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Journal of Food Distribution Research
Volume 44 Issue 1

How Consumers Respond to Corporate Social Responsibility Initiatives: A Cluster Analysis of Dairy Consumers

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Abstract

Corporate branding has been a key marketing strategy for many decades, but the nature and focus of branding activities has evolved along with the interests and buying motivations of consumers, especially in the food sector. An increasing number of food companies are creating loyal customers by positioning their products in a manner that addresses concerns buyers may have about the environment, food safety, community issues and other social issues. In this study, we highlight the common themes that milk consumers may prefer to support with their buying dollars, some that are common across the whole population (animal welfare) and others that vary across distinguishable consumer segments (support for economy, environmental impact).

Keywords: Corporate Social Responsibility, Consumer Segments

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A Look at Corporate Social Responsibility (CSR) in the Dairy Industry

Corporate Social Responsibility (CSR) is a formal commitment on the part of a private company to decrease the harmful effects it may have on society and the environment. Generally, specific CSR goals or actions are defined for the company as improvement or changes in specific areas that may otherwise be negatively affected due to company operations. The popularity of Corporate Social Responsibility (CSR) has increased in the past 20 years due to pressures from both the supply (firms and retailers) and demand side (consumer advocate groups, media and stakeholders) (Öberseder 2011).

The potential for environmental externalities and the rising consumer awareness of animal welfare issues in livestock operations (Lusk et al. 2011) make the dairy industry a particularly relevant testing ground for CSR-based product differentiation strategies. According to industry sources, large distributors such as Costco and Walmart (Martinez et al. 2008) have been a major driver of CSR implementation in the dairy supply chain in an effort to reduce the risk of media scandals or other negative publicity. CSR efforts may also be driven by a desire to counter any negative stereotypes about their operations, such as the idea that large, profit-driven companies have little interest in the well-being of their employees and society in general.

CSR as a Branding Strategy to Target Consumer Activists

CSR initiatives are believed to benefit not only society and the environment, but to also create a loyal base of consumers willing to pay a price premium for CSR-differentiated brands and products. Of the consumers that are inclined to potentially integrate CSR in their purchase decision, only a minority (21%) actually uses it as a criteria to choose among products (Mohr et al. 2001).

The lack of understanding about consumer's purchases related to CSR raises some potential questions for companies that want to market in the most effective way. Some potential questions include: Are there any clustered, like-minded consumers that are seeking a common set of CSR attributes? Do some existing labeling programs present clear signals of the CSR behaviors that "target consumer clusters" seek? And what are the purchase behaviors of the target consumers?

Data and Methods

A survey of milk consumers recruited amongst Colorado State University (CSU) personnel was carried out in the summer of 2011. A total of 96 individuals participated and the survey was administered via computer on CSU premises. In addition to a section soliciting socio-demographic information, the survey consisted of three types of tasks, which directly relate to each one of the stated research objectives:

1. In a best-worst exercise (Finn et al. 2006) participants ranked, by perceived importance, the involvement of an hypothetical dairy firm in nine alternative CSR areas of effort: animal welfare, energy consumption, water consumption, air pollution, community involvement, employee opportunities, local operation, waste management, and

sustainable agricultural practices. The description of each CSR activity provided to the participants is reproduced in Table 1.

Table 1. CSR Activities Included in Study

Dairy CSR Activities	Description
Animal welfare	There is a commitment to maintaining animal health through monitored nutrition and on-staff veterinarians, and reproduction by natural breeding rather than artificial insemination. Also, animals are kept outdoors on pastures rather than enclosed barns.
Energy consumption	Refers to the use of energy saving equipment in milk processing, and also to making transportation of milk to processing plants and retailers more energy efficient.
Water consumption	Implement recycling water programs through a water treatment facility and save water by using limited irrigation schedules to irrigate pastures and crops.
Air pollution	Manage the release of bovine methane by encouraging managed grazing and carbon soil sequestration. Also, decrease air pollution by making milk transportation from farm to plant and retailer more fuel efficient.
Community involvement	Company should be involved in charitable organizations, should implement volunteering days, and create and support local community programs.
Employee opportunities	The company should provide fair or above market wages, medical benefits, vacations, and retirement plans to employees. Employee advancement in company hierarchy is encouraged, as well as diversity in the workplace.
Local operation	The company uses local resources and generates local growth. The local economy is stimulated by creating jobs locally.
Waste management	Waste management refers mainly to composting solid waste to be used as fertilizer and monitoring waste runoff to the local water table.
Sustainable agricultural practices	Commitment to maintaining good soil health for a sustainable future of the business and the environment. Soil health implies practices such as the use crop rotation; using compost as natural organic fertilizer, and never using chemicals in maintaining a fertile soil.

2. Next, participants were asked to use a quantitative scale (from -5 “much worse” to + 5 for “much better”, in increments of one) to express how fluid milk displaying a specific label certification (USDA Organic, RBST-free, Validus, and Local Colorado Proud) was perceived to perform in the nine selected CSR areas.

3. Finally, for each of the four mentioned labels, participants used a sliding bar tool (from -$2.00 to +$2.00 in increments of 10 cents) to express how much more/less they would be willing to pay for a gallon of milk displaying the label (USDA Organic, RBST-free, Validus, and Local Colorado Proud), compared to a gallon of milk without it. The exercise was then repeated, and participants were asked to estimate how much the general consumer population would be willing to pay for the label. This final step's information is the focus of a companion paper (Costanigro et al. 2012).

Findings and Discussion

The study sample statistics provided in Table 2 are comparable to the demographics for the state of Colorado provided by the US Census Bureau (US Census Quick Facts 2012). Subsequently, the cluster analysis completed for this analysis should represent similar shares of consumers who may have similar purchase motivations and perceptions of labels.

Table 2. Sample Characteristics

Characteristic		% of Sample
Gender	Male	26.04
	Female	73.96
Race	White, Non-Hispanic	83.33
	Black, Non-Hispanic	4.17
	Hispanic	5.21
	Asian	2.08
	Other	5.21
Education	Some technical, business school or college	9.38
	Completed B.S., B.A. or College work	29.17
	Some graduate work	10.42
	Graduate degree (Ph.D., M.S., M.D., J.D., etc.)	48.96
	High school graduate or equivalent	2.08
Household income	Less than $20,000	2.08
	$20,000 to 34,000	10.42
	$35,000 to 49,000	18.75
	$50,000 to 74,000	30.21
	$75,000-99,000	18.75
	$100,000-124,000	7.29
	$125,000- $149,000	7.29
	Over $150,000	5.21

CSR Priorities for Consumers

The overall ranking of the CSR activities were reported in (Costanigro et al. 2012) and illustrated that an overwhelming majority of participants stated that a dairy's investment in improving Animal Welfare practices was a key priority to them with respect to enterprises in the dairy sector. However, what is more interesting for this exercise is that we also find evidence of heterogeneous preferences amongst consumers. That is, a specific CSR activity may not be very important for the general population, but be extremely significant for a niche of consumers. For example, "local" was voted most important practice in 100 times (third highest in terms of "best" votes) but its overall rank is 7th because such a high share of respondents chose it as a low priority. Following Bond et al.'s 2008 work on clustering among fresh produce consumers, we sought to find similarities in individual ranking patterns between consumers as a means to identify groups of consumers (segments) with similar priorities.

In order to identify consumer segments, we used a k-means clustering technique that identifies similarities in the pattern of best-worst responses to group like-minded consumers and then named those groups based on observed patterns (Bond et al. 2008). CSR preferences within each group, as well as group characteristics, are provided in Table 3.

One result that was consistent across all consumers was their preference to buy from those who produce with some type of animal welfare certification. Beyond this general finding, two specific consumer sub-groups emerge from the results: one emphasizes local business, equal opportunities for employees, and sustainable agricultural practices; while the other prioritizes air pollution, energy consumption, water quality, and waste management. The CSR preferences of the third group (Mixed) are quite similar to the ones we previously identified for the general population, so one might consider this group as a set of "average" or "representative" consumers.

As we expect for a set of representative consumers, the mixed group represents the bulk of our sample (60%). Despite their relatively smaller household income, their average own WTP for milk labels is second highest. They are also heavy milk drinkers (72.5% drink it "often"), which is one characteristic that is likely to be particularly important to dairy processors and their retail partners. Plain milk consumption patterns of our sample are provided in Figure 1.

The first group of "niche" consumers prioritizes outcomes which the individual firm can accomplish independently (e.g. enforcing equal opportunities for their employees). We label this cluster as the "local" group since the beneficiaries of these CSR activities are more likely to be the local communities and employees of the company. The second group prioritizes more "global" or collective outcomes such as: air and water quality, energy consumption, and proper waste management, and all imply the concerted efforts of a large number of firms, perhaps including global agribusiness corporations, to lead to desired outcomes. The beneficiaries of these CSR activities are not only the communities around the firm, but also the general world population and/or global ecosystems.

One of the most interesting clusters, which could be aligned with the "locavore" movement that is increasingly targeted by food retailers, is the one labeled as local development. Some of the reasons this dairy "cluster" is of interest include their high household income, the highest aver-

age own willingness to pay (WTP) for milk labels, and the fact that 85.7% of them report drinking milk "often". However, this is a small segment (22%) of our sample, but even that share is sizable enough to represent significant buying dollars.

Table 3. CSR Preference by Cluster

Cluster	Local Development	Global Impact	Mixed
	(22% sample)	*(18% sample)*	*(60% sample)*
Rank	1. Animal Welfare	1.Animal Welfare	1.Animal Welfare
	2.Local Business	2. Sustainable Ag. Practices	2. Sustainable Ag. Practices
	3. Employee Opportunities	**3. Waste Management**	3. Energy Consumption
	4. Sustainable Ag. Practices	**4. Energy Consumption**	4. Air Pollution
	5.Energy Consumption	**5. Water Management**	5. Employee Opportunities
	6.Water Management	**6. Air Pollution**	6. Waste Management
	7.Air Pollution	7. Employee Opportunities	7. Local Business
	8.Waste Management	8. Local Business	8.Water Management
	9. Community Involvement	9. Community Involvement	9. Community Involvement

HH Income	High	Medium	Low
	(24% over 100K, 81% over 50K)	(average 50k)	(majority 55% under 49k)
Age	Middle Aged (66% between 40-60yr)	Young &Old (extremes, 52% under 39yr, 33% over 50yr)	Young (59% under 39yr)
Education	High and low (graduate, college 67%, and the rest technical, high school only)	Generally high (graduate, college 76.5%)	Highly educated (graduate, college 83%)
WTP	Highest (avg. $0.837)	Lowest (avg. $0.525)	2nd highest(avg. $0.7)
Milk Consumption	Highest (85.7% drink it "Often")	Lowest (47% drink it "Often")	2nd highest (72.5% drink it "Often")

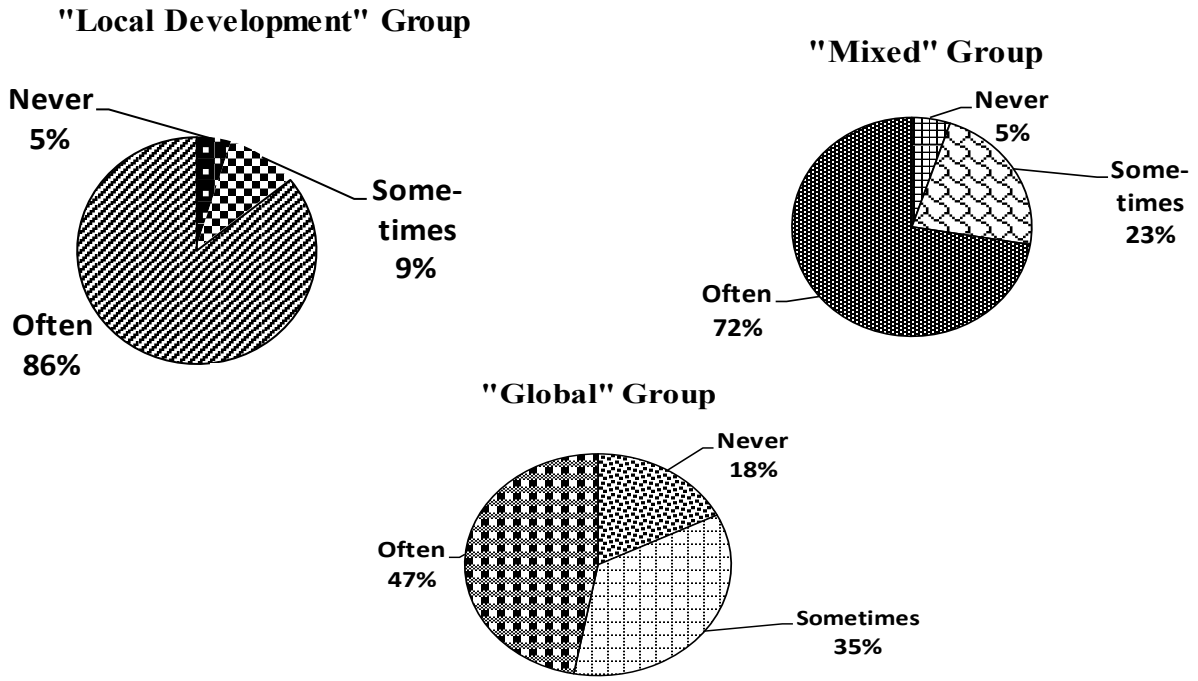

Figure 1. Milk Consumption by Cluster

Lessons on Corporate Responsibility as a Marketing Tool for the Dairy Industry

Businesses commonly seek ways to increase their competitive advantage in the marketplace, and marketing strategies often include differentiation through brands, promotions, and label information or placement in popular marketplaces.

In this study, we investigated several dimensions of consumer perceptions of CSR activities relevant to the dairy industry as a way to segment dairy buyers and identify criteria that may be effective in "branding" products toward those corporate social responsibility issues that may impact consumer buying decisions. While heterogeneity among consumers does exist, animal welfare is identified as the most preferred CSR activity by the great majority of study participants and a top priority for dairy farms. This result is not surprising in the context of increased consumer awareness of feedlot operations mistreating animals (Lusk et al. 2011).

Survey respondents were divided with respect to their CSR preferences into the "niche" sets of consumers who favor local (employee opportunities or sustainable agricultural practices) or global (air or water pollution) actions.

In short, animal welfare is an issue that is of importance and value to a fairly large set of dairy consumers, with other CSR initiatives of interest and value to smaller sets of consumers (who can be the recipient of more targeted promotion and marketing activities). So there is potential for dairy to use CSR to gain market advantage, but any firm must carefully consider how their choice of certifications, label choices, and positioning in markets frequented by certain groups of consumers will influence their success in promotion CSR.

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