems of which they are a part
7. Food production supports the diversity of both plants and livestock and also diversity within species (different breeds and varieties)
8. Food is grown or raised and processed locally, avoiding the costs and environmental impact of transportation. Geographically, the closer it's production is to the point of consumption, the better
9. Food is processed without industrial ingredients, complex industrial equipment and facilities that require excessive amounts of energy to build and operate
10. Food requires minimum levels of processing; the less processed it is the better

11. Processing enhances food's nutritional qualities and/or preserves foods for off-season consumption
12. Food is best if eaten in season; if it is preserved, this should be done with minimal damage to its nutritional qualities and by using renewable energy
13. Food sustains human health; first, it must not be harmful, but even more importantly, it has to provide nutrition that will allow people to stay healthy over generations
14. All groups involved in food production; farmers, processors, workers, business people, traders, etc. can sustain their livelihoods at the level comparable to other sectors of the society
15. Food is produced by a very diverse and large group of local farmers and food entrepreneurs; together they form a co-operating, resilient and sustainable web of food supply
16. Food needs to be tasty, cherished and celebrated when eaten
Food contributes to, builds and helps sustain cultures of which it is part

Appendix B: ADA Sustainable Food Systems Recommendations for Registered Dietitians (ADA, 2007)

Actions in Dietetic Practice	
Dietary Guidance and Community Nutrition	Food Management
<ul style="list-style-type: none"> ● Encourage dietary variety among and within food groups and consumption of heirloom varieties. ● Encourage consumption of food produced with fewer agricultural inputs (eg, certified organic, grass-fed or range-fed meats, pastured poultry). ● Encourage the consumption of locally produced foods through farm stands, farmers' markets, food cooperatives, and community supported farms. ● Work to improve access to locally produced foods. ● Get involved in a buy-local campaign. ● Encourage connections between local producers and local institutions. ● Encourage consumption of fresh or minimally processed foods. ● Encourage consumption of protein from plant sources. ● Encourage economic food purchasing that also reduces packaging waste. 	<ul style="list-style-type: none"> ● Offer a variety of food choices. ● Purchase unique varieties of produce. ● Purchase foods produced with fewer agricultural inputs. ● Purchase foods direct from local growers (ie, farm-to-institution) and reduce reliance on imported foods. ● Conduct an energy audit; track energy use. ● Choose Energy Star and water-conserving appliances. ● Use energy- and water-saving cooking strategies. ● Maintain appliances and cookware well. ● Follow WaterWiser^a and WasteWise^b recommendations. ● Choose earth-friendly cleaning and pest-control products. ● Minimize use of garbage disposal by scraping dishes. ● Run dishwasher only when full. ● Defrost foods in the refrigerator, not under running water. ● Consider alternative refrigerants. ● Avoid appliances that release hydrochlorofluorocarbons. ● Conduct a solid waste audit. ● Minimize food waste. ● Recycle cooking oil through a bio-diesel production facility. ● Donate leftovers to emergency food suppliers. ● Donate food scraps for composting or animal feed. ● Recycle glass, metal, plastic, cardboard, etc. ● Purchase recycled materials. ● Maintain ventilation and climate control equipment well.

Actions in the Community and at Home	
Public Policy and Education	Personal Lifestyle
<p>Educate yourself about:</p> <ul style="list-style-type: none"> ● local and regional agriculture; ● places to purchase local foods; ● the relationship between biodiversity and food security; ● the importance of soil in food production, nutrition, and food security; ● local land use issues; ● US energy consumption; ● sources of local drinking water; and ● local sources of air pollution. <p>Support government programs and policies that:</p> <ul style="list-style-type: none"> ● conserve genetic resources; ● conserve soil (Conservation Reserve Program); ● protect farmland through zoning, easements, tax reform, sale of development rights; ● encourage farm-to-school programs and school gardens; ● encourage the development of alternative energy sources; ● protect the quality of freshwater (eg, the Clean Water Act); ● protect air quality (eg, the Clean Air Act); ● encourage waste reduction through reuse and recycling; and ● improve accessibility to clean drinking water in public institutions. 	<ul style="list-style-type: none"> ● Purchase foods produced with fewer agricultural inputs. ● Increase consumption of protein from plant sources. ● Grow or raise your own fruits, vegetables, and animal products. Try heirloom varieties. ● Compost food scraps, lawn, and garden wastes. ● Support urban gardens and farms. ● Support local growers through farm stands, farmers' markets, food cooperatives and community supported farms. ● Live close to where you work. ● Reduce reliance on imported foods. ● Walk and bike more. ● Choose fuel-efficient vehicles. ● Follow WaterWise and WasteWise recommendations. ● Use water and energy conserving appliances at home. ● Choose earth-friendly cleaning and pest-control products. ● Turn off water when not in use; repair leaks promptly. ● Reduce unnecessary consumption. ● Minimize food waste. ● Reuse containers when possible. ● Recycle food containers. ● Purchase foods with less packaging. ● Drink filtered tap water vs bottled water.

Appendix C: US News & World's "Best Weight Loss Diets—the Data"

(US News & World, 2012)

Rank	Diet	Overall Weight Loss	Short-Term Weight Loss	Long-Term Weight Loss
#1	Weight Watchers	3.8	4	3.5
#2	Biggest Loser Diet	3.5	4.1	2.9
#2	Jenny Craig	3.5	3.8	3.2
#2	Raw Food Diet	3.5	3.7	3.3
#5	Volumetrics	3.4	3.6	3.2
#6	Atkins	3.3	4	2.5
#6	Slim-Fast	3.3	3.4	3.2
#6	Vegan Diet	3.3	3.4	3.3
#9	DASH Diet	3.1	3.2	3
#9	Eco-Atkins	3.1	3.8	2.5
#9	Mayo Clinic Diet	3.1	3.3	2.9
#12	Mediterranean Diet	3	3	2.9
#12	Ornish Diet	3	3.1	2.8
#12	South Beach Diet	3	3.7	2.3
#12	TLC Diet	3	3.2	2.8
#16	Vegetarian Diet	2.9	2.9	2.9
#17	Macrobiotic Diet	2.8	3.1	2.5
#18	Flat Belly Diet	2.7	3.1	2.3
#18	Medifast	2.7	3.5	2
#18	Nutrisystem	2.7	3.2	2.3
#21	Abs Diet	2.6	3.1	2.1
#21	Zone Diet	2.6	3	2.3
#23	Dukan Diet	2.5	3	2
#23	Glycemic-Index Diet	2.5	2.8	2.2
#25	Paleo Diet	1.9	2.1	1.7

Appendix D: Weight Watchers' Website's 20 Most Frequent Words

Word	Length	Count	Weighted Percentage (%)	Similar Words
watchers	8	3487	1.46	watcher, watchers, watchers', wit, witnessed, witnessing
weight	6	7440	1.04	angle, angles, burden, weight, weighted, weights
loss	4	2699	0.90	deprivation, deprive, deprived, depriving, exits, expiration, expired, going, lose, loses, losing, loss, losses, pass, passed, passes, passing, red, redding, reds, release, released, releases, releasing
inc	3	2017	0.85	inc
international	13	2430	0.83	external, home, homes, incorporate, incorporated, incorporates, incorporating, inner, intern, internal, international, internationally, intimate, nation, national, nationally, outside, poundage
food	4	1928	0.79	food, food', foods, nutrient, nutrients, nutrients'
health	6	1810	0.63	health, healthful, healthfully, healthfulness, healthy, well, 'well, wellness, wells
2013	4	1411	0.59	2013
com	3	1282	0.54	com
advertisement	13	1380	0.53	added, adding, ads, advertise, advertised, advertisement, advertising, promot, promote, promotes, promoting, promotion, promotional, public, publication, publications, push, pushes, pushing
program	7	1507	0.53	plan, planned, planning, plans, program, programme, programmed, programmes, programming, programs, schedule, scheduled, schedules, scheduling
weightwatchers	14	1208	0.51	weightwatcher, weightwatchers
eating	6	1255	0.50	chow, chuck, consume, consumed, consumer, consumers, consumes, consuming, eat, eating, eats, exhausted, exhausting, exhaustive, feed, feeding, grub
site	4	2197	0.44	locate, located, location, locations, place, placed, places, placing, site, sites, situation, situations, website, websites
log	3	1035	0.43	log, logged
find	4	3458	0.43	ascertain, breakthrough, bump, bumps, chance, chances, detect, detection, determinants, determination, determine, determined, determining, discover, discovered, discoveries, discovery, encounter, feel, feeling, feelings, feels, find, finding, findings, finds, get, gets, getting, happen, happened, happening, happens, notice, noticeable, noticeably, noticed, noticing, observation, observational, observations, observe, observed, observing, obtain, obtainable, obtained, obtaining, receive, received, receives, receiving, recover, recovered, regain, regained, regaining, regains, rule, ruled, rules, see, seeing, sees, uncover, uncovered, wit, witnessed, witnessing
help	4	2501	0.43	aid, aids, assist, assistance, assistant, assisted, assists, availability, available, facilitate, facilitating, help, helped, helper, helpers, helpful, helping, helpings, helps, portion, portioned, portioning, portions, serve, served, serves, service, services, serving, servings, support, supported, supporters, supporting, supportive, supports
recipes	7	997	0.41	formula, formulas, recipe, recipes

make	4	3684	0.39	'do, attain, attainable, attaining, brand, brands, build, building, builds, cause, caused, causes, causing, clear, cleared, clearing, clearly, clears, constitute, construct, construction, constructive, cook, cooked, cooking, cooks, create, created, creates, creating, draw, drawing, draws, earn, earned, earning, establish, established, establishing, establishment, establishments, fashion, fashionable, fashioned, fix, fixe, fixed, fixes, fixing, fixings, form, formed, forming, forms, gain, gained, gaines, gaining, gains, give, gives, giving, hit, hits, hitting, hold, holding, holds, make, makes, making, name, named, namely, names, nominal, nominate, nominating, piddles, preparation, preparations, prepare, prepared, preparing, pretend, produce, produced, producer, producers, produces, producing, reach, reached, reaching, readiness, ready, realization, realize, realized, realizing, score, scores, scoring, stool, take, takes, taking, throw, throwing, throws, urination, urine, wee
posts	5	1267	0.37	bill, bills, brand, brands, card, cards, carried, carries, carry, carrying, mail, mailed, mailing, notice, noticeable, noticeably, noticed, noticing, office, officer, officers, place, placed, places, placing, position, positional, positive, positively, positives, post, posted, poster, posterity, posters, posting, postings, posts, send, sending, sends, situation, situations, spot, spots, spotted, stakes, station, stations

Appendix E: Jenny Craig Website's 20 Most Frequent Words

Word	Length	Count	Weighted Percentage (%)	Similar Words
jenny	5	1193	2.05	jenny
craig	5	1001	1.72	craig
weight	6	643	1.11	weight, weighted, weights
find	4	970	1.10	bump, bumps, chance, chances, determinant, determine, determined, determining, discovered, discoveries, feel, feeling, feelings, feels, find, finding, findings, get, gets, getting, happen, happened, happens, notice, noticed, noticing, observe, receive, received, receiving, recover, recovering, regain, regaining, retrieved, rule, rules, ruling, see, seeing, sees, uncovered
help	4	848	1.09	aid, aiding, aids, assistance, assisting, assists, available, help, helped, helpful, helping, helps, portion, portioned, portions, serve, served, serves, service, services, serving, servings, support, supported, supporter, supporters, supporting, supportive, supports
use	3	701	0.87	applies, apply, consumption, employer, employs, enjoy, enjoyable, enjoyed, enjoying, enjoyment, exercise, exercised, exercises, exercising, function, functions, habit, habits, practical, practicality, practice, practicing, purpose, role, roles, secondhand, use, used, useful, uses, using, utilize, utilized, utilizing, victim
get	3	1310	0.84	acquired, acquires, aim, amazed, amazing, arrive, arrives, beat, beating, become, becomes, becoming, begin, beginning, begins, bring, bringing, brings, catch, catching, cause, caused, causing, come, comes, coming, develop, developed, developer, developing, development, draw, drawing, drive, drives, driving, experience, experiences, experiment, experimented, experimenting, father, fix, fixings, generate, get, gets, getting, going, grow, growing, grows, induced, let, letting, make, makes, making, mother, mystified, pose, produce, produced, produces, producing, puzzle, receive, received, receiving, start, started, starting, starts, stick, sticking, sticks, stimulate, suffer, suffered, take, takes, taking
food	4	504	0.84	food, food', foods, nutrient, nutrients

works	5	928	0.79	act, acted, acting, acts, bring, bringing, brings, cultivate, cultivated, employer, employs, exercise, exercised, exercises, exercising, form, formed, forms, function, functions, going, influence, influenced, influencers, make, makes, making, mold, operate, operating, operations, plant, planted, plants, play, played, playful, playing, plays, process, processed, processing, run, running, runs, shape, shaping, solve, solving, sour, studies, study, turn, turned, turning, turns, work, worked, working, workplace, works, wreak
free	4	458	0.77	free, frees, loose, release, released, releases, relieve, spare
eat	3	451	0.74	chow, consume, consumed, consumer, consumers, consuming, eat, eating, eats, exhausted, feeding
article	7	430	0.74	article, articles, bound
loss	4	563	0.70	deprivation, deprive, deprived, expire, going, lose, loses, losing, loss, losses, pass, passed, passing, red, release, released, releases
take	4	1130	0.69	accept, acceptable, acceptance, accepting, acquired, acquires, admit, adopt, aim, ask, asked, asking, asks, assuming, bring, bringing, brings, carrie, carries, carry, carrying, choose, chooses, choosing, claiming, conducted, conducting, consider, considered, considering, consume, consumed, consumer, consumers, consuming, contain, container, containers, contains, deal, dealing, deals, demand, demands, direct, directed, direction, directions, directly, drive, drives, driving, engage, engaged, engaging, exact, exactly, fill, filled, filling, guide, guided, guides, guiding, hold, holding, holds, involve, involved, involves, issue, issued, issues, lead, leading, leads, learn, learned, learning, learns, need, needed, needs, pack, packed, packing, packs, pick, picked, picking, read, reading, remove, removes, rent, require, required, requirements, requires, return, returning, returns, select, selected, selecting, selection, shooting, strikes, striking, studies, study, submit, take, takes, taking, trained, training, win, winning, wins, withdrawal, yield
activity	8	424	0.65	action, actions, activates, active, activities, activity, energized, excited, exciting, fight, fighting, participants, participate, participated, participating, participation, trip, trips
make	4	960	0.62	attain, attainable, attaining, brand, branding, brands, build, building, cause, caused, causing, clear, clearly, constitutes, constructed, cook, 'cook, cooked, cooking, cooks, create, created, creates, creating, do', draw, drawing, establish, established, establishes, establishments, fashion, fashioned, fix, fixings, form, formed, forms, gain, gained, gaining, gains, give, gives, giving, hit, hits, hitting, hold, holding, holds, make, makes, making, name, named, names, pee, preparation, preparations, prepare, prepared, preparing, produce, produced, produces, producing, reach, reached, reaches, reaching, ready, realize, realized, score, scored, scores, take, takes, taking, throw
centre	6	494	0.62	center, centers, centre, centres, concentration, concentrations, core, eye, eyes, focus, focused, focuses, focusing, heart, hearts, kernels, meat, meats, middle, substances
fat	3	404	0.58	fat, fats, fattening, fatty, fertility, plump, product, production, productive, products, rich
program	7	439	0.56	plan, planned, planning, plans, program, programme, programs, schedule, scheduled, schedules, scheduling
calories	8	318	0.55	calorie, calories

Appendix F: Nutrisystem's Website's 20 Most Frequent Words

Word	Length	Count	Weighted Percentage (%)	Similar Words
nutrisystem	11	3369	2.59	nutrisystem
program	7	3806	2.23	plan, planned, planning, plans, program, programs, schedule
day	3	2540	1.77	day, days, year, years
get	3	4039	1.68	aim, amazed, amazes, amazing, amazingly, arrival, arrive, arrived, arrives, arriving, beat, beating, beatings, beats, become, becomes, becoming, begin, beginning, beginning, beginnings, begins, bring, bringing, brings, catch, catching, cause, 'cause, caused, causing, come, comes, coming, commencement, contract, develop, developed, developing, development, draw, draws, drive, driving, experience, experiences, experiment, father, find, finding, finds, fix, get, gets, getting, going, grow, growing, have, induces, let, lets, letting, make, makes, making, mother, poses, produce, produces, puzzled, receive, received, receiving, start, started, starting, starts, stick, sticking, sticks, stimulants, suffer, suffered, suffering, sustain, sustained, take, takes, taking
weight	6	1653	1.27	angles, burden, weight, weighted, weights
delivery	8	1540	1.06	bring, bringing, brings, deliveries, delivery, rescue, save, 'save, saved, saving, savings, speech
stories	7	1380	0.83	account, accountability, accountable, accounts, celebrate, celebrated, celebration, celebrations, celebrities, celebrity, floor, history, level, leveled, levels, report, reports, stories, story
loss	4	1615	0.82	deprivation, deprive, deprived, depriving, exit, expiration, going, lose, losing, losses, loss, losses, pass, passed, passing, red, releasing
food	4	1021	0.78	food, foods, nutrient, nutrients
success	7	1182	0.75	achieve, achieved, achievement, achievements, achieving, consecutive, succeed, succeeding, success, successes, successful, successfully, winner, winners
conditions	10	1442	0.71	check, checked, checking, circumstances, condition, conditions, consideration, discipline, disciplined, learn, learned, learning, qualify, shape, shapes, specified, status, term, terms, train, trained, training, weather
plans	5	1882	0.70	design, designating, designed, plan, planned, planning, plans, preparation, prepare, prepared, preparing, project
auto	4	842	0.64	auto, car, machine
just	4	1531	0.63	barely, exact, exactly, fair, fairly, good, gooding, goodness, goods, hard, hardly, just, right, 'right, rights, simply
offer	5	997	0.61	cracked, extended, going, offer, offered, offering, offerings, offers, pass, passed, passing, provide, provided, provider, providers, provides, providing, tender, whirl
full	4	1297	0.60	comprehensive, entire, entirely, full, fullness, fully, good, gooding, goodness, goods, rich, total, totally, wax, wide, widely
need	4	1309	0.60	ask, asked, asking, demand, demands, involve, involved, motivate, motivated, motivation, motivational, motivations, motivator, necessarily, need, needed, needing, needs, require, required, requirements, requires, requiring, take, takes, taking, want, wanted, wanting, wants
help	4	1128	0.58	assistance, avail, availability, available, help, helped, helpful, helping, helps, portion, portioned, portions, serve, served, service, services, serving, servings, support, supported, supporting, supportive
inc	3	755	0.58	inc
eat	3	751	0.57	consume, consumed, consuming, depleted, eat, eating, eats, eating, exhausted, feed, feeding, feeds

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