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Corporate Social Responsibility in the Supply Chain: An Application in the Food Industry

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ABSTRACT. The food industry faces many significant risks from public criticism of corporate social responsibility (CSR) issues in the supply chain. This paper draws upon previous research and emerging industry trends to develop a comprehensive framework of supply chain CSR in the industry. The framework details unique CSR applications in the food supply chain including animal welfare, biotechnology, environment, fair trade, health and safety, and labor and human rights. General supply chain CSR issues such as community and procurement are also considered. Ultimately, the framework serves as a comprehensive tool to support food industry practitioners and researchers in the assessment of strategic and operational supply chain CSR practices.

KEY WORDS: Corporate Social Responsibility, Food Industry, Logistics Social Responsibility, Purchasing Social Responsibility, Supply Chain

Introduction

As breakdowns in corporate ethics are exposed, both consumers and governmental organizations are increasingly focusing their attention on corporate social responsibility (CSR) practices. As an example, financial misrepresentation at leading companies such as Enron (Prentice, 2003) and WorldCom (Hitzig, 2004) led to extensive loss of investor savings, prompting passage of the Sarbanes-Oxley Act to improve the accuracy of corporate financial reporting (Bernardi and LaCross, 2005). CSR continues to evolve in practice, and its reach now often extends to supply chain partners including suppliers, customers, and logistics providers. For instance, consumers and non-government organizations (NGOs) criticized apparel company NIKE regarding sweatshop labor issues at its overseas suppliers. NIKE initially declined social responsibility for its supply chain partners but later shifted its stance under increased public pressure (Zadek, 2004). The entire apparel industry now takes a more diligent approach to supply chain CSR with extensive supplier labor codes (Emmelhainz and Adams, 1999).

Beyond ethical considerations, consumer criticism of perceived CSR deficiencies can be extremely detrimental to corporate profitability and market share, and the infusion of supply chain accountability into CSR only increases the complexity of corporate CSR management. Companies may therefore find it more prudent to anticipate future CSR issues in their supply chains and integrate supply chain CSR standards into daily operations. While research has established general elements of supply chain CSR that apply across industries (Carter, 2004; Carter and Jennings, 2002a, b, 2004), different industries potentially have relatively unique supply chains and subsequent distinct supply chain CSR issues. So, one model of supply chain CSR does not fit all, and thus, additional research is needed to explore industry specific CSR issues.

The US food industry represents one such example. The industry retains substantial public visibility since it not only supports a requirement of daily human life but also plays a large role in the national economy as a multi-trillion dollar industry and leading export (Standard and Poor's, 2005a). With a complex, multi-echelon supply chain, the US food industry has many distinct and problematic supply chain CSR issues that remain in various stages of development. To date, there have only been anecdotal instances of public reaction to supply chain CSR concerns in the industry, yet the potential for significant backlash is relatively high. For instance,

animal welfare concerns have received some public scrutiny, but there has been relatively minimal public awareness of other potentially volatile issues such as biotechnology, labor, and food safety. Consider the ramifications, for instance, if human deaths are ever associated with tainted food supplies from bovine spongiform encephalopathy (BSE, also known as ''mad cow disease'') or terrorist tampering that occurred due to a food retailer's lack of attention to a supplier's safety and security practices.

Given the importance of the food industry and the maturing subject of supply chain CSR, there is a need for research to provide a clear model of supply chain CSR in the industry to generally support practitioner implementation across all levels of the food supply chain. Providing one such initial work, we assess industry trends as well as relevant academic and practitioner literature to develop a framework of supply chain CSR in the food industry. Our framework validates supply chain CSR elements in the industry and offers a structure by which both food companies and researchers can address supply chain CSR concerns. We start with an initial discussion of CSR and assess applications of CSR in the supply chain. Next, we highlight individual CSR issues in the food supply chain as part of the overall industry framework. In the end, the paper establishes a path forward for both practitioners and researchers to further explore and validate supply chain CSR in the food industry.

CSR

CSR centers on the idea that a corporation may be held socially and ethically accountable by an expansive array of stakeholders such as customers, employees, governments, communities, NGOs, investors, supply chain members, unions, regulators, and media. CSR research has evolved over the last 50 years (Carroll, 1999). As a foundation, Carroll (1979, 1991) integrated various streams of CSR research to define a model that extended corporate performance beyond traditional economic and legal considerations to include ethical and discretionary responsibilities. From a supply chain perspective, Carter and Jennings (2004) indicated that CSR not only is synonymous with business ethics but also encompasses dimensions including philanthropy, community, workplace diversity, safety, human rights, and environment.

Companies pursue CSR for a variety of reasons. Based on organizational values, some business leaders have embraced the concept and seek to provide leadership in the area (Maignan et al., 2002). Additionally, Spar and Mure (2003) indicated that corporations may react from threats to transaction costs, brand, and competitive positioning. CSR motivations may also include marketing, publicity, and innovation (Maignan et al., 2002). Swindley (1990) pointed out that firms may regard CSR as cost of doing business though other firms may find CSR self-beneficial. Panapanaan and colleagues (2003) indicated that globalization, regulation, and sustainable development have fueled expansion of CSR, and there have also been examples of investment companies exerting power to drive social responsibility among corporations (Spector, 2003). Several industry organizations promote CSR practices with notable examples including the US Chamber of Commerce Center for Corporate Citizenship (2004) and the World Business Council for Sustainable Development (WBCSD) (2005). Similarly, groups such as the Global Reporting Initiative (GRI) (2005) and the Institute for Social and Ethical Accountability (ISEA) (2004) focus on CSR reporting.

CSR in the Supply Chain

A corporation's supply chain may be generally defined as the series of companies, including suppliers, customers, and logistics providers that work together to deliver a value package of goods and services to the end customer [see (Simchi-Levi et al., 2002) for additional information]. Despite the history of CSR, applications of CSR to the supply chain have only emerged in the last 15 years. Poist (1989) provided early consideration of social responsibility in the supply chain, suggesting a total responsibility approach that adds societal issues to traditional economic drivers of the supply chain. Murphy and Poist (2002) contended that although supply chain practitioners have been slow to adopt CSR considerations, social responsibility concepts in the supply chain are increasing in importance. Carter and Jennings (2002a, b, 2004) established the importance of CSR in supply chain decision-making with case study and survey research.

Researchers have attempted to generalize the elements that characterize supply chain CSR in all industries, creating the concepts of Logistics Social Responsibility (LSR) (Carter and Jennings, 2002b) and Purchasing Social Responsibility (PSR) (Carter and Jennings, 2002a). Poist (1989) suggested employee training, philanthropy, environment, urban renewal, workplace diversity, health and safety, and community issues such as hunger and homelessness. More recently, Murphy and Poist (2002) primarily considered environment and workplace diversity. Carter and Jennings (2002a, 2004) empirically established primary supply chain CSR categories of environment, diversity, human rights, philanthropy, and safety, but they found that ethical concerns relating to procurement represent a separate issue from CSR. Some supply chain researchers have examined individual elements of CSR in the chain, including environment (Carter and Carter, 1998; Carter and Dresner 2001; Carter et al., 2000; Murphy et al., 1994), labor practices (Emmelhainz and Adams, 1999; Rivoli, 2003; Roberts, 2003), procurement (Carter, 2000a, b; Haynes and Helms, 1991; Razzaque and Hwee, 2002), and affirmative action purchasing (Carter et al., 1999; Giunipero, 1981; Spratlen, 1978).

As demonstrated by public backlash to apparel industry sweatshop issues, consumers have taken increasing interest in supply chain CSR issues (Emmelhainz and Adams, 1999) though their enthusiasm and commitment are mixed. For instance, several studies indicated that consumers are concerned about sweatshop issues and would pay higher product prices to support improvements (Elliott and Freeman, 2000; Prasad et al., 1999; University of Maryland Program on International Policy Attitudes, 2000). Prasad and colleagues (2004) concluded, however, that these studies may overestimate consumer willingness to pay for sweatshop resolutions, and Mohr et al. (2001) found consumers to not be committed to CSR due to limited knowledge of the subject and higher focus on traditional production selection factors such as quality and price.

The above research provides a broad template for CSR concerns in the supply chain, though these works tend to focus on either the consumer products industry (Carter and Jennings, 2004; Emmelhainz and Adams, 1999) or a wide array of service and manufacturing industries (Carter, 2004). The supply chain CSR literature has not been adapted to consider issues unique to most other specific industries. Without consideration of all unique supply chain CSR issues, it will be difficult for practitioners and researchers to effectively anticipate and develop supply chain CSR strategy and operational practices. There has been food ethics research conducted on many of the individual CSR elements, but these papers generally only look at just a few elements and do not highlight supply chain implications. The remainder of this paper synthesizes the PSR/LSR research with food ethics literature to offer one such comprehensive framework that is specific to the food industry. We have conducted a comprehensive review of both industry and academic literature, searching for established and developing CSR issues in the food supply chain. Emerging food industry trends as well as supply chain CSR practices from other industries are also considered. We focus on the US food industry though many global industry concerns are also addressed. We discuss our framework and its individual elements in the next section after briefly introducing the structure of the US food supply chain.

US Food Supply Chain

The food industry is a highly visible and important element of the US economy. It is estimated that the industry represents more than 12% of the US gross domestic product (Stock, 2004). Examining individual industry segments, grocery stores and supermarkets represent $590 billion in annual sales (Standard & Poor's, 2005c), food processing and distribution represents about $1 trillion in revenue annually (Stock, 2004), and farms produced $235 billion in food in 2004 (Standard and Poor's, 2005a). Furthermore, restaurants retain approximately $450 billion in sales and employ 12.2 million workers, the largest employer outside of the government (National Restaurant Association, 2005; Standard and Poor's, 2005b). In addition, food is the leading US export (Standard and Poor's, 2005a) though some experts predict that population growth may cause the US to stop exporting in as soon as 20 years (Stock, 2004).

The US food supply chain consists of hundreds of thousands of companies, all working to deliver food

products to the end consumer (Stock, 2004). Figure 1 reveals that the industry supply chain is extremely complex and that the path of a specific food product may vary. For instance, whether crop or animal based, food originates from growers. Growers will then generally sell to the food processors (either directly or through a broker), but they also have some avenues to directly reach farther down the chain to distributors, retailers (supermarkets, restaurants, etc.), and even consumers. Similarly, food manufacturer/processors usually sell to distributors, wholesalers, and brokers, though large manufacturer/processors may also have direct reach to retailers and consumers. The exact supply chain path for a particular food product depends not only on the product itself but also on the size and market power of the supply chain members.

CSR in the Food Supply Chain

Based on several recent publicized instances, CSR appears to be gaining importance in the food supply chain due to not only the nature of the product as animal/plant based consumables that are required for existence but also the complex, labor intensive nature of food supply chains. For example, companies such as Taco Bell and Campbell's Soup have been pressured by NGOs and laborers to improve wage conditions among produce farmers (Prewitt 2002a, b; Terry, 1983), while some food retailers have been targeted for issues with ''fair trade'' prices to suppliers (Carlton, 1999; 'Kraft Foods to Sell Fair-Trade' 2003; Stecklow and White, 2004). Additionally, campaigns have been brought about against animal welfare and sustainability practices of food suppliers including animal treatment (Ordonez 2000), humane slaughter (Kilman, 2003; Garber, 2005), overfishing (Prewitt 2002a, b; Thorn, 2003), and use of antibiotic (Krebs, 2003; Leung 2003). As a general trend, several works noted that qualitative and intangible factors such as animal welfare, production processes, and technology are gaining importance among food consumers preferences (Phan-Huy and Fawaz, 2003; Tutwiler, 2003).

A few ethics researchers have attempted to organize CSR elements in the food supply chain. Wade (2001) examined issues such as animal welfare, fair trade, biotechnology, health, distribution, and agricultural methods. Similarly, Busch (2003) considered health, safety, environment, labor, quality, and animal welfare. These works do not necessarily thoroughly assess the corresponding supply chain implications, however, and they also do not incorporate some factors established from the PSR/LSR literature (Carter and Jennings, 2002a, b, 2004). Subsequently, we develop a comprehensive framework of CSR applications in the food supply chain (Fig. 2), combining and categorizing both the ethics and PSR/LSR research with current industry trends to represent a complete supply

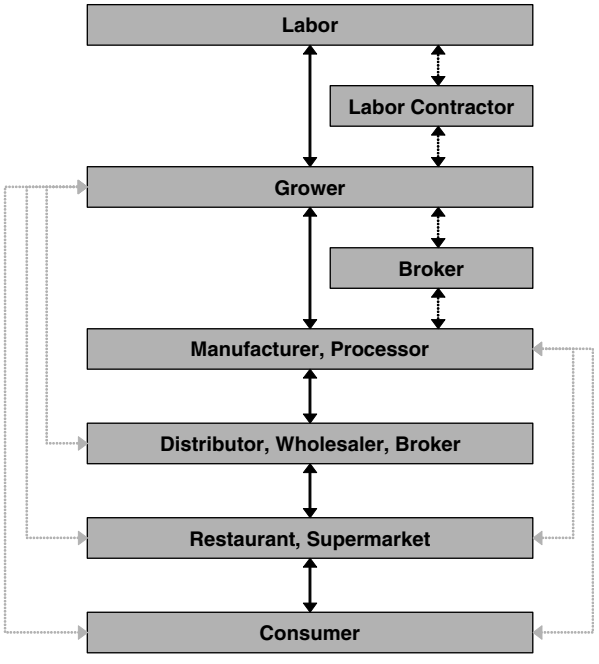

Figure 1. US Food Supply Chain (Adapted from Stock (2004)).

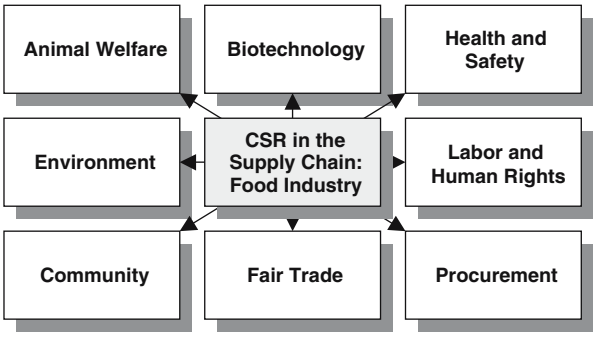

Figure 2. Dimensions of CSR in the Food Supply Chain.

chain CSR model for the food industry. Overall, there are eight categories in our framework: animal welfare, biotechnology, community, environment, financial practices, health and safety, labor, and procurement. In the following section, we explore these eight categories, presenting the origins of each and reviewing existing research resources. While some of the categories are generalizeable to all industries, many present relatively specific and potentially highly demanding problems to the food industry. For reader convenience, Appendix A presents a more comprehensive adaptation of the framework, detailing the individual components of each supply chain CSR category with sample references.

Animal Welfare

Guided by the premise that animals should not endure unnecessary suffering, animal welfare includes humane approaches to handling, housing, transport, and slaughter. Food companies have pursued lower costs by implementing more intensified animal farming (commonly known as factory farming). Zuzworsky (2001) noted that such practices have helped the industry reduce costs, but this approach has led to several questionable animal welfare practices. For instance, Fox (1997) not only discussed problems with animal living space, access to fresh air and sunlight, and interaction with other animals, but he also suggested it cruel to slaughter animals before the end of natural life. Although regulatory efforts including the Humane Slaughter Act of 1978 in the United States (Zuzworsky, 2001) and the European Convention for the Protection of Animals in 1976 (Blandford and Fulponi, 1999) attempted to improve general industry conditions, there are still grounds for potentially serious public concern. As a result, food retailers have increased their attention to the animal welfare practices of their suppliers.

A substantial amount of research has been conducted on consumer attitudes about animal welfare practices in the food industry. Verbeke and Viaene (2000) found that although food safety was the primary consumer concern with respect to meat consumption, animal welfare is increasing in significance. Other research found that consumers perceive higher levels of animal welfare as an indicator of food safety and quality (Harper and Makatouni, 2002; Phan-Huy and Fawaz, 2003). Works by Velde et al. (2002) and Schröder and McEachern (2004) noted that consumers are concerned with animal welfare though they will not necessarily change their eating habits as a result. Similarly, Hughes (1995) established that animal welfare improvements will not necessarily increase sales but will reduce the chance of sales loss from consumer concerns. Bornett et al. (2003) found that free-range (i.e. animals are allowed continuous and unconfined access to pasture throughout their life cycle) practices were not any more cost prohibitive than industry standards, but organic farming (general exclusion of synthetic fertilizers, pesticides, and other chemicals) was 31% higher in cost. They argued that premium prices can justify any increased costs, and Bennett et al. (2002) indicated consumer willingness to pay more for improved animal welfare conditions.

Research indicates several barriers to consumer awareness of animal welfare practices. For one, consumers often disassociate connections between live animals and meat consumption (Schröder and McEachern, 2004). Additionally, many consumers are not aware of differences in industry approaches to animal welfare including organic and free-range farming (Harper and Makatouni, 2002). Schröder and McEachern (2004) discussed additional barriers including insufficient labeling, lack of high animal welfare standard product availability, and purchasing being out of consumer control due to eating out. They also suggested that consumers need better information about animal welfare practices of food products.

US food companies have taken some steps to improve animal welfare practices in the supply chain. Beyond individual responses by some large food retailers such as McDonald's, Burger King, and Kentucky Fried Chicken (Ordonez, 2000; Zuber, 2001; Garber, 2005), the Food and Marketing Institute (FMI) is collaborating with the National Council of Chain Restaurants (NCCR) to implement animal welfare standards to minimize future consumer and NGO concerns (Food Marketing Institute 2005). These individual and industry efforts will set higher levels of responsibility throughout the food supply chain. Animal welfare practices and regulations are somewhat more advanced in Europe than the United States, however, and Blandford and

Fulponi (1999) suggested that such differences in standards will continue to lead to global trade conflicts.

Biotechnology

Biotechnology represents a rapidly emerging category of supply chain CSR issues in the food industry. Defined as the ''use of biological processes to make useful products'' (Gosling, 1996), biotechnology includes but is not necessarily limited to recombinant DNA (combining DNA from different organisms), tissue culturing (growing tissue outside the body), cloning, growth stimulation, genetic testing (for breeding and selection purposes), and the use of antibiotics (Blayney et al., 1991). The processes may be applied to plants or animals. Research indicates that biotechnology offers many substantial food industry benefits including higher yields, lower costs, improved animal health, reduced crop loss, and less need for herbicides and pesticides (Gosling, 1996). Further benefits include enhanced product shelf life, sensory appeal, and health/wellness attributes (Hossain and Onyango, 2004). Biotechnology can also allow for disease testing as well as increase the production of pharmaceuticals derived from plants and animals (Gosling, 1996).

Recent polls indicate that public awareness of genetically modified food in the US is low though increasing (Shanahan et al., 2001). Despite the numerous benefits, the general public remains apprehensive about biotechnology practices, and consumer reactions to topics such as cloning and gene manipulation tend to be unpredictable (Gosling, 1996). Savadori et al. (2004) indicated that the public perception of biotechnology risks is higher than that of field experts. While consumers are concerned about tradeoffs between biotech risks and benefits, US consumers do not necessarily oppose such applications but do have significant concerns, more so related to animals than plants (Hossain and Onyango, 2004). Specific anxieties include moral/ethical stances, cross-contamination, growth hormone affects on animals, and human safety associated with ingestion of hormone, antibiotic, and tranquilizer residuals (Blayney et al., 1991; Gosling, 1996; Verbeke and Viaene, 2000).

Hossain and Onyango (2004) indicated that farm adoption of biotechnology is high, but Scholderer and Frewer (2003) asserted that it will be difficult to sway public stance to favor biotech practices. Consumer attitudes about food biotechnology and the subsequent threat to protest or boycott industry practices pose a considerable threat to food retailers. Consequently, retailers are becoming more sensitive to consumer attitudes about the use of biotechnology and are beginning to push more comprehensive standards down the supply chain. For instance, food companies in the European Union are adopting stricter requirements for labeling and traceability of genetically modified foods (Sissell, 2003). As biotechnology applications become more advanced (and possibly more controversial), food industry trepidation and risk may continue to grow.

Community

The community aspect of CSR represents a broad set of activities that provide support for the local community. The Center for Corporate Citizenship (2004) focuses on business impacts such as educational support, economic development, job training, employee volunteering, health care, literacy, arts and culture, childcare, and housing. A bulk of these efforts revolves primarily around financial donations. Cone et al. (2003) indicated that companies devoted more than $9 billion to social causes in 2001 though Porter and Kramer (2002) reveal that philanthropy is declining primarily due to pressure to meet stockholder expectations. Research contends that philanthropy not only strengthens employee loyalty but can also provide a source of corporate competitive advantage (Porter and Kramer, 2002; Smith, 1994). For instance, Japanese firms have used philanthropy to ease concerns over foreign investment in the US (Smith, 1994), and companies have used cause-related marketing (e.g. donate a percentage of sales or profits to charitable causes) to boost sales (Varadarajan and Menon, 1988).

For the most part, community elements of CSR have not been applied to the supply chain. Carter and Jennings (2002b, 2004) validated community as a significant element of supply chain CSR through the use of structural equation modeling to practitioner survey data. Their definition of

community focuses on purchasing's role with volunteering and philanthropy. One prominent though relatively isolated example in the food industry is Ronald McDonald House, which provides housing for families of sick children (Smith, 1994). Several McDonald's suppliers are involved in the program. Food donations may represent another possibility, especially given recent projected government cuts in food-stamp programs (Zhang, 2005). Even though community does not appear to be a major element of supply chain CSR, practitioners and researchers should still be aware of its potential influence and look for opportunities to support the community.

Environment

The food industry has many impacts on the environment. For instance, Fox (1997) noted problems with manure disposal, soil and water damage, deforestation, and global warming from methane. Boehlje (1993) discussed additional agricultural issues including chemicals (fertilizers, herbicides, pesticides, etc.), waste disposal, and farming techniques, while Roberts (2003) mentioned forest destruction. Examples of other environment factors addressed in the literature include water pollution, packaging, food miles (distance traveled from farm to consumer leading to issues such fuel consumption and global warming), and damage compensation (Boehlje 1993; Wade, 2001). Subsequently, food industry retailers must not only be prepared to offer environmentally friendly products to consumers but also demonstrate responsible environmental care practices in their supply chains.

Consumer concerns about food industry impacts on the environment have led the emergence of organic food products, which are generally characterized by use of sustainable farming practices and limited use of chemicals in the farming process (US Department of Agriculture, 2005). Demand for organic foods is growing quickly but still remains a relatively small segment of the overall food market (Butler et al., 2004). Despite the potential for positive environmental impacts, there are several logistics challenges associated with organic foods including limited supply bases, lower yields, shorter shelf life, high prices, and inconsistency of availability (Legg and Viatte, 2001; Butler et al. 2004). Additionally, Rice (2001) noted that organic foods contradict key industry drivers such as cost reduction and yield maximization.

From a supply chain perspective, several works have examined environmentally responsible logistics (ERL) in the last decade (Carter and Carter, 1998; Carter and Dresner, 2001; Carter et al., 2000; Murphy et al., 1994). Several works address specific ERL topics such as waste disposal, reverse logistics, and recycling (Carter and Ellram, 1998; Young, 2000; Rogers and Tibben-Lembke, 2001). Murphy et al. (1996) as well as Goldsby and Stank (2000) attempted to benchmark progressive ERL companies, finding these leaders may reject suppliers without sufficient environmental awareness, policies, and procedures. Goldsby and Stank also found that world-class supply chain companies tend to have strong ERL programs. As examples in the food industry, Starbucks initiated their Preferred Supplier Program which rewards suppliers for both environmentally and socially responsible practices (Schrage, 2004), and McDonald's incorporates environmental factors into purchasing guidelines including elements such as water and energy conservation, air pollution, waste and recycling, habitat preservation, and use of chemicals (McDonald's, 2004). Additionally, some NGOs are offering certification of produce based on environmental standards (Jorgensen et al., 2003).

Fair Trade

Financial practices relative to CSR have gained significant attention in the last 5 years with the advent of corporate financial scandals ('Can Money and Ethics Mix?', 2003). Beyond conforming to higher financial reporting standards, the food industry supply chain also faces challenges from rising public popularity of ''fair trade'' concerns. The premise of fair trade is that food retailers should support prices to the suppliers that allow these suppliers to not only avoid poverty but also sustain business longevity. Jones et al. (2003) reported that fair trade products represent a small yet rapidly expanding portion of U.K. grocery sales, though they found several barriers to fair trade product penetration including limited store promotion, reluctant and unaware consumers, restricted product range, fragmented supply markets, cost, and verification.

Additionally Rice (2001) indicated that like organic products, fair trade practices contradict food industry focus on cost and yield.

Fair trade labeling in the food industry is now gaining momentum (Adams, 1993), though researchers have argued that food retailers must lead efforts to promote and support fair trade food products (Jones et al., 2003). Coffee represents one prominent fair trade example. Specifically, coffee bean supplies typically originate from small coffee growers, and supply prices have forced growers into poverty or even bankruptcy (MacKenzie, 2004). As a prominent industry retailer, Starbucks was targeted by NGOs for not providing fair trade prices to coffee suppliers and has since instituted fair trade coffee offerings in their stores. The success has been limited, however, as Starbucks has found that consumer demand for fair trade coffee is relatively flat and that certified suppliers often lack consistency in volume and quality (Schrage, 2004). This example indicates that although fair trade offerings may help alleviate public criticism of financial fairness with suppliers, they may not be profitable for food companies.

Health and Safety

The food industry retains several health and safety challenges, many of which have major supply chain implications. Consider, for example, that the second case of BSE (mad cow disease) was recently confirmed in the US ('Second US Case of Mad Cow' 2005), prompting consumer fears of the food industry's capability to identify problems early in the supply chain before products reach retail levels. Likewise, the U.K. government destroyed millions of animals to calm public concern over foot and mouth disease (non-fatal to humans) although only some 2,000 of such animals were actually infected (Anthony, 2004). Food security presents a similar problem to disease. Industry experts predict a high likelihood of a terrorist attack on the US food supply, and the food industry is currently evaluating tests to protect against biological, chemical, and radiological attacks (McTaggart, 2005). The industry has also organized programs to share information throughout the supply chain including the Food and Agriculture Information Sharing and Analysis Center (FA-ISAC) and the Food and Agriculture Sector Coordination Council (FASCC).

With threats from disease and terrorism, food traceability throughout the supply chain has become a major issue in the industry (van der Vorst et al., 2001). Traceability of food products will help isolate industry response to problems, thus enabling the industry to more rapidly and cost effectively control disease and reduce impacts from tampering. Additionally, consumers will benefit from increased information of retail products, and food companies can gain from enhanced supply chain capability, reduced recall costs, and specialized marketing of food with subtle differences (Golan et al., 2004). The US Food and Drug Administration (FDA) now requires advanced traceability capacity, which may prove to be a challenge in the food industry due to low systems technology capability (Hulme, 2005).

Healthy lifestyles represents an increasingly important supply chain CSR issue. Specifically, many developed countries face problems with obesity (Dower, 1996), and activists have directed at least some blame to fast food restaurants and other food retailers (Prewitt 2004). So, these restaurants and retailers face pressure to support to healthier eating with new food offerings as well as enhanced product labeling (Standard and Poor's, 2005a). Such changes cannot occur without coordination within the supply chain, however, since suppliers retain significant control over product development and labeling. It is interesting to add that Burton and Creyer (2004) found that consumers remain relatively unaware about the nutritional value of restaurant food and indicated that offering both nutritional information and healthier selections have powerful impacts on eating habits. As irony to the healthy lifestyles challenge, experts estimate the 600–800 million people in the world live in hunger (Dower, 1996, 2001), an issue driven not necessarily from the quantity of food but more so by the availability and access of food sources (Dower, 1996). While food companies may not be directly responsible for addressing world hunger, they should realize that they may potentially play an important role. Furthermore, Wade (2001) warned of a related problem of ensuring that agriculture supplies in developing countries are first directed towards feeding local populations before supporting export activity.

Labor and Human Rights

Labor and human rights issues in supply chain CSR captured consumer attention almost ten years ago as NGOs exposed ''sweatshop'' labor conditions of foreign apparel manufacturers supplying prominent US retailers such as NIKE and Wal-Mart (Emmelhainz and Adams, 1999). As a result, international labor standards relative to key issues such as child and forced labor, health and safety, collective bargaining, grievances, discrimination, discipline, and compensation have arisen from programs such as the U.N. Global Compact (2005) and the Council on Economic Priorities Accreditation Agency's (CEPAA) Social Accountability International SA8000 (Social Accountability International, 2005) standards.

Labor and human rights also present a complicated issue in the food industry, potentially exposing the industry supply chain to the same reactions and protests experienced by the apparel industry. With 2.5 million farmworkers in the US (US General Accounting Office 2000), food supplies involve manual, strenuous, and dangerous agricultural labor work characterized by low pay, labor oversupply, poor working conditions, and labor migration (Martin, 1991). Additionally, the World Bank (2003) identified industry problems with both worker rights (e.g. right to collectively bargain) and human rights abuses in the industry. The US Migrant and Seasonal Agriculture Worker Protection Act (1983) set basic labor provisions including worker registration, legal rights, employment terms and conditions disclosure, wage and hours disclosure, safety training, housing safety, and transportation safety. Professional advancement, education, regular employment, privacy, hygiene, diversity, discipline/abuse, discrimination diversity, and worker respect represent additional issues.

Despite some advances, the food industry still has many labor issues. Specifically examining compensation for example, a recent congressional report indicated that agricultural worker wages and income have remained stagnant despite significant industry growth (US Department of Labor, 2000), and the US Department of Labor (1997) found that 75% of all farmworkers live in poverty. In an attempt to enhance compensation practices through increased prices, both agricultural workers and NGOs have bypassed farmers to direct living wage protests at prominent retailers such as Taco Bell and Burger King (Grow and Prasso, 2002; King, 2003). It is interesting to note that Pollin et al. (2004) found that wage increases do not have much impact on price in the apparel industry but also advised that even if price are raised, supplier labor may not benefit. As another challenge, campaigns against food retailers may not result in desired outcomes. In fact, Elliott and Freeman (2000) contended that some campaigns end up eliminating jobs and that low wages are better than no wages.

Labor problems in the food industry stems not only from unauthorized foreign (not legally permitted to work in the country) and child workers (US General Accounting Office, 1992; US Department of Labor, 2000) but also from bonded and slave labor (Roberts, 2003). It is estimated that more than one-third of the US farm workforce is unauthorized, and that most foreign workers live and work separately from their families. Outlining the components of child labor, Kolk and Tulder (2002) noted that agriculture has the largest child labor force, and with compensation often based on productivity, many children will work along side their families in the field (US General Accounting Office, 1992).

Additionally, safety issues abound in agriculture. The US Government Accountability Office (GAO) (1992) described pesticide poisoning, limited worker training on farm chemicals, children operating heavy machinery, and inadequate field sanitation including no drinking water and substandard housing. The US Environmental Protection Agency (EPA) (2000) estimated 10,000–20,000 physician diagnoses of pesticide illness among farmworkers annually and contended that this approximation may be considerably low due to underreporting. Although the EPA has Worker Protection Standards (WPS), the GAO (2000) indicated that such standards are not completely enforced. As yet another labor CSR problem for the food industry, the cyclical pattern of agriculture results in temporary and seasonal employment for farmworkers (Martin, 1991). Beyond compensation issues with unsustained income, research reports of low levels of commitment of part-time workers due to schedule unpredictability, low seniority, working condition hazards, and gender bias (Zeytinoglu, Lillevik, Seaton, and Moruz, 2004). Likewise, Bardasi and

Fansesconi (2003) indicated low job satisfaction and higher stress among seasonal workers.

Procurement

Transgression and impropriety in the procurement process can comprise a company's supply chain CSR mission. Carter (2000a, b) offered a review of many examples of ethical issues in the procurement process such as favoritism and preferential treatment, bribery, gifts, obscure contract terms, and rebidding past deadlines. Cooper et al. (1997) found ethical issues relating to the procurement process to include showing partiality to suppliers, allowing personalities to influence buying decisions, and failure to provide prompt responses to customers. As an example in the food industry, Duffy et al. (2003) reported power abuse and unfairness by U.K. supermarkets to their suppliers. To complicate procurement matters, Carter (2000b) found significant differences in perceptions of ethical issues between buyers and suppliers.

The Institute for Supply Management (2005) has defined standards for the ethics area of social responsibility in procurement, establishing elements such as use of confidential and proprietary information, conflict of interest, deception, impropriety, influence, reciprocity, responsibility to the employer, power abuse, and special treatment. Other elements include conduct, professional competence, abiding by applicable law, promotion of disadvantaged and minority suppliers, and the suppliers' own minority labor programs. To support the implementation of such standards, Cooper et al. (1997, 2000) examined enablers and barriers to operationalizing ethical procurement practices.

Conclusions and Future Research

Experience indicates that food companies are prime targets for public concern over perceived supply chain CSR deficiencies. For instance, an NGO directed protest efforts of fair trade practices at Starbucks not only because they believed that the company was not backing up its CSR claims but also due to the company's size, brand recognition, location (for ease of picketing and managerial access), and likelihood of succumbing to protests (Argenti, 2004). Elliott and Freeman (2000) also noted that retailers with high brand recognition and lean supply chain practices (such as low inventory levels) are most susceptible to protests

Given food industry exposure to risks to criticism of supply chain CSR issues, this paper synthesizes an initial yet expansive framework of CSR issues in the food supply chain, including elements such as animal welfare, biotechnology, community, environment, fair trade, health and safety, labor, and procurement. This framework serves as foundation for further research in the food industry to investigate the supply chain CSR elements. For example, there is a need to empirically test the framework presented in this paper with surveys and case studies of practitioners, consumers, and other stakeholders. This research could not only validate the framework elements but also determine perceived importance, order, and risk of each as well as the hierarchical relationship among them. Researchers could also investigate differences of supply chain CSR elements across different echelons of the chain, including power and influence by different supply chain levels and stakeholders. Additional work could then evaluate the current progress of supply chain CSR standards and practices versus what is (and will be) expected by the food industry stakeholders. As an interesting extension of this, researchers could explore whether or not industry members are actively practicing to their established level of supply chain CSR standards and how companies use supply chain CSR as a source of competitive advantage.

Likewise, research could support the industry by focusing on the drivers and barriers of supply chain CSR implementation, including business case development, standardization, monitoring, and labeling throughout the chain. Additionally, a broader stream of research could help explore the reach of a company's supply chain CSR standards, especially in a chain as complex and deep as that of the food industry. As another opportunity for future investigation, researchers could also evaluate how differences in supply chain CSR standards among different countries affect international trade relations as well as import/export practices. All of these above supply chain CSR research ideas could also be applied to other at-risk industries such as pharmaceuticals, chemicals, and oil.

Supply chain CSR research in the food industry provides a basis by which food companies can gain immediate awareness of supply chain CSR issues. These companies can use this research to perform a supply chain CSR audit, assessing their standards and operational processes in order to develop a thorough, risk-minimizing CSR approach. There have already been fragmented examples of such supply chain CSR responses at various levels in the food industry. At a corporate level, both McDonald's (2004) and Starbucks (2004) publish annual CSR reports addressing issues such as sustainable supplies, environment, healthy eating, responsible procurement, philanthropy, and fair trade. At an industry level, the Food and Marketing Institute's (2005) animal welfare guidelines address concerns primarily with humane slaughter. At a government level, the European Commission has proposed conditional payment practices to farmers based on environmental, food safety, occupational safety, and animal welfare standards. (Christen, 2002). Finally, at a global level, the International Organization of Standardization (ISO) (2005a, b) offers guidelines for environmental (ISO 14000) and food safety (ISO 22000) responsibilities.

Unfortunately, the above examples are often more of an exception rather than a standard in the food industry. Overall, there has been relatively little public criticism of supply chain CSR issues in the industry to this point, and for the most part, the industry has retained a reactive or defensive approach. While it has responded to alleviate some supply chain CSR instances of animal welfare and fair trade, the industry has also resisted other issues such as wages for farmworkers (Prewitt 2002a, b; Pickers Rebuff $110k Gift' 2004).

The identification and salience of stakeholders is a function of three stakeholder attributes – power, legitimacy and urgency (Mitchell et al., 1997). Organizations are likely to be more attentive to stakeholder claims when those claims are seen as legitimate by society, require immediate attention, and are advanced by powerful stakeholder groups. We contend that any one of the food industry CSR issues discussed in this paper are potentially legitimate and urgent and could instigate significant problems for any industry member, especially considering that some issues such as food safety and biotechnology are supported by powerful stakeholder groups. Given low profitability due to heavy price discounting and rising input costs (Standard and Poor's, 2005a, b), food companies may feel that they cannot afford to devote additional financial and employee resources to seemingly indirect issues such as supply chain CSR. Such low margins offer little financial insulation, however, for these companies to endure any serious public campaigns or protests. Thus, ignoring supply chain CSR issues may present a greater risk. It is therefore not only in the food industry's ethical responsibility but also in their financial best interest to proactively prepare a comprehensive strategy for supply chain CSR.

APPENDIX A

Summary of food industry supply chain CSR issues with selected sources

Category	Subcategory	Elements	Selected Sources
Animal Welfare	Humane treatment	Cruelty, handling, housing, slaughter, transport	(Blayney et al., 1991; Ellahi, 1996; Gosling, 1996; Shanahan et al., 2001; Scholderer and Frewer, 2003; Hossain and Onyango, 2004)
Biotechnology	Animals, plants	Antibiotics, growth hormones, tissue cultures, genetic testing, recombinant DNA, cloning	(Blayney et al., 1991; Gosling, 1996; Scholderer and Frewer, 2003; Sissell, 2003; Hossain and Onyango, 2004; Savadori et al., 2004)
Community	Support	Economic development, philanthropy, arts, educational support, job training, volunteering, literacy, health care, childcare, housing	(Piacentini et al., 2000; Center for Corporate Citizenship and The US Chamber of Commerce Center for Corporate Citizenship, 2004)
Environment	Conservation	Damage compensation, energy, food miles, forests, farming methods, packaging, resources, species, water, soil	(Boehlje, 1993; Murphy et al., 1996; Carter et al., 2000; Legg and Viatte, 2001; Wade, 2001)
	Pollution and waste disposal	Emissions, waste, manure, water, hazardous materials, organic, herbicides, pesticides, rodenticides, recycling, global warming	(Boehlje, 1993; Murphy et al., 1994; Murphy et al., 1996; Carter et al., 2000; Young, 2000; Rice, 2001; Christen, 2002; Butler et al., 2004)
Fair Trade	Fairness	Fair trade, profit sharing	(Bloom and Perry, 2001; Rice, 2001; Duffy et al., 2003; Jones et al., 2003)
Health and Safety	Safety	Food safety, security, traceability, transportation, disclosure	(Hobbs, 1996; Wade, 2001; Sissell, 2003; Golan et al., 2004; Stock, 2004; McTaggart, 2005)
	Health	Healthy lifestyles, local food sources	(Boehlje, 1993; Wade, 2001; Busch, 2003; Burton and Creyer, 2004)
Labor and Human Rights	Compensation	Compensation	(Emmelhainz and Adams, 1999; Elliott and Freeman, 2000; Rivoli, 2003; Pollin et al., 2004)
	Illegal labor	Captive/forced/bonded labor, child labor, status verification	(US Department of Labor, 1997; Kolk and Tulder, 2002; Maignan et al., 2002; Rivoli, 2003; Social Accountability International, 2005)

	Opportunity	Training, education, advancement, regular employment	(Ness, 1992; Tsang, 1998; 2000; Bardasi and Francesconi, 2003)
	Treatment	Accommodations for disabled, discipline/abuse, discrimination, respect	(US Department of Justice, 1990; Beary, 2004; Social Accountability International, 2005)
	Worker rights	Legal rights, civil rights, diversity, privacy, collective bargaining, grievances, rights disclosure	(US Department of Labor, 1983; Emmelhainz and Adams, 1999; Maignan et al., 2002; Rivoli, 2003; Social Accountability International, 2005)
	Working conditions	Hygiene, sanitation, healthy, quality, safety, transportation safety, housing safety, training/disclosure, hours	(US General Accounting Office, 1992; Emmelhainz and Adams, 1999; Maignan et al., 2002; Rivoli, 2003; Social Accountability International, 2005)
Procurement	Behavior	Conduct, professional competence	(Institute for Supply Management, 2005)
	Purchasing Process	Confidentiality/proprietary information, conflict of interest, deception, impropriety, influence, reciprocity, responsibility to employer, power abuse, special treatment	(Carter, 2000b; Carter and Jennings, 2004; Institute for Supply Management, 2005)
	Legal	Applicable law	(Institute for Supply Management, 2005)
	Supplier diversity	Disadvantaged suppliers, minority suppliers, supplier's minority labor/programs	(Maignan et al., 2002; Institute for Supply Management, 2005)

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