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FOOD SAFETY STANDARDS AS CORPORATE SOCIAL
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**FOOD SAFETY STANDARDS AS CORPORATE SOCIAL RESPONSIBILITY: A
CASE STUDY OF INFANT FOOD COMPANIES**

By

Todd Alan DeKryger

A DISSERTATION

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ABSTRACT

FOOD SAFETY STANDARDS AS CORPORATE SOCIAL RESPONSIBILITY: A CASE STUDY OF INFANT FOOD COMPANIES

By

Todd Alan DeKryger

Infant food companies present their food safety programs as an important part of their responsibility to society. How these companies justify their food safety programs is best understood using models developed to describe the concept of corporate social responsibility. Boltanski and Thévenot's worlds of justification provide the best conceptual framework for understanding the food safety appeals made by infant food companies. Examining public documents from infant food companies provided evidence on how infant food companies portray food safety messages. Interviewing actors within the US food safety system provided insights into the food safety issues that affect infant food companies. This study concludes with recommendations designed to improve infant food safety messages.

Dedicated to my wife, Carolyn, who supported me every step of the way.

PREFACE

Over the course of the past 25 years, I have experienced how food issues in the media affect a branded food company as well as the entire supply chain. Whether the issue is a total national recall of products due to an intentional food-tampering incident, a single newspaper article questioning the wholesomeness of a retail product or an inadvertent contamination by a potential allergen, the impacts on a food company and its supply chain are staggering.

To fully disclose my bias in conducting this research, some personal background must be explained. I currently work for a North American global infant food company owned by a Western European food company. The first thirteen years of my employment involved working directly with commodity growers to improve fruit and vegetable quality and reduce pesticide residues. In addition to my direct interaction with growers located throughout the North America, Latin America and Eastern Europe, I spent a year managing supplier Corporate Social Responsibility self-assessments, as well as third party compliance audits of suppliers. Currently, I work in the company's Product Safety group. In this capacity, I am responsible for addressing all pesticide, heavy metal and other contaminant issues pertaining to infant food production.

However, working intimately in these programs, along with the "scholar-practitioner" approach adopted from my RD classes, created the desire to step back and look at these programs from a more theoretical basis. What value do these types of programs offer to an infant food company? Why does one group

of company senior leaders emphasize these corporate social responsibility programs while the next group could not care less? How do infant food companies use their food safety programs to demonstrate their responsibility to society?

These questions, and more, continue to haunt me. I am a “big picture” person by nature. I need to understand what role each part plays in the larger “scheme of things”. This continues to drive my quest to understand what role food safety plays in determining how a food company behaves within the greater community. I also have a desire to understand the impacts of the ever-changing governmental food regulations as well as the evolution of private standards.

There are many similarities shared by all food companies. However, there are many differences as well. Through my research, I intend to provide a greater understanding of the expectations of stakeholders on North American infant food companies and the messages that these companies communicate to their stakeholders.

A Point of Clarification about the Infant Food Industry

This study only considered infant food companies that sell cereal and pureed food products for infant and young children. Infant food companies refer to cereal and pureed products as “meals.” In contrast, the infant formula industry deals with many unique issues relative to the infant “meals” industry. As such, federal and international regulatory bodies regulate infant formula using different sets of standards. In Europe, the majority of infant food companies produce both

formula and meals. In the US, infant food companies produce either formula or meals, but not both. As a result, the list of infant formula companies in the US does not contain the same companies as the list of infant puree and cereal manufacturers. Research regarding CSR and food safety in infant formula companies deserves its own study. Therefore, infant formula is outside the scope of this research.

TABLE OF CONTENTS

LIST OF FIGURES.....	ix
CHAPTER ONE	
THE NEED FOR PRIVATE FOOD SAFETY STANDARDS BY INFANT FOOD COMPANIES.....	
Two events that influenced an entire industry.....	1
Challenges to the current regulatory system.....	2
Challenges for food companies.....	4
Problem statement.....	6
Research goals.....	9
Significance.....	9
Chapter summary.....	13
Chapter summary.....	14
CHAPTER TWO	
HOW INFANT FOOD COMPANIES WERE SHAPED BY SCIENCE AND HISTORY.....	
Historical events make infant food unique.....	16
Time periods.....	17
Infant foods are unique.....	19
Chapter summary.....	30
Chapter summary.....	44
CHAPTER THREE	
WORLDS OF JUSTIFICATION.....	
Dimensions of Corporate Social Responsibility.....	45
Conceptual models.....	45
Point of departure.....	46
Why are these differences important?.....	62
Chapter summary.....	74
Chapter summary.....	75
CHAPTER FOUR	
METHODS OF DATA COLLECTION AND ANALYSIS.....	
Analyzing infant food company messages.....	77
Food safety actor interviews.....	77
Infant food companies.....	79
Data analysis.....	89
Chapter summary.....	93
Chapter summary.....	93
CHAPTER FIVE	
PERSPECTIVES ON FOOD SAFETY ISSUES BY ACTORS WITHIN THE FOOD SAFETY SYSTEM.....	
Food safety themes from the interviews.....	95
Communication.....	96
Communication.....	99

Company character.....	105
Partnerships.....	109
Private standards.....	115
Chapter summary.....	123
 CHAPTER SIX	
HOW INFANT FOOD COMPANIES PORTRAY FOOD SAFETY.....	125
Infant food company food safety data.....	125
Assessment of infant food company profiles.....	149
Food safety themes.....	152
Chapter summary.....	155
 CHAPTER SEVEN	
LESSONS FOR THE INFANT FOOD INDUSTRY.....	156
Challenges for the infant food industry.....	157
Opportunities for the infant food industry.....	160
Chapter summary.....	170
 CHAPTER EIGHT	
CONCLUSIONS.....	171
Limitations to the research.....	172
Industry recommendations.....	172
Research recommendations.....	174
Policy recommendations.....	178
 APPENDIX A	
INTERVIEW GUIDE.....	181
 APPENDIX B	
INTERVIEW CODES.....	184
 APPENDIX C	
FOOD SAFETY MESSAGE DATA TABLES.....	185
 BIBLIOGRAPHY.....	 201

LIST OF FIGURES

FIGURE 1. US FOOD INDUSTRY ACTORS INTERVIEWED.....	81
FIGURE 2. OTHER US FOOD SAFETY ACTORS INTERVIEWED.....	82
FIGURE 3. COMPANY NAMES AND WEBSITES.....	90
FIGURE 4. INFANT FOOD COMPANY PROFILE.....	91
FIGURE 5. FOOD SAFETY APPEAL PIE CHART.....	92
FIGURE 6. BEECH-NUT PROFILE OF FOOD SAFETY APPEALS.....	127
FIGURE 7. BLÉDINA PROFILE OF FOOD SAFETY APPEALS.....	128
FIGURE 8. COW & GATE PROFILE OF FOOD SAFETY APPEALS.....	130
FIGURE 9. EARTH'S BEST PROFILE OF FOOD SAFETY APPEALS.....	131
FIGURE 10. GERBER PROFILE OF FOOD SAFETY APPEALS.....	134
FIGURE 11. HEINZ PROFILE OF FOOD SAFETY APPEALS.....	135
FIGURE 12. HERO PROFILE OF FOOD SAFETY APPEALS.....	136
FIGURE 13. HIPPIE PROFILE OF FOOD SAFETY APPEALS.....	138
FIGURE 14. MILUPA PROFILE OF FOOD SAFETY APPEALS.....	139
FIGURE 15. NATURE'S GOODNESS PROFILE OF FOOD SAFETY APPEALS.....	141
FIGURE 16. NESTLÉ PROFILE OF FOOD SAFETY APPEALS.....	142
FIGURE 17. NUTRICIA PROFILE OF FOOD SAFETY APPEALS.....	144
FIGURE 18. WATTIE'S PROFILE OF FOOD SAFETY APPEALS.....	146
FIGURE 19. BEECH-NUT PROFILE DATA.....	185
FIGURE 20. BLÉDINA PROFILE DATA.....	186
FIGURE 21. COW & GATE PROFILE DATA.....	187

FIGURE 22. EARTH'S BEST PROFILE DATA.....	188
FIGURE 23. GERBER PROFILE DATA.....	189
FIGURE 24. HEINZ PROFILE DATA.....	190
FIGURE 25. HERO PROFILE DATA.....	191
FIGURE 26. HIPPO PROFILE DATA.....	192
FIGURE 27. MILUPA PROFILE DATA.....	194
FIGURE 28. NATURE'S GOODNESS PROFILE DATA.....	195
FIGURE 29. NESTLÉ PROFILE DATA.....	196
FIGURE 30. NUTRICIA PROFILE DATA.....	197
FIGURE 31. PARENT'S CHOICE PROFILE DATA.....	198
FIGURE 32. WATTIE'S PROFILE DATA.....	199

Chapter One

The Need for Private Food Safety Standards by Infant Food Companies

Several centuries ago, John Donne wrote the phrase “No man is an island” to describe what he saw was the interconnectedness of human beings (Donne 1624). People’s actions affect the lives of others around them. The same is true for infant food companies. In the fight for survival, infant food companies spend millions of dollars attempting to convince perspective customers to trust their products more than competitors’ products.

Yet, more than just the latest marketing report influences the direction of these companies. Other factors also affect customer trust in an infant food company’s products. Historical events have shaped the infant food industry as much as, or even more so than, federal regulations in establishing food safety standards for infant food products. This chapter introduces two historical events that greatly affected the direction of the infant food industry. In addition, examining the current regulatory climate within the US food safety system provides an understanding of the factors that drove the infant food companies to move away from using federal food safety standards as the only source of guidance in food safety matters such as pesticide residues. Finally, the food safety expectations of company stakeholders influence the actions of infant food companies. To face the challenge of maintaining trust in the US food system, infant food companies have adopted private standards that complement or supersede government standards.

Two events that influenced an entire industry

Alar®. In 1986, the United State Environmental Protection Agency (EPA) announced its intention to allow the continued use of the plant growth regulator, daminozide, on apples (Weisskopf 1988). In 1987, the non-governmental organization, the National Resources Defense Council (NRDC), challenged the safety of daminozide and asked the EPA to condemn the use of daminozide (Natural Resources Defense Council 1989).

In early 1989, just weeks after EPA rejected NRDC's claims, the CBS television news program "60 Minutes" ran a feature story about the use of daminozide, named "Alar®", on apples (Coalition for Free Speech 1995). The reaction of the public to the story was dramatic and devastating to the US apple industry.

The Alar® incident appeared to have taught infant food companies a lesson. Vulnerability to future negative media events existed as long as the company maintained pesticide residue levels at the minimum US pesticide regulatory compliance standards. This incident also demonstrated to the infant food companies that moving away from mainstream US agriculture and communication with customers about food safety measures that exceed the minimum regulatory compliance might build social capital and provide them with an extra measure of goodwill with customers during future food safety events.

Pesticides in Baby Food. In July 1995, two non-governmental organizations, the Environmental Working Group (EWG) and the National

Campaign for Pesticide Policy Reform, released their report entitled, "Pesticides in Baby Food" (Environmental Working Group 1995). Even though all residues identified in the report tested below the legal US tolerance levels, the testing found several pesticide residues at detectable levels. The negative customer reaction cost the infant food business millions of dollars in lost sales. EWG used residues to demonstrate the inadequacy of pesticide regulations in the US. Their goal was to change the way the US government conducted risk assessments for pesticide residues. In a response to the report, parents stopped buying infant foods altogether by switching from commercial infant foods to making their own baby food using fruits and vegetables purchased primarily in grocery stores.¹

These two events were enough to convince the infant food companies that the US federal pesticide regulations inadequately protected them from negative media coverage about infant foods and pesticides. Starting in 1991, North American infant food processors began moving away from the existing government pesticide standards as the basis for their residue management programs (Gerber Products Company 1992b). By 1995, the infant food companies were producing infant food using their own blend of both government and private food safety standards. In other words, federal pesticide programs had little effect on the infant food companies by the time the Food Quality Protection Act passed unanimously in Congress in 1996.²

¹ These crops, grown under the auspices of the US tolerance residue levels instead of the more restrictive private standards employed by the North American infant food companies, exposed their infants to potentially higher doses of residues than the residues identified in the EWG report.

² Additional information about the Food Quality Protection Act of 1996 is available in Chapter 2.

Challenges to the current regulatory system

At least sixteen federal agencies, as well as thousands of state and local officials, are responsible for the safety of the entire food supply in the U.S., including the infant food industry. The main three agencies, the Food and Drug Administration, which is part of the Department of Health and Human Services, the United States Department of Agriculture, and the Environmental Protection Agency, are responsible for the majority of the inspection of food products and their ingredients, as well as the enforcement of federal food safety regulations (Merrill and Francer 2000).³

Recent regulations, such as the FQPA, provide all Americans with additional protection from pesticide residues. Through its mandatory registration process for all pesticide uses, the FQPA eliminated several older pesticide chemistries with excessive risks and restricted many uses of other pesticides. In addition, other newly identified contaminants, such as acrylamide (Hogervorst et

³ Four federal agencies share responsibility for federal food safety programs. The USDA's Food Safety Inspection Service (FSIS) regulates meat and poultry through its continuous inspection. The FDA monitors processed foods for additives and contaminants. It also monitors food labeling. The Environmental Protection Agency (EPA) registers pesticides and sets residue tolerances that are enforced by USDA and FDA. The Center for Disease Control (CDC) monitors food illnesses. In addition to these primary organizations, other agencies play a supporting role through such activities as conducting research or the inspection of grain facilities. The USDA's supporting organizations include the Agricultural Marketing Service (AMS), which operates a voluntary egg grading program; the Agricultural Research Service (ARS), which conducts agricultural research; the Animal and Plant Health Inspection Service (APHIS), which monitors animal and plant health; the Cooperating State Research, Education and Extension Service (CREES) and the Economic Research Service (ERS), which fund food safety and agricultural research; the Grain Inspection, Packers and Stockyards Administration (GIPSA); which inspects grain and the Office of Risk Assessment and Cost-Benefit Analysis. The National Marine Fisheries Service, which is part of the Commerce Department, plays a role in seafood inspection. In addition, the Bureau of Alcohol, Tobacco and Firearms (AFT), from the Treasury Department; the Federal Trade Commission (FTC); and US Customs Service also support the food safety functions.

al. 2007) and perchlorate (United States Environmental Protection Agency 2007c), must now be restricted or eliminated from food products.⁴

Nevertheless, government agencies struggle to assure US consumers of the safety of domestic products, much less the rapidly expanding supply of imported food items. Recent congressional testimony by FDA drew attention to the Agency's depleted resources and the departure of many experienced Agency staff. This situation undermines the FDA's ability to maintain customers' trust in the US food supply (New York Times 2008). For example, FDA monitors the safety of all US food-processing facilities involved in interstate commerce. They also monitor all processed food products with respect to chemical and physical contamination. However, because of a severe shortage of human and financial resources, food-processing plants can go several years between FDA inspections.

The federal regulatory agencies' decreased capacity to safeguard the nation's food supply is in contrast to data showing an increase in the number of food product recalls (New York Times 2008). Despite progress made in addressing contaminants in the US food supply, the recent food safety recalls expose weaknesses in the current US food safety system. The recent increase in food safety cases, at a time when there appears to be a decrease in the amount of active enforcement on the part of federal and state food safety agencies, has

⁴ European researchers identified acrylamide as a probable carcinogen in 2002. The production of acrylamide is linked to certain Maillard browning reactions associated with carbohydrate-rich foods in which amino acids react with reducing sugars at high temperatures. Perchlorate is a naturally occurring and synthetic chemical used as the primary ingredient in solid rocket fuel. Perchlorate greatly affects human health because it interferes with iodine uptake in the thyroid gland.

resulted in a groundswell of support for major reforms in the U.S. food safety system. Americans are questioning the safety of their food supply. In fact, there have been seventeen bills before the US Congress over the past 60 years to create a single food safety agency (Merrill and Francer 2000).

Challenges for food companies

The food industry has consistently supported efforts to maintain consumer confidence in the federal food safety standards. While sometimes at odds with the enforcement side of the regulatory agencies, the US food industry continues to advocate for a standardized federal system recognized by consumers as one of the safest food systems in the world and worthy of a high level of consumer trust in the system.

At the same time that the greater US food industry is advocating for a standardized food safety system, infant food companies are responding to popular concerns about food safety by adopting an ever-increasing number of non-governmental food safety standards. These private standards send signals to customers⁵ that the infant food products exceed the food safety standards of the US federal government (Consumers Union 2007). The US government expects infant food companies, like all food companies, to comply with government standards. Government standards are the minimum legal standard

⁵ One unique aspect of the infant food industry is that the buyer of the product rarely eats the product. With other segments of the industry, the customer commonly is one of the consumers of the product. In the case of infant foods, the intended consumer is an infant or young child. The additional challenge facing the infant food industry is to convince one person, the customer, that its products are best for another person, the consumer. Therefore, this study uses the term "customer" in reference to the person who makes the decision to buy the product.

that all companies must meet. By contrast, a private food safety standard⁶ is one where the company creates proprietary standards, or embraces standards developed by a non-governmental organization, to create its own definition of food safety.

In this time of food safety uncertainty, food companies embrace these new standards to demonstrate the safety and wholesomeness of their products and their social responsibility as a food company in hopes that customers will continue to buy their products. In addition, most infant food companies compete in a global marketplace. Having one set of standards across the globe eliminates confusion within the company and allows for efficient logistics of both ingredients and finished products.

Faced with this scenario, it appears that infant food companies have two options. Either they adopt the most stringent globally recognized standard available, regardless of where they sell their products, or they create their own private standards. Either way, the goal of infant food companies is to assure customers that their products are the safest on the global market. Adopting the toughest globally recognized standard as the benchmark may provide an advantage to the company by giving it a sense of global legitimacy. People still maintain a certain level of trust in government standards. However, citing a set of government standards provides people with a reference point from which to judge the private standards.

⁶ This dissertation defines “private” standards as “anything over and above the minimum regulatory compliance.”

More often, food companies “cut-and-paste” pieces of other standards together to form policies they think will satisfy the expectations of both the regulatory bodies and their customers. This blend of private and public standards allows them to remain flexible in sourcing ingredients while maintaining high food safety standards. Unfortunately, these hybrid systems often struggle to enjoy the same universal recognition as the international standards. These standards come from within a company and, oftentimes, the development process for these hybrid standards is not transparent. In addition, information about these private standards is not sufficient to build customer confidence. Governmental standards, such as the European Union standards, or the Codex Alimentarius standards are the result of a very transparent process. One recent example of adopting private standards occurred at the retail level when Wal-Mart and McDonald’s, both American companies, adopted GlobalGap® standards to ensure that their products qualify for the US market as well as the lucrative European market. It also makes them more competitive against the European companies that already embrace these standards for meat, fruits and vegetables (GLOBALGAP Secretariat 2008).

However, all of these developments raise a more fundamental issue about the relationships between private and public standards in the food industry, and especially in the infant food industry. With the recurring calls for a stronger federal food safety system, what advantages do these hybrid programs offer infant food companies?

Problem statement

What food safety strategies do infant food companies develop and promote? How do we understand these food safety strategies to maintain consumer confidence in the face of problematic public standards? Answers to these questions should identify how infant food companies take “measures into their own hands” to maintain consumer trust. How infant food companies present their food safety programs to the “outside” world demonstrates the level of importance of food safety communication by the companies.

How do we assess the differences between food safety and corporate social responsibility (CSR) strategies implemented by infant food companies? This question seeks to understand how infant food companies portray food safety and CSR messages to their customers and the communities in which they reside.

To what extent do the food safety standards strategies pursued by infant food companies provide a model that overcomes the inadequacies of public standards and weak governmental oversight agencies? Comparing what infant food companies say against what the stakeholders interpret will provide insights into areas where the food safety communications excel and where they need improvement.

Research Goals

It is important to understand how each infant food company uses both government and private standards to convey their definition of food safety and CSR to their customers and other stakeholders. The recent influx of private food

safety standards into the food industry adds more confusion to an already confusing system of government regulations. If an infant food company chooses to add private standards to the regulatory standards it is required to meet, how does it choose which standards are best for its own situation? How does an infant food company know if it is incorporating the most effective mix of private and government standards? Understanding the mixture of government and private standards provides insights into how that infant food company defines food safety and trust.

The examination of food safety standards offers a way to understand how infant food companies see themselves in relation to their stakeholders. Understanding the relationship between food safety standards and CSR for infant food companies provides a case study that illustrates different approaches to CSR, as defined by infant food companies, and assesses whether any of these CSR programs might serve as a model for setting and conveying infant food safety standards.

Infant food companies present customers with certain details about their food safety programs in order to increase customer confidence in both the company and its products. Companies hope that increased confidence translates into increased sales. This dissertation evaluates how infant food companies use their food safety programs as part of their overall CSR program. The CSR models available in the business and sociological literature provide an excellent way to understand the various ways of communicating food safety and to demonstrate a company's sense of responsibility to society. It also seeks to

understand which profile best addresses the current food safety and CSR expectations of the customers, regulators, supply chain and medical communities.

Interpreting the expectations of these communities drives each food manufacturer's sense of need for corporate citizenship and their implementation of food safety standards. The old business model focused on keeping only the customer and the stockholders happy. Today, it appears that the expectations of other stakeholders take on additional importance to the point where the expectations of regulators and communities can affect the success of a company as much as the expectations of customers and stockholders.

Nevertheless, how does an infant food company decide what food safety standards are appropriate for itself and its products? One food company may say, "Our only obligation is to produce safe food" while another may say, "No, our obligation is to produce food in a way that is safe for human consumption as well as for the environment." In both cases, customers judge whether either one of these strategies is sufficient to earn their trust – and their repeated sales. The current lack of trust in government standards as well as the proliferation of private standards suggests that the optimal solution will be a blended approach that combines aspects of both government and private standards.

Following the introduction, Chapter Two identifies the unique consumer needs that set the infant food industry apart from the rest of the food industry. Understanding product performance expectations from a scientific perspective as well as appreciating customers' higher expectations of infant foods demonstrates

the uniqueness of this food industry segment. In addition, in order to understand the future of infant food industry, one needs to appreciate its past. Available historical information on the commercial introduction of infant foods in the US will assist in understanding the current food safety programs and communications of infant food companies.

Chapter Three explores the current concepts of CSR from the business and sociological perspectives. The chapter presents several approaches to understanding how business and society are interwoven rather than distinct entities. This chapter also presents a conceptual model that will provide a framework for systematically analyzing the food safety standards communicated by infant food companies.

Chapter Four lays out the methods used to capture and analyze food safety messages presented by infant food companies. The chapter also lays out the methods used to capture and analyze the food safety expectations placed on infant food companies by stakeholders.

Chapter Five analyzes food safety standards from company websites and other publicly available documents to understand how infant food companies portray their food safety messages to customers and stakeholders.

Chapter Six analyzes data from the interviews that identifies and highlights the major themes surrounding the implementation and communication of private food safety standards by infant food companies. Results from the analysis will be used to create a profile of the infant food safety messages.

Chapter Seven contains recommendations to help infant food companies improve food safety messages to their communities. In addition, this chapter provides recommendations to help government regulators and other food safety communities appreciate the pressures facing the infant food manufacturers today and assist in interpreting infant food company activities in the future.

Significance

The use of food safety programs by infant food companies to demonstrate CSR is especially worth studying because the infant food industry is a small segment of the larger US food industry. Because of the high expectations placed on infant food products, this segment tends to be a bellwether for the larger food industry. Concerns over pesticide residues or other contaminants tend to affect the infant food industry prior to affecting the rest of the industry. Focusing on the efforts that infant food companies implement to assure customers of the safety of food products is important because of their potential as an indicator of future expectations on other segment of the food industry. They may be a “canary in a coal mine,” so to speak, for other food industry segments. If, by communicating their food safety programs to customers, they can effectively maintain customer trust, then other segments of the food industry will re-examine how to communicate their food safety programs.

This study incorporates the perspectives of several groups intimately involved in the US food safety system. These perspectives come from federal and state regulators, legislators, supply chain constraints and community

demands. Understanding how these perspectives affect the development and communication of food safety standards provides insights on how infant food companies can improve their CSR programs by communicating information about food safety standards to their customers. Conversely, the industry's perspective provides insights into the expectations of the industry for government food safety standards.

There are several benefits of this study to infant food manufacturers and food safety regulators as well as customers. This study seeks to advance the knowledge of the impact that a food company's CSR program has on its implementation of food safety standards. This provides the industry with an opportunity to improve the standards-setting process in the food safety system. Both food companies and food safety regulators will be encouraged to think about the relationships between government imposed regulatory standards and self-imposed privately created food safety standards. In addition, by examining the infant food supply chain and the impacts that standards have on suppliers within that specific supply chain, supplier chain managers will gain perspectives on the direct impacts of their food safety standards on suppliers. Consumers also benefit by gaining a greater understanding of how relationships positively and negatively influence the food safety system in the US.

Chapter summary

It is important for infant food companies to understand what society expects in terms of social responsibilities. The expectations of stakeholders play

a major role in the success of the company. In this introductory chapter, a brief overview of the current regulatory landscape provides an opportunity to understand the current regulatory climate facing the infant food industry. Review of the current food safety standards situation in the US food safety system provides an understanding of the factors that drove infant food companies to develop private standards. Food companies hope that by implementing these “higher” standards, consumers will maintain their trust in the companies’ products.

To appreciate how the infant food industry is unique in comparison to other segments of the food industry, Chapter Two examines the significant historical events over the past fifty years that shaped the infant food industry into what it is today and the unique food safety and nutritional expectations placed on infant food products.

Chapter Two

How Infant Food Companies were Shaped by Science and History

In the introductory chapter, two events in the history of the infant food industry demonstrated the vulnerability of this small segment of the NA food industry to negative media events. The US government's inability to assure food safety also cast a dark shadow over customers' trust in the food supply. Even as the infant food companies continue to support efforts to maintain customer confidence in regulatory standards, these same companies increasingly embrace private standards as a way to maintain or strengthen customer confidence in the infant food industry's ability to provide a safe product for its vulnerable consumers.

This chapter reviews historical events to gain a better understanding of what makes infant food unique among other segments of the greater food industry. To understand how the infant food business arrived in its present state, one must consider the historical events that shaped the industry. Each period identified in this chapter raises key issues that affect the food safety programs of infant food companies. The chapter separates periods based on the major historical events that molded the infant food industry into its present state. Each period identifies specific food safety risks associated with the period and shows how each food safety risk demonstrated to the infant food companies where their food safety programs were vulnerable to customer perceptions.

This chapter also provides an overview of the developmental risks to infants from food contaminant exposure using pesticides and heavy metals as an

example. Using pesticides as an example once more, this chapter also discusses the three major regulatory standards for food safety issues facing the infant food companies.

This chapter sets the empirical and historical stage for these food safety issues and demonstrates how infant food companies are vulnerable to the perceptions of customers even though their products are compliant with the regulatory standards. It also sets the stage for demonstrating how infant food companies address these issues in the face of declining confidence in government standards.

Historical events make infant food unique

Historical data on infant food companies is limited. Nevertheless, several sources provided snapshots of issues that influenced the current food safety programs of infant food companies. National newspapers chronicled the events and provided important insights into each period by connecting an event with a point in time. In addition, newspaper reporters recorded the events from an industry “outsider’s” perspective. These valuable perspectives provided a healthy balance of insights between the growers, suppliers and processors within the industry and the reporters and customers on the outside looking in.

Official company responses to particular media events also provided historical data for this study. Official communications of this type commonly occurred in response to the release of a landmark news event such as the National Academy of Sciences report on “Pesticides in the Diets of Infants and

Children” (National Research Council 1993). Responses to the report released by the non-governmental organization, the Environmental Working Group, entitled, “Pesticides in Baby Food” (Environmental Working Group 1995) also provided company perspectives on food safety issues at the time. In addition, infant food companies wrote “feel good” communication pieces that provided an opportunity to hear what infant food companies said in an attempt to restore the confidence of their concerned customers in the aftermath of these negative media events.

Communications sent by infant food companies during this period to growers and suppliers provide insights into the food safety issues for infant food companies. A small number of these documents, although not available on the internet still reside in the archives and the file drawers of suppliers and growers. Often, these annual communications to growers, sent prior to the start of the season, reminded them of the importance of delivering safe, wholesome fruits and vegetables. These communication pieces typically included a list of pesticide restrictions for the upcoming growing season. These communications provided a unique perspective on current food safety issues from an “insider’s” point of views (Meister Publishing Company 2008).

Trade publications provide the final source of historical data used to develop an understanding of the infant food industry.⁷ These publications provided valuable third party reporting of events that affected the industry in

⁷ These publications, such as the *American Fruit Grower*, wrote about issues that interested their readers, a.k.a. the North American fruit growers.

many ways and presented unique perspectives on events from the processor or grower's point of view.

Time periods

Even with a relatively small number of documents available to analyze, enough evidence was available to establish trends over time. Based on the evaluation of historical documents, four major periods significantly affected infant food companies. The first period, the "Pre-Alar" period, included major events that occurred prior to the events of 1989 that surrounded the use of the plant growth hormone, daminozide, on apples. This was the first major media event surrounding the legal use of a pesticide and its potential impact on infant food companies.

The second period included the years from 1989 to 1993. This was the period after the showing of the CBS-TV's "60 Minutes" segment on Alar and release of the first major scientific study specifically addressing the unique concerns about pesticide residues in the physiological development of infants and young children. The 1993 National Academy of Sciences report, entitled, "Pesticides in the Diets of Infants and Children" was the first major study that addressed both the unique vulnerabilities of infants and the impacts from exposure to pesticides.

The third period captured the years between 1993, when the NAS study became available, and 1996, when the first major regulatory event addressing *direct* impacts of pesticides on infants and young children occurred. The Food

Quality Protection Act called for re-evaluation of all pesticides in the United States. This legislation, passed unanimously by the US Congress, included a provision that, in addition to the re-registration of all pesticides, required regulators to take into consideration the unique needs of vulnerable demographic groups such as infants and young children. It also allowed for addition of up to a ten-fold safety factor when needed to protect these vulnerable populations.⁸

The final period extends from passage of FQPA in 1996 to 2006. Because of the enormous task of re-registering thousands of pesticide uses, Congress allowed EPA up to ten years to accomplish the task. While pesticide usage changed dramatically during this period, the dynamics of the North American infant food industry underwent major changes as well.

Pre- Alar. The “Pre-Alar” time period began, for the intents and purposes of this research, in the 1950’s as widespread use of petroleum-based pesticides, such as organochlorine, organophosphate and carbamate insecticides, swung into high gear throughout most segments of American agriculture.⁹ During these early years of commercial infant food production (Nutricia 2008), communications from infant food companies to their suppliers followed the lines of, “Follow the pesticide labels” and “Deliver safe, wholesome crops.” Communications urged

⁸ The FQPA affected the way the US EPA approached the issue of pesticides in several ways. The most important effect was in the area of pesticide tolerances. Through the re-registration process, EPA significantly lowered tolerances on many pesticides and, in some cases, revoked a tolerance altogether. The FQPA also forced EPA to take into consideration both the cumulative and aggregate effects of the pesticide residues. Finally, FQPA dictated how the US participates in international pesticide negotiations.

⁹ While commercially available baby food traces its roots back to the Netherlands in 1901 when Martinus van der Hagen first offered it through his NV Nutricia company, commercially available baby food was only accessible at the local drug store with a doctor’s prescription in the US in the early years of the twentieth century. M. van der Hagen and others developed commercially prepared foods for infants to address special medical needs, such as women with poor lactation and infants with medical conditions that made it difficult to breastfeed.

growers to follow pesticide labels in order to comply with federal regulations (Chase 1989). This was a clear case of issue management on behalf of the infant food companies as part of their overall risk management program.

During the period between 1960 and 1970, food companies became more conscious of the indiscriminate use of pesticides and organochlorine insecticides in particular. Rachel Carson's watershed book, *Silent Spring*, published in 1962, questioned the use of several chemicals once held in high regard (Carson 1962). Malicious responses by chemical companies designed to discredit Rachel Carson created a public outcry and backlash against pesticide registrants. The entomological literature credits the writing of *Silent Spring* with accelerating acceptance of the concept in Entomology called "integrated control," a concept eventually called Integrated Pest Management (Kogan 1998).¹⁰ By this time, scientists were beginning to uncover the long-term environmental concerns of fat-soluble organochlorine insecticides, expressed as early as 1952 (New York Times 1952)¹¹. The US banned many other organochlorine insecticides, such as

¹⁰ As an example of the impacts of scientific advancement, chemist Paul Mueller received a Nobel Peace Prize for his identification of the insecticidal properties of DDT in 1939. In 1969, the US revoked all legal uses of the insecticide DDT due to the toxic effects of the bioaccumulation of its residues in the food chain. This was a case where scientists and healthcare officials recognized the public health benefits of DDT prior to understanding its environmental costs. Scientists recognized the long-term affects of DDT and other organochlorine insecticides already in the 1940's and 1950's, yet it took the US government almost twenty more years to ban its use in the US.

¹¹ One interesting exception was a testimony given during a US Congressional hearing by a Beechnut scientist in 1952 who testified that his company had spent over six hundred thousand dollars attempting to avoid DDT and BHC residues in their fruits and vegetables the year before. His concern was that the organochlorine class of fat-soluble insecticides, which included both DDT and BHC, would accumulate in the fat storages of infants with potentially adverse long-term effects. The article goes on to say that L. G. Cox believed that "the present Food and Drug Act was antiquated in the matter of pesticides since the chemicals mainly used against pests had been developed since the law's enactment. He urged that a Government research system go hand-in-hand with stricter control." The article pointed out how several Congressmen ridiculed him as a "fanatic." This was an excellent example where an infant food company was advocating for additional food safety based on a moral sense of obligation. The company chose to spend

DDT, dieldrin and toxaphene, during this period as well (United States Environmental Protection Agency 1975).

It was also during this period that several infant food companies began requiring their fruit and vegetable growers to submit pesticide application records (H.J. Heinz Company 1991). As a safety precaution, these companies began testing for pesticide residues on incoming fruits and vegetables to guarantee the accuracy and truthfulness of the grower's spray history in a "trust, but verify" program for food safety.

From Alar to the National Academy of Sciences Study. Between 1985 and 1993, infant food companies demonstrated their growing uneasiness with the ability of existing pesticide regulations to protect their consumers by deciding to move away from the US tolerance system of pesticide residue limits as the basis for their pesticide safety programs (Gerber Products Company 1999). While each company chose its own course, the fact that three of the largest NA infant food companies publicly stated their intent to abandon the EPA's definition of "Safe" residue levels during this period demonstrated the sense of urgency felt by these companies to maintain the trust of their customers (Beech-Nut Nutrition Company 1990).¹²

significantly more than they needed to in order to provide the extra margin of safety they felt necessary to protect infants.

¹² In 1986, Heinz banned the use of twelve pesticides under Special Review by the EPA, even though it was still legal to apply the pesticides to crops used for the production of baby food. In 1989, Gerber declared that it had abandoned the US pesticide tolerances as the benchmark for safety and embraced the World Health Organization's Acceptable Daily Intake residue levels, many set at several orders of magnitude lower than the tolerance levels as the "health safety" level. The company also publicly stated its goal to have "no detectable residues in the finished products." Heinz also embraced the "no detectable residue" goal as their target in 1990 and vowed to reject any fruit or vegetable that exceeded twenty-five percent of the US federal

In January 1986, EPA announced its intention to allow continued use of daminozide on apples only weeks after it decided to revoke all current uses due to concerns over risk assessment data that indicated a carcinogen concern (Schneider 1986). The EPA stated that it had decided to accept the recommendations of its own Scientific Advisory Panel. It also stated that, upon further review of its risk assessment assumptions, the real exposure was only ten to fifteen percent of its previous estimated exposure level (Mushak and Piver 1992).¹³ A few weeks later, the CBS television news program "60 Minutes" ran a feature story on February 26, 1989, about the use of daminozide, a plant growth hormone, on apples that coincided with EPA's labeling of Alar as a possible carcinogen (Coalition for Free Speech 1995). NRDC previously wrote a report entitled, "Intolerable Risk: Pesticides in our Children's Food" that was used as the outline for the "60 Minutes" segment. In the report, NRDC charged that the risk assumptions that EPA used in its risk assessment of daminozide did not adequately take into consideration the special vulnerabilities of infants and young children. Customer response to the television segment was dramatic (Coalition for Free Speech 1995).¹⁴ While there was an immediate drop in applesauce

tolerance. Beechnut followed suit in 1990 by declaring that they would reject any produce that exceeded ten percent of the US federal tolerance level, a standard that they still use to this day.

¹³ In March 1987, the non-governmental organization, the National Resource Defense Council (NRDC), challenged the safety of daminozide and asked EPA to condemn daminozide. EPA set up a special review panel that eventually rejected NRDC's claims in early 1989. Ironically, in 1992, EPA once again reversed its decision during a reassessment of the 1989 cancer study data.

¹⁴ The sharp decrease in apple product sales following the "60 Minutes" segment crippled the North American apple industry for more than a year. Interestingly, the infant food companies began to restrict Alar three years before, in 1986, because of concern over potential fallout in the media. This tactic allowed the infant food companies to declare that their apple products were "Alar-free" when the story broke. This positioned infant food companies in a much more positive light with the mainstream media than the rest of the apple industry. Other apple processors that

sales for infants, the market for infant apple products rebounded much quicker than it did for the rest of the apple industry. Infant food companies must have felt a measure of relief when they emerged relatively unscathed by the media event surrounding the use of daminozide on apples in 1989.

The number of communications to stakeholders increased during this period. The extent to which infant food companies discussed food safety issues with customers, growers and regulators also increased during this period. However, the message to each group was often different. To the customers, the companies were using a “license to operate” theme. Phrases like, “Nothing less than the very best for babies” played on that emotional bond between parent and child. Others communicated to customers from a product differentiation and competitive advantage themes. Infant food companies used product differentiation concepts for the first time in advertising (Salomon 1987).¹⁵ Communications to growers and other suppliers contained a mixed bag of themes. Discussions about how growers share responsibility for maintaining parents’ trust from a “license to operate” theme stand in contrast to the stakeholder risk management theme running through discussions about how customers do not understand the science and that food must remain affordable. It is interesting to follow the companies’ attempts to balance the concerns of alarmed customers while appeasing frustrated growers. During this period, infant food manufacturers started using the term “Integrated Pest Management” in

did not follow the lead of the infant food companies in 1986 felt the brunt of the backlash along with the fresh market apple growers.

¹⁵ Earth's Best started using the slogan, “organically grown without synthetic herbicides, pesticides or fertilizers” to market their organic infant foods for the first time in 1987.

communications with their fruit and vegetable growers (Kogan 1998).¹⁶ In fact, these companies represented some of the first US food processors to embrace IPM and promote it to growers (Gerber Products Company 1992a). Pesticide risk mitigation was the main reason why infant food companies promoted IPM. These infant food companies saw IPM as a way to minimize the prophylactic application of pesticides on crops destined for infant foods, thereby reducing pesticide residues on harvested fruits and vegetables while maintaining a satisfactory level of quality on incoming produce commodities (H.J. Heinz Company 1991). In many ways, IPM represented an opportunity for infant food companies to enjoy both high quality fruits and vegetables as well as reduced pesticide residues.¹⁷

During this period, Earth's Best™ organic baby food arrived on the market in 1987. The owners declared that their products represented an alternative for a growing number of customers concerned about pesticide residues in baby food and the impacts on the planet from the use of synthetic pesticides and fertilizers (Salomon 1987).

These communication pieces are very important to understand because they demonstrate how all of the North American infant food processors, by 1991, abandoned the existing government regulations as their standard for food safety

¹⁶ Integrated Pest Management (IPM) is "a decision support system for the selection and use of pest control tactics, singly or harmoniously coordinated into a management strategy, based on cost/benefit analyses that take into account the interests of and impacts on producers, society and the environment." (Kogan 1998). As such, it is an interdisciplinary approach to crop protection that combines natural methods of soil enhancement and pest control with minimal use of pesticides to achieve healthy crop growth. While the concept of "integrated control" of pests originated in 1954, it did not become entrenched in the academic press until the late 1960's and it took an additional fifteen years for it to become popular in commercial agriculture.

¹⁷ There are two basic benefits from optimizing the applications of pesticides. If a grower applies too much pesticide, IPM helped reduce the number of spray applications, thereby saving money, and reduced pesticide residues at harvest. If the grower applied too little, IPM improved the effectiveness of the spray applications, which resulted in improved quality.

and developed their own version of private pesticide standards to maintain customer confidence.

1993 – 1996. The 1993 National Academy of Sciences study on the unique vulnerabilities of infants to pesticide residues created quite a commotion within the infant food industry. Infant food manufacturers responded to the report in their own way. A few of them reiterated themes used in the years prior to the release of the report, which emphasized how their food was safe because it was produced using standards that complied with government standards and offered an exceptional value for parents (Burross 1993). Other infant food companies advocated strongly for alternative agriculture (Gerber Products Company 1995). They demonstrated support for IPM and recommitted their companies to eliminate all detectable residues to safeguard vulnerable infants.

While these measures appeared to restore customer confidence in infant foods across North America after the NAS study, they did not prepare the companies well for what came next. As mentioned in Chapter 1, in July 1995, two non-governmental organizations, the Environmental Working Group (EWG) and the National Campaign for Pesticide Policy Reform, released their report entitled, “Pesticides in Baby Food.” (Environmental Working Group 1995). In this report, scientists from these organizations tested samples of the leading types of fruit and vegetable purees from conventional infant food manufacturers for pesticide residues. While the report did not mention any infant food manufacturer by name, the report had a devastating effect on infant food manufacturers. The negative

customer reaction cost the NA infant food business millions of dollars in lost sales.

Infant food companies reacted by publishing responses designed to assure customers of the safety of their products. Infant food companies used IPM and pesticide residue testing to demonstrate to their customers the specific steps they undertook to increase the safety of their food products. During this period, infant food companies also increased both the quantity and depth of communications with their growers. Annual pre-season letters to growers also emphasized IPM and residue testing (Beech-Nut Nutrition Company 1990). At the same time, Earth's Best, the organic baby food company, attempted to capitalize on the concern over pesticide residues by continuing to emphasize that their certified organic infant foods did not contain synthetic pesticides (Earth's Best 1995). Issue management was the goal of these communications by infant food companies. To a lesser degree, these communications attempted to demonstrate the sense of responsibility for food safety by infant food companies. For others, this was an opportunity for a few companies attempted to use this situation to differentiate their products from their competitors.

By the time the US Congress passed FQPA with a unanimous vote in 1996, the infant food industry was already changing rapidly. While this major piece of US legislation significantly affected the infant food industry, it does not appear, from the documents analyzed, that FQPA had the same impact on the infant food industry as the NAS or EWG reports.¹⁸

¹⁸ Based on communications to suppliers and customers, by 1996, Heinz appeared to have made the conscious decision to drop the "no detectable residue" goal because it cannot be found in any

In other words, government programs did not appear to have much of an impact on the infant food companies because the companies appeared to be already well down the path towards pesticide residue reduction when Congress passed this landmark legislation. A few of the infant food companies reached out to develop partnerships with government and other non-government organizations as a way to mitigate future media events while others struggled to maintain their stance on pesticides during this time of upheaval in the industry (United States Environmental Protection Agency 1998).¹⁹

1996 – 2006. Since the implementation of the FQPA, infant food company communications specifically addressing pesticides and food safety have dropped off significantly. It appears that the majority of customer communications switched their emphasis away from food safety issues towards the nutritional aspects of infant foods. Only Earth's Best remained focused on food safety issues during this period through their use of organic fruits and vegetables as a way to avoid pesticide residues. Nevertheless, the available communications demonstrate a shift in the themes used by infant food companies in communications to both their customers and supply chain. The major shift

of the pesticide restriction letters and other communications to growers by 1996 (Heinz 1996). Heinz sold their US baby food business to Del Monte in 1998, although it kept the Canadian baby food business. Heinz also sold the Earth's Best business to the Hains Celestial Group in 1998.

¹⁹ Gerber appeared to remain relatively on the course it set in the 1990's. There are several references to partnerships made with parties outside the industry. Endorsements of their pesticide programs by the environmental groups, EWG and the World Wildlife Fund and participation in EPA sponsored programs provided evidence of the efforts by Gerber to create partnerships with groups that opposed each other just a few years earlier. Beech-Nut also went through a number of changes during the 1990's, most notably their sale to Ralston Purina in 1989. In 1994, Ralston Purina spun off Beech-Nut with other parts of Ralston to become Ralcorp, Inc. In 1998, Beech-Nut became part of The Milnot Corporation. Since the early 1990's, Beech-Nut maintained their stance that any produce exceeding ten percent of the US federal tolerance would be rejected. However, very little additional evidence exists that indicates Beech-Nut's continued efforts to move away from the use of conventional pesticides on fruits and vegetables.

appears to be a change from emphasizing risk management to creating innovation through the supply chain. A continuing emphasis on IPM by a few of the infant food companies as well as highlighting attempts to work with growers to make changes to the pest management programs demonstrates the innovation theme (Lutz 1999). In addition, phrases like “sustainable practices” and “emphasize ‘no use’” demonstrate a shift to the sustainable development theme by the infant food companies. Finally, companies have increasingly attempted to differentiate their products using traceability as a food safety strategy (Gerber Products Company 2001).²⁰

The infant food industry experienced rapid consolidation during the period between 1996 and 2006.²¹ Currently, very few independent infant food companies exist worldwide. This consolidation is similar to other segments of the food industry. In most cases, European infant food manufacturers purchased their NA infant food competitors. European companies appear to view this expansion as an additional expansion of their current business portfolio. The expansion of a specialized market, such as infant foods, requires a population that is affluent enough to afford the products. For many years, the US represented the largest single infant food market outside European control.

²⁰ Gerber attempted to capitalize on traceability as a food safety concept in its television advertisement using the slogan, “Do you know where your baby food comes from? Gerber does!” in 2001. These advertisements filmed growers in their fields and orchards and stated that Gerber had worked with most of the same growers for over twenty years.

²¹ In 2005, Swiss food processor, the Hero Group, purchased Beechnut. The Hero Group sells its own line of infant foods throughout Europe. Gerber was sold to the Swiss pharmaceutical giant Sandoz in 1994 and was sold again to the Swiss food giant Nestlé in 2007. Nestlé also produces its own line of infant foods that are available worldwide. In addition to these European infant food companies buying their North American competitors, Heinz expanded its presence into Europe by purchasing Wattie’s and Farley’s infant food companies that sold their products throughout Great Britain, Australia, Europe and Canada.

Since passage of FQPA, there has been an expansion of the organic infant food market in the US.²² Start-up companies, such as Plum Organics, joined the US market in recent years, offering additional organic choices available to customers. This expansion appears to be in response to concerns over both food quality and environmental impacts of infant food production.²³

The European influence should have an impact on NA infant food processors, if it has not happened already. That trend became obvious while analyzing data from the company documents and websites. The European influence should play a major role in the area of CSR because the Europeans emphasize CSR reporting and third party auditing of their programs.

Infant foods are unique

The toxicological and human physiology literature provides several reasons why the infant food market is unique in relation to other segments of the food industry. The uniqueness of infant foods relative to the rest of the food industry provides a background for understanding of why infant food companies feel the need to develop private food safety standards.

Human infants are quite helpless at birth and rely on their parents for nourishment and protection. The emotional bond between parent and child drives a parent to protect the child from potential harm. Intentionally harming a child

²² Beechnut introduced its organic line of products, called "Special Harvest" in 1991, only to discontinue it in 1993. Gerber unveiled its "Tender Harvest" line of products in 1997 (Gerber Products Company 2008). When Heinz purchased Earth's Best in 1996, it seemed like a logical step because Heinz had manufactured Earth's Best products at its Pittsburgh, Pennsylvania, plant since 1994.

²³ The Hero Group purchased Plum Organics in 2008, giving Hero a presence in both the organic and conventional infant food product lines in North America.

goes against what both nature and society teach us (Brazelton and Cramer 1990). Infant food companies play on that emotional bond to sell their products. It is not surprising that a key theme in NA infant food advertising focuses on trust and wholesomeness instead of cost (Beech-Nut Nutrition Company 2007). That bond, both natural and promoted, is one of the reasons why customers expect greater performance from infant food products relative to adult foods.

Three aspects of infant foods set them apart from adult foods. Customers expect infant foods to provide an optimal level of minerals and nutrients based on the results from the latest research. Customers also expect infant food companies to prevent the contamination with any physical hazards that might lead to aspiration or asphyxiation. Part of that expectation is that the components of the infant food are “developmentally appropriate” for the infant’s ability to mash the ingredients and swallow them. The final aspect, the expectation that infant foods do not contain any potentially dangerous contaminants, sets them apart from adult foods. The list of potentially dangerous contaminants expands almost daily. In recent years, compounds such as acrylamide join the list with other more commonly known contaminants such as pesticides, heavy metals and allergens (Hogervorst et al. 2007).

Because of the potentially negative effects of pesticide residues on an infant’s developmental processes, the liability risk is higher for infant foods compared to adult foods. There are greater consequences from negative properties of infant foods relative to adult foods. Physiological and biochemical

processes impaired or altered during the early stages of development can result in catastrophic and permanent effects on infants.

Developmental Risk to Infants. For years, scientists in government, industry and advocacy groups discussed the short-term and long-term vulnerability to contaminants of infants and young children less than two years of age. Nevertheless, it has only been in the past few decades that the scientific community admitted that children are not "little adults" (National Research Council 1993).

Children are vulnerable to two types of risks. There is vulnerability during the early stages of development because the rapid initial growth rate of infants creates a less stable internal environment and makes their developmental processes more vulnerable to changes induced by pesticides and other contaminants (National Research Council 1993). Profound developmental differences exist between young children and adults. At birth, a full term infant grows at an incremental rate of twenty-five percent of its total body weight per month. However, because its growth rate slows over the next few months, it takes approximately five to six months for body weight to double and approximately one year for an infant's body weight to triple (Guzelian, Henry and Olin 1992).

In terms of development, environmental exposures may impair, alter or delay the development of certain physiological or biochemical systems (National Research Council 1993).²⁴ An infant or young child's ability to absorb chemicals

²⁴ A classic case of this type of developmental influence is found in the central nervous system damage from chronic exposures to lead and the resulting permanent impairment of cognitive

is also significantly greater, relative to an adult, from the prenatal stage until puberty.²⁵ There are also differences in an infant's ability to detoxify and excrete foreign compounds.²⁶ All these differences can affect the toxicity of pesticides in infants and young children. Children may be more sensitive or less sensitive than adults, depending on the pesticide to which they are exposed (Guzelian, Henry and Olin 1992). However, because very little pesticide residue research focuses on the impacts of pesticides in infants and young children, researchers are quick to acknowledge that this area needs much more research to make definitive conclusions (Helferich and Winter 2001).

Exposure to pesticide residues has been an issue almost since their introduction centuries ago. Even while science perfects the art of killing pests, science also identifies the means to understand the detrimental effects of pesticide exposure. Therefore, science is one of the causes of risk, the medium used to define risk and the source of risk solutions (Beck 1992).

Consumption Risk to Infants. In addition, infants experience a greater level of exposure because their organs cannot remove toxins as effectively as an adult's organs (Guzelian, Henry and Olin 1992). As a result, an infant's diet can contribute significantly to the overall level of risk experienced by infants.

Significant differences in exposure to pesticide residues can occur because of

functions in young children. Because of this greater rate of growth and development, the way an infant handles xenobiotics, including pesticides, is also quite different relative to adults.

²⁵ Greater intestinal absorption, along with greater retention, appears to result in significantly higher risk for infants and young children in the case of lead consumption.

²⁶ There is evidence that heavy metals, such as methylmercury, which, adults eliminate from the body through secretion into the bile, are stored in the body of the infant because its systems are not mature enough to move toxins. The renal system demonstrates similar properties. Both the renal flow rate and the ability of an infant's kidneys to filter out chemicals compare to an adult's by five months. This means that until 5 – 6 months of age, an infant is more susceptible to chemical absorption than an adult.

unique food consumption patterns by each infant. On average, fruits and vegetables represent a much higher percentage of an infant diet than that of an adult, thereby resulting in a greater exposure to an infant when compared to an adult. For example, while apple juice makes up approximately one percent of the average American adult's diet, it represents sixteen percent of the average American infant's diet. When including fresh apple consumption, apples represent over twenty-five percent of the average American infant's diet (National Research Council 1993). When consumption of apples, peaches and pears is taken into account, the amount of consumption, as measured in mg / kg body weight, can be ten times greater in 12-month-old infants than in the average adult population.

Fruits and vegetables also have a greater probability of containing detectable pesticide residues, relative to other food groups, resulting in potentially greater doses of residues consumed by the infant (United States Food and Drug Administration 2008). This is primarily due to four considerations that affect the exposure of each commodity to higher levels of pesticides.²⁷ The first consideration that greatly influences pesticide residue levels is the amount of direct application of a pesticide to the edible part of a crop (Wise 2005). Directly spraying the edible part of the crop with a pesticide increases the probability of

²⁷ Many of the pesticides that are available today are designed to be "locally systemic" in their action, which means that the residues are translocated below the immediate surface of the plant tissue where they remain active for longer time intervals. If the plant part was not exposed to a direct application of the pesticide, in general, there is very little potential for residues in that plant part. An excellent example of this can be found in banana production. Because the bunches of bananas are protected by a plastic bag from the time shortly after flower formation until the time the bunches are harvested, the potential for exposure to pesticide residues is much lower than for apples where the fruit itself may be exposed to direct applications of pesticides over several months prior to harvest.

consuming residues. The second consideration in understanding residue exposure by consumption is the relative pest pressure of each commodity. The difference in the number of pesticide residues found in wheat versus the number of residues commonly found in strawberries demonstrates this factor (United States Food and Drug Administration 2008). Whether it is due to plant breeding, or maturity of the edible portion of a crop, pest pressures play a major role in the level of pesticide residues found in various crops. The next consideration is the relative pest pressure of the growing region. In general, crops grown in arid climates do not require the same level of disease control as crops grown in climates that are more humid (Jones and Sutton 1996).²⁸ The final consideration in understanding residue exposure by consumption is the post-harvest handling steps that affect the level of residues. Certain food processing steps can dramatically reduce pesticide residues. Various processing steps, such as washing and peeling, removed greater than eighty percent of the residues on a fruit or vegetable (Stepan et al. 2005).²⁹ These three factors result in higher pesticide residue exposure to infants.

EPA identified other major routes of exposure to pesticides (United States Environmental Protection Agency 2007a). Oral, inhalation and dermal exposures factor into its risk assessment for each pesticide or chemical under review.³⁰

²⁸ For example, apple growers in the humid Southeastern states must deal with approximately nine major fruit and foliar diseases. Apple growers in the arid West typically deal with two significant fruit and foliar diseases each year.

²⁹ Other chemicals are vulnerable to hydrolysis and volatilization during heating. Because each chemical requires its own unique way of removal during processing, residue fate studies are imperative for food manufacturers looking for ways to reduce residues in their customer products.

³⁰ In addition, the FQPA requires the EPA to take into consideration the aggregate effects of exposure to the same chemical from multiple sources, such as chlorpyrifos exposure from the consumption of apples as well as the dermal and oral exposures to chlorpyrifos from the

Effects from the combined routes of exposure can provide a significant proportion of the total exposure of an infant to a particular pesticide compound. Even though few correlations between low-level chronic exposures to pesticide residues in foods and infant health are available, evidence exists that demonstrates the link between exposure of infants and young children to other environmental sources of pesticide residues and major health issues.³¹

Government Risk Assessment. Regulatory agencies have progressively incorporated additional safeguards into the regulations to account for emerging scientific evidence that demonstrates potential chronic effects of pesticide residues on infants. Congress assigned responsibility to assess the potential risk of pesticide exposure on humans and the environment to EPA during its formation in 1970. In doing so, EPA adopted a four-step human health risk assessment process that considers both aspects of the classic risk equation “risk = dose X exposure” (Lowrance 1976). The first step of the risk assessment process defines the conditions of exposure. EPA calls this step the “Hazard Identification” step (United States Environmental Protection Agency 2008a). In this first step, EPA identifies all of the known potential health effects for each pesticide that may occur from different types of pesticide exposure. The second step of the risk assessment process identifies the adverse effects, or as EPA

residential use. To ensure that all potential risks are considered, the cumulative exposure from common modes of action must also be included in the final risk assessment. An example of the common mode of action would be the cumulative risk from the exposure to all cholinesterase inhibitor insecticides on a piece of fruit. Chlorpyrifos, azinphos-methyl and phosmet are organophosphate insecticides commonly applied during apple production. Calculating the risk includes the sum of all three exposures, not each exposure on an individual basis.

³¹ Due to the vast complexity of the total exposure picture, the intent of this discussion focuses on the dietary exposure of pesticides. Nevertheless, the discussion is necessary in order to demonstrate that concern over exposure of infants and young children to pesticide residues is not a fear without basis.

calls it, the “Dose-Response Assessment” step. In this second step, the risk assessment process considers the toxicity of the pesticide. The third step of the risk assessment process relates exposure with effect, or the “Exposure Assessment.” The third step takes the level of exposure of target populations into consideration. The final step in the risk assessment process estimates the overall risk, or “Risk Characterization”. This final step combines the results from the first three steps to describe the overall risk from a pesticide. This step explains any uncertainties incorporated into the dose assessment in Step Two and any assumptions used during the exposure assessment in Step Three.

Pesticide Regulatory Levels for Infants. Both government and industry share the concern for assuring safe infant food. Despite this shared concern, there are three major sets of pesticide residue standards in the world.³² These three major sets include the standards established by the European Union (EU),³³ the United States (US) and the Codex Alimentarius Commission (Codex). Codex is the international set of food laws jointly administered by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO). Codex develops and administers food standards for its member nations.

Several years ago, the EU and US developed different, yet parallel, paths towards foods safety. The EU chose the Precautionary Principle as the basis for

³² Other variations occur worldwide that specifically address infant foods. For example, Japan prohibits all detectable residues in imported infant foods. However, the other variations represent single country restrictions instead of a collaborative system like the EU.

³³ The EU bases all of its food Maximum Residue Limits (MRL's) on a conventional risk assessment. The MRL's vary depending on the pesticide and the crop. This is the pesticide residue enforcement level set for each pesticide use. When the pesticide residues exceed the MRL, the European Food Standards Agency (EFSA) rejects the products and removes them from the market.

their food safety regulations (European Commission 2000).³⁴ The US embraced the philosophy of “substantial equivalence” or “familiarity” (US Government Printing Office 1997).³⁵

One major aspect that set EU standards apart from the other two was the special consideration the EU gave to regulation of pesticide residues specifically for vulnerable demographic groups like infants and young children (European Commission 1999).³⁶ This restriction specifically addressed the consumption of infant foods by infants and children less than thirty-six months in age, as defined by the Commission (European Commission 1996). In this way, the EU drew a “line in the sand” by arguing that any residue below the 10 ppb level was considered “zero”, unless data indicated that the recognized health risk level is below 10 ppb (European Commission 1999).

With this legislation, the EU made a major distinction between foods consumed by infants and young children and foods consumed by everyone else.

³⁴ The Precautionary Principle (PP) developed out of the law of unintended consequences. The phrase first surfaced in Swedish and German environmental policies in the 1960's and 70's. The Treaty of the EU in 1992 was the first international document to use the term, although it did not define it. The official “birth” of the PP came in 1992 at the Rio Declaration. Principle 15 defined the PP as “Where there are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” The European Commission (EC) White Paper on Food Policy in 2000 stated that, “The use of scientific advice will underpin food safety policy, whilst the PP will be used where appropriate”. The EC noted that the scope of the PP depends on case law, which to some degree is influenced by prevailing social and political values.

³⁵ According to this philosophy, if a food or additive is indistinguishable, in terms of its defined attributes, from something familiar to the public, with no known adverse health effects, then that food or additive is “generally regarded as safe” (GRAS), requiring fewer tests prior to registration by the federal government. When the government considers a “novel” food or ingredient, it requires significantly more toxicity testing. In other words, introducing a new variety of apple requires less safety testing because we have eaten apples for many years without adverse health effects...other than the stomachache received from eating green apples as a child.

³⁶ The EU incorporated a performance standard into Commission Directive 1999/39/EC by lowering the MRL of all pesticides in infant foods to 10 parts per billion or less. The only pesticide residue limits lower than 10 ppb are included on two lists of pesticides that are considered to be so potentially toxic to infants that they must be rejected if they exceed 1 ppb or the lowest limit of detection possible.

There are now twenty-seven sovereign countries within the EU. This was a political solution and one that required a great deal of negotiation to reach consensus. The European Union considered each country's own set of residue standards in reaching consensus among its members.

By comparison, the pesticide residue regulatory system in the US appears to be more complex than the system adopted by the EU. The US developed a "tolerance" level, or a maximum "tolerable" limit for every pesticide registered in the US. This tolerance residue level is a residue level that, if exceeded, demonstrates an inappropriate use of the pesticide resulting in seizure and removal from the marketplace. The tolerance for each individual pesticide varies based on risk assessment for that particular crop / pesticide combination (Saundry 2007). In addition to the tolerance, EPA issues a reference dose (RfD) for each pesticide, which is considered to be the health safety level.³⁷ It represents exposure to the highest residue concentration without producing toxic effects (United States Environmental Protection Agency 2007d).

One area where the Food Quality Protection Act³⁸ directly addressed the unique vulnerabilities of infants was the provision that called for an additional safety factor to accommodate for greater protection needed by infants and young children. This additional safety factor, which allowed for addition of up to a ten-fold safety factor, was added to the MRL or "tolerance" level of every pesticide during the re-registration process (Spady 2006). In applying the safety factor

³⁷ Historically, the tolerance level was set much higher than the RfD. However, since the passage of the FQPA and the re-registration of all pesticides allowed for use in the US, the tolerance levels are much closer to the RfD. On the other hand, the US does not distinguish between adult foods and infant foods.

³⁸ See further explanation of the Food Quality Protection Act (FQPA) in Chapter Three.

across all foods, the US appeared to acknowledge that the diets of this vulnerable demographic group stretched far beyond the confines of traditional “infant” food products by the time they reached twelve months of age.

The World Health Organization and Food and Agriculture Organization of the United Nations developed Codex in 1962 to provide basic food safety standards in countries unable to develop their own standards and to harmonize, as much as possible, the food standards across the globe, thereby facilitating global trade. Like the US and the EU, Codex creates MRL’s for each pesticide registration. Like the EU MRL’s and the US tolerance levels, Codex MRL’s represent the maximum legal residue limit allowed in Codex member nations. Moreover, like the US and EU, exceeding the MRL will result in rejection of the ingredient or recall of the retail product out of the distribution chain. For several years, Codex debated about the need for additional recognition of the special needs of infants and young children. However, issues such as pesticide residues for adult foods can result in years of deliberation with very little progress to show for it (Codex Alimentarius 2001).³⁹

This study is a timely one. Recently, the EU commissioned a new study on the effects of pesticides and heavy metals in baby foods on infants (El-Amin 2007). EPA recently agreed to take up the controversial issue of identifying and regulating pesticides based on their impact as endocrine disruptors (United

³⁹ Specialized issues, such as special residue limits for infant foods generate even more contention. Therefore, it is not surprising that Codex has yet to decide how best to address the issue. The Codex Committee on Pesticide Residues (CCPR), which is responsible for the making recommendations to the larger Codex, has not yet resolved this issue internally, much less sent it on for full Codex debate and approval.

States Environmental Protection Agency 2007b). Because many groups will weigh in on the discussion with both sides presenting data to support their argument concerning endocrine disruptors, food companies will take measures, such as the adoption of additional private standards, to demonstrate that they are doing everything possible to prevent the introduction of endocrine disruptors from getting into their products.

In addition, non-governmental organizations (NGO's) point to EU standards when advocating for higher pesticide standards in the US. As one food industry person put it during an interview, "What is happening from both a political and a performance expectation of consumers is that the market is dictating some of the standards in public policy and public policy advocates are exerting influence by being able to point to more stringent food safety standards and organizations in other parts of the world. The aim is to use the examples of standards in other countries to advocate specific standards here in the United States." (Bob). An infant food company representative agreed when she said, "Countries without standards specific for infants see the EU standards as clear and understandable levels of safety for infants that can be specifically demonstrated." (Betty).

Faced with this scenario, it is not surprising that food industry groups, which are designed to represent the needs of the majority of their members, choose not to spend a great deal of time and political capital on seeking the harmonization of pesticide standards for infants and young children. One option infant food manufacturers must consider is to seek protection through the

adoption of private standards in order to protect themselves from the potential product liability in the event of a negative media event.

Challenges to Harmonization. As the marketplace becomes increasingly global, food companies, national governments and international agencies have increasingly called for more harmonized food safety programs. Most current concerns focus on microbial and contaminant contamination. Nevertheless, certain developed countries and their trading partners recently began discussions about harmonization of pesticide residue standards in food. Current harmonization efforts by countries of the North American Free Trade Agreement demonstrate this type of effort (United States Environmental Protection Agency 2008b). Despite harmonization progress achieved through these efforts, important disparities continue to exist among major trading partners. Differences between the EU and US pesticide residue standards for infants and children are an excellent example of that.

There is a great deal of confusion for both food manufacturers and customers as to what constitutes a “safe” product. At first glance, the EU position appears to be much more restrictive and precautionary, and indeed, it is – for the first 36 months of an infant’s life. Nevertheless, the EU program does not consider the consumption of pesticides by infants older than twelve months, even though there is consensus that young children are vulnerable beyond 36 months. The EU position also does not take into consideration the specificity of exposure and toxicity for each pesticide and its use in food production. The 10 ppb limit draws a “straight line in the sand” that represents the lowest quantifiable level

possible across the broadest number of pesticides possible. In essence, the EU position considers residues below 10 ppb to be zero.

In contrast, the US standards apply to all foods over a lifetime. The US chose not to create additional safety standards specifically for infant foods like the EU. By lowering tolerance levels during the re-registration process, as required by FQPA, the additional level of safety effectively applies to all foods, not just infant foods.

Beyond twelve months, young children in the EU are still vulnerable because they eat adult foods, only without the additional safety factor applied to foods throughout their diet for the specific protection of infants and young children.

Because of the complexity of these relationships, prospects for harmonization of international food safety standards appear to be bleak. For a food processor in the infant food market, this can be a daunting task. The infant food market is a very small market segment relative to the entire processed food market. It would be virtually impossible for an individual infant food company to generate enough political momentum in either the US or the EU to make any substantive changes to the existing standards. Because FQPA specifically addressed the “kid’s health” issue, and there is no current health crisis in North America specifically linked to pesticide residues in infant foods, there is no major reason for Congress to address the issue.

Chapter summary

This chapter sets the empirical and historical stage for these food safety issues and demonstrates how infant food companies are vulnerable to the perceptions of customers. Understanding the uniqueness of infant foods involves following the regulatory and historical events that directly affected the NA infant food industry as well as the unique vulnerabilities of infants and young children. This chapter also provides an overview of the three major pesticide regulatory bodies and the challenges to the global harmonization of pesticide residue regulations. Finally, this chapter sets the stage for demonstrating how infant food companies begin to address these issues in the face of declining confidence in government standards.

The next chapter discusses various approaches to understanding Corporate Social Responsibility from the business and sociological perspectives. A broad grasp of the corporate social responsibility literature will assist in developing a way to apply it to infant food companies and their efforts to demonstrate a sense of responsibility through their food safety programs. The next chapter also lays out a conceptual framework used to interpret how infant food companies address food safety issues with their customers.

Chapter 3

Worlds of Justification

The previous chapters identified concerns by the NA infant food industry about communicating food safety, especially as it relates to contaminants. These concerns can significantly influence the nature of an infant food company's CSR strategy. In addition, the previous chapter demonstrated how negative media events and the unique expectations of product performance influence NA infant food companies due to the unique vulnerabilities of their consumers.

This chapter introduces the concept of CSR and discusses several conceptual models of CSR to broaden the understanding of the current scope of this topic. In addition, this overview of CSR identifies key issues in CSR and provides a basis for an in-depth examination of how infant food companies handle issues regarding pesticide residues and other food safety issues. As a point of departure, Boltanski and Thévenot's concept of "the worlds of justification" are used in this study as the foundation for interpreting different approaches used by infant food companies to justify their positions on food safety concerns (Boltanski and Thevenot 2006).

Dimensions of Corporate Social Responsibility

"Business is being criticized and called a bum today for doing the same things that made it a hero just a few years ago. Business hasn't changed, society has changed." (Gray 1986). The debate on CSR started in 1953 when HR Bowen wrote that executives are obligated to pursue policies desirable in terms of the objectives and values of society (Bowen 1953). In the years since, Bowen's

social responsibilities for the 1950's businessman slowly transformed into the current concept of a corporation's responsibilities to society (Garriga and Mele 2004). CSR has taken on additional meanings as writers have debated the validity and merits of CSR in society.

The current landscape of corporate social responsibility (CSR) is vast. There are many ways an infant food company can demonstrate how it intends to be a good corporate citizen. In every aspect of its organization, an infant food company can positively affect people's lives. Traditionally, worker health, safety and protection of the physical environment defined a company's responsibility to society. However, companies are beginning to realize that they need to show their commitment to protecting the health and safety of not only the people who work in their facilities, but also to the people who live in their communities or use their products.

Conceptual Models

The use of frameworks, or models, increases our understanding of the concepts of CSR by providing an opportunity to categorize seemingly unrelated data and identify trends in the data. Because there are numerous models available to assist in understanding CSR, a way of categorizing the models was needed. Garriga took many of the current models of CSR and separated them into the Instrumental, Political, Interpretive and Ethical categories (Garriga and Mele 2004).

Nevertheless, even while the number of CSR definitions continues to grow, the concept of corporate social responsibility remains difficult for both scholars and practitioners to define. The first is the idea of “responsibility.” While there may be some disagreement as to the level of responsibility, most people understand what the concept of responsibility means. The challenge comes in clearly defining the word “social.” As one writer put it, “Socially responsible to whom? Socially responsible for what?” (Clarkson 1995)

Even the term “Corporate social responsibility” receives criticism for being too vague. As Votaw put it, “The term is a brilliant one; it means something, but not always the same thing, to everybody. To some it conveys the idea of legal responsibility or liability; to others it means socially responsible behavior in an ethical sense.” (Votaw 1973)

The CSR field presents a landscape of models for determining companies’ motives for incorporating CSR activities. These categories of theories attempt to interpret the motivations of each company for implementing its CSR activities.

Instrumental. The Instrumental group of models includes all CSR models that assume a company’s primary social responsibility is to create wealth. All activities that ultimately result in generation of wealth reside in this category. This category includes models of competitive advantage, product differentiation, competitive context and cause-related marketing.

The primary model within the Instrumental category is competitive advantage and it includes ways in which infant food companies can increase their competitiveness within a market. Increased competitiveness can come in

the form of increased sales, due to the introduction of a new product, or it can come from reducing production costs.

By incorporating new ideas into existing products, a company creates a potential hurdle for its competitor, which causes the competitor to become less competitive. When a company changes a product by adding additional desirable traits, that company may increase customer expectations for an existing product to a point where the competition cannot follow. “Raising the bar” may force competitors to spend more, thereby making them less competitive (Bansal and Roth 2000). In the new realm of sustainable businesses, concentrating on the development of product life-cycle strategies is a form of competitive advantage.⁴⁰

The difference between competitive advantage and product differentiation is that competitive advantage focuses on strategies that make the company more competitive while product differentiation focuses on strategies that make the product more competitive. By creating products with a perceived “value-add”, a company can differentiate its products from the rest of the competition. The potential for long-term profitability draws companies to ecological responsiveness. Companies that develop new product lines understand that there are potential benefits to Green Marketing that go beyond the new products. Companies also understand that the “aura” from the “green” products shines favorably on the other products in their portfolio. The “green” category of products has created new markets to serve customers who are looking for

⁴⁰ For example, from a CSR perspective, when a company receives “fair trade” certification, the competition must spend both human and financial resources in order to become “fair trade” certified as well.

products that leave a smaller “environmental footprint” (Bourlakis and Weightman 2004).

Supply chain innovation provides opportunities to increase a company's competitive advantage through cost savings and efficiencies at the supplier level. Whether it is implementing waste reduction and recycling programs or reducing packaging materials, there are many ways to reduce costs. The ability to innovate is the main driver in successfully implementing cost savings initiatives (Christman 2000). Working with suppliers to reduce inputs also leads to cost savings opportunities (Harvard Business School 2003). In the case of infant food companies, working with fruit and vegetable growers to reduce the use of pesticides often results in cost savings to the grower and reduce residues for the food processor (Epstein et al. 2001).

The next model within this category is competitive context. Porter and Kramer's concept of creating a competitive advantage through development of “strategic philanthropy” is an excellent example of this concept (Porter and Kramer 2002). According to this model, companies that donate financial and human resources haphazardly, or are done solely for bolstering the company's public image miss opportunities to maximize the benefit on the company's charitable contributions. This is contrary to the business management goal of maximizing return on investments in all areas of business. Porter and Kramer argue that it is in the best interest of both the company and society to maximize investments spent on social issues. By closely aligning donations to social causes with a company's core competencies, a company can maximize the

social benefit to the social cause by using its resources and expertise efficiently.⁴¹

The final model that Garriga includes in the Instrumental category is cause-related marketing (Garriga and Mele 2004). In this theory, social responsibility is an investment that improves the long-term performance of a company, similar to the way a new energy-efficient boiler would lower long-term energy costs at a food processing facility. In cause-related marketing, or profit-motivated giving, a company donates to worthy causes that are viewed as a strategic part of their overall marketing strategy. It is essentially a marketing program with two goals - improving the company's financial performance and helping a worthwhile charity (Varadarajan and Menon 1988). By formatting a marketing program designed primarily to enhance company reputation, an enhanced brand image may translate into increased sales. An important point to make in distinguishing this concept of CSR from others is that the donation does not directly influence sales (Chaudhuri and Holbrook 2001).⁴² The company intentionally directs the focus towards the charity, not on its own products. However, according to Varadarajan, it is common for advertising costs of the project to exceed donations given to the charity. Therefore, a fine line exists between benefiting the cause and the project degenerating into cause-exploitive

⁴¹ A food company providing research funds to implement advanced pest management techniques, which are available to an entire industry, would be an example of competitive context. The food company has a competence in food production and can provide knowledgeable resources to maximize the benefit to the fruit industry while enjoying the benefit of an expanded stable supply base.

⁴² A retail company offering to give a certain percentage of every purchase towards restoration of a historic landmark would be an example of cause-related marketing. The historic landmark receives much-needed funds and the company receives the improved brand image associated with helping a worthy cause, which often results in higher sales.

marketing, which could certainly be a negative in the eyes of society (Varadarajan and Menon 1988).

Political. The next category of CSR models includes all aspects of power and responsibility for a corporation. The dominant model within the Political category is corporate citizenship (CC), which evolved out of academic discussions of CSR in the late 1970's. Writers have used the conceptual framework of CC since authors like Carroll attached the concept of citizenship to his idea of a corporation's philanthropic responsibility to society (Carroll 1979). While CSR has traditionally received more discussion from an academic perspective, CC has quickly gained ground in business management theory. This is partially explained by the use of the term "citizenship" versus "responsibility" or "business ethics". While the latter terms focus primarily on obligations of corporations to society, citizenship focuses on the rights and responsibilities of all community members, indicating interdependency on each other. Citizenship, for business, carries the connotation of its "rightful" place in society or in a community (Waddell 2000).

Corporate citizenship distinguishes itself from other CSR theories by focusing on the definition of "citizenship." Matten, et al, argue for an expanded definition of citizenship because globalization has led to a deterioration of the traditional definition of citizenship (Matten, Crane and Chapple 2003). Due to expansion of global trade, where goods are bought and sold across national borders almost as easily as across state lines, the impact of multi-national companies on peoples' lives has increased to the point where the company

policies have as much, or more, influence than government regulations. This rise in global corporate influence parallels a decrease in the power of traditional government structures. The authors argue that concepts of corporation and citizenship come together in modern society at the point where governments begin to fail in their ability to guarantee basic social, civil and political rights for its citizens and where policies of the corporation begin to fill those gaps.

Garriga segregates CC discussions between the Limited, Equivalent and Extended views of CC (Garriga and Mele 2004). The Limited view, held by Carroll and others, is that CC is nothing more than a choice to give something back to the community – if corporations choose to do so (Carroll 1979). There is very little ethical commitment on the part of a corporation involved in this type of CC. It is truly a discretionary activity on the part of the corporation.⁴³ The Equivalent view of CC assumes that CC activities are nothing more than a repackaging of the kinds of activities associated with the classic definitions of CSR.⁴⁴ The Extended view of CC holds that corporations have assumed responsibilities, in addition to certain rights, from society because governments, the traditional organization assigned with that task, in many situations are becoming incapable of providing the comprehensive blanket of rights that are a part of democratic society. The Extended view of CC takes place where companies assume the role of surrogate regulatory agencies. This view of CC hypothesizes that globalization is one of the root causes of this shift in roles and

⁴³ A limited view of CC focuses on company involvement at its physical location. "Community Action Day" for the plant employees would be an example of this type of citizenship.

⁴⁴ An example of this type of involvement would be a packaging reduction program at all of the production plants across the company.

responsibilities of corporations. Increasingly, Companies are involved in countries where governments cannot provide basic social, civil and political rights, such as in developing countries, or in more developed countries where governments increasingly cannot maintain those rights.⁴⁵

It is important to understand that NA infant food companies incorporate all three views of corporate citizenship in their relationships with various communities. The Limited view applies to CSR activities where both the company and the community expect a limited level of company commitment.⁴⁶ The Equivalent view includes the additional expectations for infant food companies held at the company level. Customers and other groups have other expectations for an infant food company, regardless of where the production plant is located.⁴⁷ The Extended view of CC continues to expand. Most infant food companies operating today source ingredients from more than one country.⁴⁸ There are developing countries where the local governmental regulations are insufficient or enforcement is sporadic. In order to provide a stable supply chain, a company may provide financial and human resources to develop community infrastructures, such as clean water sources or improved waste management,

⁴⁵ This type of situation has become more commonplace in developing countries where multi-national corporations extend their supply chain into areas where there is an insufficient level of governmental enforcement of standards. An example of this type of involvement would include agronomists from an infant food company teaching indigenous farmers sustainable production techniques.

⁴⁶ Becoming a sponsor of a local road race, even if you do not sell sports drinks or energy bars, is an example of this level of CC. The company chooses to become a sponsor to give something back to the community, often with very little commitment by the company other than a check.

⁴⁷ Providing safe products, reducing wastewater discharge regardless of where the products were made, are examples of the equivalent view of CC.

⁴⁸ Many of the tropical ingredients, such as bananas, come from developing countries where local food safety standards often do not meet a company's internal standards. Therefore, additional expectations are placed on the infant food company, at the Extended level, in order to accommodate for the food safety gaps in developing countries.

which benefit both the company and the local community. In doing so, the company has assumed a role traditionally held by local or national government. If CC is equal to participation in society, it makes sense that business fulfills a role that more closely resembles that of a government than the role of a citizen (Matten, Crane and Chapple 2003).

The one area of concern is whether it is possible to hold corporations accountable in some of the same ways that citizens hold governments accountable. Mattan expresses concern about the lack of adequate accountability measures available to control corporations. By contrast, governments are accountable to their citizens and often there are systems of “checks and balances” within the systems to maintain that accountability.

Integrative. The Integrative category contains the “license to operate” concept, which includes all demands that society places on a company in exchange for a certain level of legitimacy. In addition to the “license to operate,” this group includes both the stakeholder and Corporate Social Performance models.

The “license to operate” model helps us understand the ways in which companies attempt to legitimize their CSR activities. The basic concept of CSR is that business and society are interwoven rather than distinct entities (Wood 1991). As such, society grants all legal entities, including infant food companies, a “license to operate” by spelling out their rights and responsibilities in laws and regulations (United Nations 2004). Legitimacy provides a powerful justification for implementing CSR programs. In the end, companies that do not use power in a

manner that society considers responsible will lose it because society maintains the right to establish and enforce a balance of power among its institutions and defines their legitimate functions (Bansal and Roth 2000).

Part of the concept of the “license to operate” is the idea of trust. Most definitions of trust include two distinct characteristics. The first is the willingness to be vulnerable to the other party. The second is to trust that the other party is capable and motivated to behave as expected (Lucas 2005). From time to time, a company may need to rely on its accumulated trust to counteract a negative event that questions the company's integrity and reputation (Henriques and Richardson 2004).

The Integrative category also includes the theory of risk management. Infant food companies consider local community members, healthcare professionals, customers, stockholders and government regulators to be their stakeholders.

A very important part of any company's Integrative strategy is its risk management programs. One important aspect of any risk management program is its assessment of not only the physical environment, but also the social, political and legal environments surrounding the company. However, the corporation does not have the luxury of dealing with only one type of environment. The opposite situation is more accurate. Often, social, political and legal environments carry just as much weight with companies as its economic, physical and technological environments.

Companies implement issue and stakeholder management programs to deal with risks (Garriga and Mele 2004). Stakeholder management involves the creation and maintenance of important links with external communities including regulators, healthcare professionals, customers, stockholders and others (United Nations 2004). Stakeholder management attempts to reach out to groups that have a stake in the company and its behavior.

For infant food companies, issue management involves the implementation of policies designed to address issues affecting the company, whether they are social issues or food safety concerns (Harvard Business School 2003).⁴⁹ Effective issue management programs minimize “surprises” that often accompany social change by serving as a type of early warning system for emerging issues (Garriga and Mele 2004). Classic issue management programs include issue identification, issue analysis and issue communication (Wood 1991).⁵⁰ Communicating risks is critical to surviving in a risk society. Customers conduct their own risk analysis of a food company’s product every time they reach for a product on the store shelf (Reksnes 2003). Implementing strategies to build customer confidence and maintain trust are, therefore, an important part of any risk communication program.

⁴⁹ An example of issues management for an infant food company would be to the food recall program that each company has in place to respond immediately in a potential food recall notification. Every player has a specific role to perform in such an event and many companies conduct mock recall drills on a routine basis to assure efficient execution of the program.

⁵⁰ There are three categories of issues associated with issues management. Public issues consider any regulatory or legislative matters facing the company. Strategic issues include an analysis of any consequences that would require strategic change on the part of the corporation. Social issues are the challenges and concerns involved in the corporation’s social contract with its surrounding communities.

Using the perspective of stakeholders as a conceptual framework, Clarkson analyzed the relationship of each company to its various stakeholder groups in society as opposed to looking at responsibilities of a company to society (Clarkson 1995). The emphasis of this program is the response by “society.” Clarkson wanted to understand how each company responded to a particular stakeholder issue. To do so, the concept of “posture” was used to gather data from company annual reports that specifically listed how each company responded to an issue. The concept of “performance” was also used to judge the level of responsibility that the company appeared to accept.

Clarkson makes a distinction between stakeholder issues and social issues because businesses manage relationships with specific stakeholders, not society in general. To distinguish between stakeholder issues and social issues, he determined whether there is a regulation associated with the issue. If there was a regulation addressing the issue, it was a social issue. Otherwise, it was a stakeholder issue. Clarkson defined a stakeholder as a person or group claiming ownership, rights or interests in a company and its activities. Based on his definition, employees, customers, regulators and suppliers are all considered stakeholders.

Clarkson’s observations on the differences between stakeholder and social issues provide a means to understand the relationship between food safety and CSR activities by NA infant food companies. In terms of food safety issues, not only is it expected that NA infant food companies will comply with the law, but they are expected to exceed all minimum regulatory compliance

standards. As one food company representative put it during an interview, “Given the industry that we’re in, where you have that targeted consumer, I would be concerned with just maintaining the current government regulated standards and not anticipating where the standards are going or trying to proactively stay ahead of those standards.” (Don) Using Clarkson’s definitions, all of these issues addressed by private standards are stakeholder issues.

Clarkson points out that a lack of data regarding a particular issue is just as important as the data that are available. In other words, what is missing is as important as what is available. The error of this assumption lies in the understanding that a lack of data does not mean that the company is not managing that issue. The lack of available data for a particular issue only shows that the company chose not to discuss the issue. There may be numerous food safety standard operating procedures (SOP’s) in place within a company addressing a multitude of food safety issues. The mere fact that the company chooses not to communicate them to the public does not diminish their importance to assuring the safety of the company’s food products.

The final conceptual model in the Integrative category is the Corporate Social Performance (CSP) model (Carroll 1979). This model is useful because it integrates economic concerns into a social performance framework. The model can also serve as a guide in developing company positions on various social issues. The focus is on measuring the level of responsibility of a corporation to society versus its own self-interest.

There are two basic premises of the CSP model. The first is that society expects companies to act as a moral agent within its communities. Like other institutions, businesses reflect and reinforce values. The second premise is that business exists for the pleasure of society. Its behaviors and methods of operations must fall within guidelines set by society. Society maintains an unwritten social contract with each business or organization that exists within its communities based on an implied set of rights and obligations containing all of society's expectations (Wartick and Cochran 1985). For a company to earn public credit for its behavior, it has to engage in activities where the public sees obvious social or environmental benefits and believes that they have more to gain than the company does from implementing the activities (Harvard Business School 2003).

Ethical. A sense of moral obligation to society, not self-interest, is the basis for the CSR activities in Garriga's Ethical category (Garriga and Mele 2004). Included in this category are the CSR programs implemented by a company for ethical reasons put forth strictly for the good of society, without any expectation of financial reward in return.

For infant food companies, this category includes all CSR activities implemented simply because they are "the right thing to do." Core values induce some corporations to champion CSR projects. Senior management is more inclined to adopt social and ecological responsiveness strategies if they fit into their own personal core values (Bansal and Roth 2000). In fact, the only way to assure the long-term success of CSR within a company, is to position CSR at the

core of its business strategy, thereby becoming part of the company's business plan (Mahmud 2002).

Sustainable development programs “do the right thing” by taking into consideration the social, economic and environmental aspects of each project. Sustainable development programs use a “whole systems” approach to developing resources. Infant food companies purchase ingredients from across the globe, including many developing countries. In addition to many other items, all tropical fruits originate in developing countries. Supplier programs that take into account the social, economic and environmental ramifications in developing countries fit within the sustainable development model (Rainforest Alliance 2008).⁵¹

Sustainable development evolved at the macro social level, yet it requires a company response (Garriga and Mele 2004).⁵² According to the European Commission, the ultimate goal of CSR is to reduce bad aspects of society, such as poverty, human rights abuse and environmental degradation, and to increase the good aspects of society, such as sustainable livelihoods⁵³, education and biodiversity (European Commission 2003). The European Community sees

⁵¹ An example of sustainable development program that involves food companies is the Rainforest Alliance where tropical crops, such as coffee, bananas and cacao are third party certified to be produced in a sustainable manner.

⁵² The Brundtland Report of 1987 defined sustainable development as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.” While this report originally focused primarily on environmental issues, it has expanded to include social and economic considerations as well. This “triple bottom line” accounting concept focuses on creating a “whole systems” approach to CSR. (Henriques 2004).

⁵³ Sustainable Livelihood businesses focus on opportunities to do business with the poor in ways that benefit the poor and benefit the company. Developing appropriate products for these new markets can create opportunities for significant new growth. It also provides the poor with access to the economy and new products to improve their quality of life. By integrating the developing countries more thoroughly into the world economy, corporations are contributing to the shift in materials to a more balanced equilibrium.

sustainable development as a contribution to their goals of full employment, social cohesion, economic growth and environmental responsibility. Success or failure of a CSR approach depends on the extent to which it contributes to this goal.

Corporations continue to increase in size at a much faster rate than many countries (Kell and Ruggie 1999).⁵⁴ Investment in developing countries often comes through direct foreign investment by multinational companies. CSR strives to maximize the positive impacts of those investments while attempting to minimize the negative ones. Until recently, most national (and international) regulatory bodies did not actively participate in CSR development. All too often, foreign investors took this opportunity to make a profit while failing to comprehend the social and environmental impacts (Mahmud 2002).

Infant food companies need to take into consideration the additional food safety issues that are an integral part of developing any sustainable system. The company must consider the social, economic, environmental and food safety issues in the standards it implements. According to the Corporate Citizenship approach to CSR, infant food companies are obligated, as citizens of these communities, to implement this new knowledge into their standards and to inform their communities as new issues emerge. Wherever they operate, corporations must conduct their business with respect and care for both the local and global

⁵⁴ Because of their incredible size and economic power, global organizations, such as the United Nations, look upon corporations to act more like countries in their responsibilities to their employees and the communities they inhabit. For that reason, the United Nations (UN) developed the Global Compact in 2002. Through the Global Compact, the UN can address three major issues at once; human rights, labor standards and the environment. The UN specifically wrote the Global Compact to engage multi-national corporations (MNC) in process of searching for solutions to these chronic problems. Instead of viewing MNCs a part of the problem, the UN chose to view MNCs as part of the solution.

environments while focusing at the same time on managing risks and developing sustainable business growth.

One of the shortcomings of the mapping strategy by Garriga is the lack of attention to the possibility that a company's motive for its CSR activities can reside in more than one category. To complicate things even further, a company can communicate in several different ways depending on its immediate audience. When speaking to its stakeholders, the company may discuss its waste reduction programs as a cost-savings initiative. Yet, when speaking to regulators, the company may position its waste reduction programs as a way to reduce the environmental footprint.

Point of departure

There is evidence of all the models in the statements from infant food companies. Morgan puts it in perspective by writing, "Any realistic approach to organizational analysis must start from the premise that organizations can be many things at one and the same time" (Morgan 1996). In the absence of regulations, or as a way to maintain consumer confidence in the face of waning trust in government's ability to protect the food supply, NA infant food companies are implementing private standards to fill food safety gaps in government standards. The implementation of private standards provides an excellent example of proactive, voluntary practices on the part of corporate actors. Infant food companies present these standards from multiple perspectives.

Given the multiple audiences of these companies, or demands put upon them, and differences among companies, a way is needed to capture the different CSR profiles of each infant food company. Some way of presenting the different multi-dimensional features of each company's CSR strategy or approach is needed.

Worlds of Justification. People justify experiences through their own set of “frames” or “lenses.” This approach provides a way to interpret systematically the information from infant food companies instead of speculating on the company's motives. The way a person “reads” a company affects how that person understands that company (Morgan 1996). Personal interpretation greatly influences how each person “frames” a situation. Frames are both windows to the world and lenses that bring the world into focus (Bolman and Deal 2008). They are mental shortcuts that help make sense of the world. These frames, “or metaphors” provide a way of thinking systematically about a situation (Morgan 1996). Metaphors help filter out certain things while allowing others to pass. They also help bring order to experiences and give guidance when determining the appropriate response to an interpretation. The viewer uses a frame, or metaphor, to understand an action or situation in distinctive, yet partial ways. “Each metaphor has its own directive. A mode of understanding suggests a mode of action” (Morgan 1996). Various things trigger these frames, such as the language used or images portrayed. Frames are not simply often repeated slogans. Frames are conceptual constructs with the ability to organize what is seen or

heard (Tannen 1998). They provide a way to efficiently process and interpret what is experienced.

Using that perspective, Boltanski and Thévenot's "worlds of justification" model provides a unique opportunity to capture the multi-dimensional nature of CSR in the infant food industry. The "worlds" model provides a new way to understand how the receiver interprets and justifies information about an infant food company's food safety and CSR activities.

Conventions. Instead of talking about "frames" and "metaphors" as Bolman and Morgan do, Boltanski and Thévenot use the word "conventions." Nevertheless, "conventions" mean more than "frames" or metaphors." All people interpret things using certain conventions. These conventions are generally agreed rules and norms, often unwritten, which both parties use during the negotiation of a transaction.⁵⁵ Conventions can involve negotiating with others who may be operating in the same frame as well as those operating from a different frame. People interpret the information received based on a very personal set of "lenses".

Convention theory's strength comes from its focus on rules and norms as a basis for each actor's actions. According to Wilkinson, rules are not developed prior to action; they emerge within the process of actor coordination (Wilkinson 1997).⁵⁶

⁵⁵ In the case of food, a potential convention might include, "fresher is better" —unless you are talking about a fine wine. Another convention might be, "Everyone wants safe food."

⁵⁶ Convention theory started as a means of analyzing rules and norms associated with assigning wages under circumstances that are defined as "incomplete contracts" (Wilkinson 1997). An incomplete contract would be one in which both parties do not hold complete information about the transaction. The use of convention theory expanded to represent a more generalized

Boltanski and Thévenot introduce the notion of 'worlds' to label different types of "conventions" that people use. There might be several potential justifications for any given point of view. In reality, within any process of negotiation, the actors need to provide a legitimate justification for any argument or evaluation that is related to a common understanding of what is right or good. In order to convince others about whether something is right or good, from a particular position, the convention needs to meet the expectations of all involved (Kirwan 2006).

The Different Worlds. Modern societies are not a single social order, but an interweaving of multiple orders where individuals constantly move between orders. Companies, like other organizations, may exhibit multiple worlds at any given moment (Wilkinson 1997). Each one of the worlds is as easily accessible as any other world. There is no superior view. All worlds are of equal worth. Each person can view the same activity and arrive at a very different assessment because each person operates from a different world of justification (Wagner 1999).

Each one of Boltanski and Thévenot's six worlds of justification offers a new way of thinking about CSR (Boltanski and Thevenot 2006). All actions are justified by reference to a superior common principle or common good (Wilkinson 1997). These six "common principles" include the Civic, Domestic, Opinion, Industrial, Inspired and Market worlds.

economic theory of organization that is used to help understand the nuances of the concept of negotiation in modern economics.

The Civic world, which resides in the collective, contains all of society's expectations for infant food companies. Those expectations collectively make up a company's "license to operate." In order to retain their "license to operate" from society, businesses must meet society's expectations. Those expectations may include food safety programs, CSR involvement and ethical business practices. In addition, the expectations of each community in which the company resides are also included in the Civic world. In the case of infant food companies, the endorsement by the healthcare community is critical to the success of the infant food industry because parents trust pediatricians and nurses to provide them with the latest information on food safety and nutrition for their infants. This is an interesting situation because infant food companies specifically target information to people other than the ultimate customer. Evidence of this phenomenon is demonstrated by the emphasis that companies place on providing nutritional information on their websites. The infant food companies present this information as a service to the customer and the healthcare community "for the good of mankind."

Another example of information presented through the Civic world is the company's community involvement in which the production facility physically resides. Activities that focus not only on what is good for the company, but on what can be achieved for the greater community demonstrate the company's desire to "do the right thing."

The Domestic world embodies the concepts of hierarchy and tradition. When a company highlights its sixty-year tradition of serving customers, it is

appealing to customers through this world. However, this world also places a significant emphasis on personal relationships. For infant food companies, this world offers opportunities for reaching out to suppliers in developing countries out of a sense of compassion for their condition. Likewise, growers often supply crops to the infant food company because of long-term personal relationships with the company and the feeling that the company “has always taken care of me.”

The concept of “trust”, previously discussed within Garriga’s Integrative category of models, resides in this world. Customers maintain trust in a company based on personal experiences and tradition.

This world also includes the Corporate Citizenship model identified in Garriga’s Political category of CSR models. As corporations take on more responsibilities traditionally held by governmental institutions, corporations assume more of a quasi-paternal role associated with the family structure embodied in the Domestic world. Whether it is providing health insurance and access to fitness centers in developed countries or providing clean water and improved basic sanitation in developing countries, workers increasingly look to corporations to supply services formerly provided by governments.

The world of Opinion rests on the desire for recognition and public opinion. Through the lenses of opinion or reputation, a potential customer interprets information presented by the infant food company, as well as information others write about the company. An infant food company designs its advertising and public relations programs to generate good feelings toward the company.

Therefore, by incorporating CSR principles, companies seize opportunities to enhance brand image and company reputation. For example, testimonials given by celebrities, political figures or even satisfied customers are attempts to influence the reader's opinion of the company. In addition, references to awards received by the company for environmental responsibility or another issue are attempts by the company to frame its efforts through the Opinion world. News about product recalls, especially if the bad news appears to be reoccurring, tend to create a negative perception of that particular company or it may even cast a dark cloud over the whole industry, if more than one company is involved.

This world also includes both issue and stakeholder management. How a company manages the opinions of stakeholders can play a major role in the impact of risks confronting each company. Included in this world are communications generated by the Public Relations departments and involve all communications addressing food safety recalls or product notifications. Communications on websites or in printed materials from the company, which seek to maintain the consumer confidence in the company and its products come from the Opinion world.⁵⁷

All food companies deal with risk at one time or another (Mythen 2004).⁵⁸

People commonly use the term "risk" to indicate "the potential for danger or peril."

⁵⁷ A recent example would be a statement from the company regarding the occurrence of acrylamide in infant food products that outlines the company's efforts to mitigate the risk associated with the presence of the chemical and assure the customer that the company is doing everything in its power to eliminate the risk from their products.

⁵⁸ The concept of risk began as a nautical term. The word "risk" came from the Latin word "risco", which literally meant to "navigate through uncharted waters" and the Arabian word "risq" which meant, "to acquire wealth." Prior to the 20th century, writers in the economics literature considered "risk" to be a neutral term; there was good risk (uncertainty) and bad risk (risk). Today there is only 'bad' risk (Lupton 1999). Modern society equates "risk" with the two concepts of uncertainty and probability. In this way, the concept of risk has a multi-dimensional nature.

While food regulators and food companies deal with risk assessments, people must assess risks in their own lives using their own set of risk indicators.

“Individuals also deal with risks. While risks may be debated at the level of expertise and public accountability, they are dealt with by individuals at the level of the local, the private, the everyday and the intimate” (Lupton 1999).

The risk literature shows that both gender and race play a significant role in the perceptions of risk (Steger and Witte 1989).⁵⁹ In studies evaluating gender and risk perception, women perceived higher levels of risk for every hazard studied (Flynn, Slovic and Mertz 1994). Risk perception studies between males and females that included the addition of children as a potential influence on risk perception demonstrated how the presence of children amplifies this behavior (Knight and Warland 2004).⁶⁰ This is a particularly important implication for US infant food companies because women remain the main meal planners in the US (Davidson and Freudenburg 1996).

Race also plays a role in the perception of risk. In studies on risk perception, white males stand out from everyone else in their perceptions and attitudes regarding risk. When researchers compared non-whites to whites, non-white customers are more concerned about food safety. White males perceive

⁵⁹ Research indicates that food safety typically concerns women more because of their responsibility for food and health issues within the household. The research also indicates that the female shopper is concerned about how food companies conduct themselves in the spatial and social communities that it influences.

⁶⁰ In one particular study, respondents with at least one child present in their households were more likely to be highly concerned about *Salmonella* poisoning than those without a child present.

risks to be much lower than non-white males, non-white females and white females (Flynn, Slovic and Mertz 1994).⁶¹

Creating opportunities to associate the company or its products with a particular cause also fits within the world of Opinion. Cause-related marketing, as described earlier in this chapter, attempts to link a company with a certain charitable cause.

The Industrial world, which revolves around efficiency, performance and standards, makes a strong business case for the implementation of CSR principles. From this world, the company frames examples of food safety and CSR through the lens of compliance by suppliers to quality assurance or pesticide standards. Discussion about how the company tests, monitors, accepts or rejects ingredients based on standards seeks to demonstrate how companies maintain safe products.

Evidence presented by infant food companies about maximizing efficiencies through harmonization also demonstrates how companies frame their communications about production through the Industrial world. Those efficiencies often result in cost savings for the company in the supply chain that lead to greater financial performance. Those cost savings often come in the form of reduced energy use or reduced waste disposal through implementation of

⁶¹ Whether it is stress or the use of nuclear power, males, and even more importantly, white males, view these hazards as less risky than females or nonwhites. Researchers, attempting to explain the differences in risk perception of hazards between men and women, hypothesize that biological and social differences are the focus. Women are characterized as more concerned about human health and safety because they give birth. Society programs women to nurture and maintain life. It also characterizes women as physically more vulnerable. Their heightened vulnerability to violence, such as rape, sensitizes them to other risks.

recycling programs. While these programs directly benefit the environment, they also tend to benefit the company and its suppliers by reducing production costs.

The competitive context model of Garriga's Instrumental category fits into this world because the emphasis of this CSR model is identification of a worthy cause that complements a company's core competencies. By matching up a needy cause with a company's strength, resources are optimized and the benefits to both the cause and the company can be maximized. This optimization of resources "for the good of mankind" fits well in the Industrial world of productivity and efficiency.

The Industrial world also includes implementation of standards. Whether they are food safety standards or nutrition standards, infant food companies impose standards on their products to abide by the government regulations and to maintain the trust of customers.

Standards are only effective if people trust them. As confidence in government food safety standards wanes, infant food companies create their own sets of food safety standards in order to increase customer and regulator trust. Food companies embrace new standards to demonstrate to their customers the safety and wholesomeness of their products. These new standards come from a number of different sources. Most safety standards originate from two sources. Governments set the minimum standards required by law. FDA standards for *Salmonella* bacteria in food products are examples of minimum government standards. Increasingly, private companies or organizations create their own standards when no government standards exist to

address a specific situation or when a company feels the need to supersede existing regulatory compliance. There are two major types of private standards; external standards that focus on credence⁶² attributes of quality, such as those of The Rainforest Alliance, and internal standards, created by the food company itself, which typically focus on either credence attributes or on some safety standard that supersedes an existing government standard (Kimerling 2001).⁶³

The Inspired world includes the concepts of tolerance, creativity, the desire for innovation and collaboration. Applied to CSR, infant food companies would look for opportunities to develop collaborations with suppliers to create new and innovative techniques and technologies. For example, innovations in organic or sustainable crop production would reside in this world. Collaborating with apple growers to investigate and implement advanced pest management strategies would also reside in the Inspired world. Infant food companies in this world would seek out local knowledge instead of imposing their own corporate culture model on the supply chain. Whether located in a developing country or “just down the street”, suppliers viewed through the Inspired world would be considered partners instead of faceless ingredient suppliers. Finally, infant food companies would create new markets while improving the quality of life and the environment in the communities in which they operate worldwide. The

⁶² Credence attributes are quality attributes that you cannot see or taste. This category can be split into two difference subcategories. Process performance attributes identify how the apple was grown, while product performance attributes identify other qualities of the apple, like nutritional value, that need to be tested before the level of quality is known. Organic claims are an example of a process credence attribute.

⁶³ A third set of standards, ISO standards, are a combination of both public and private efforts. While the ISO standards do not contain food safety standards, companies use the ISO series of standards in food safety situations to develop documentation procedures necessary for implementing effective food safety programs. Nevertheless, ISO systems are internal management systems. They are not performance standards.

sustainable development concept of the “Triple Bottom Line” for creating social, economic and environmental goals for its supply chain fits very well in this world.

Finally, the Market world includes the concepts of product differentiation, competitive advantage and customer demands. The demands of competition in the marketplace influence infant food companies - as they do for all types of companies. Customers and other stakeholders interpret the actions of infant food companies through the Market framework of product differentiation and competitive advantage.

Product differentiation includes the creation of new products and markets. Developing new products for new markets and communicating to customers about why these new products are better than the existing products resides in the Market world. Sensitivity to customer demands and the actions by companies in response to what they think customers expect reside in this world as well.

In contrast to Product Differentiation, Competitive Advantage involves the identification of efficiencies and innovations in the global supply chain that create financial advantages for the company that can harvest the greatest amount to benefit from each strategy. Strategies that make an infant food company more competitive relative to its competition create significant incentives for implementing CSR principles in this world. A competitive advantage of this type would include the ability to force the competition to raise their cost of production of a product, thereby reducing their competitiveness. An example of this type of situation would be the introduction of organic products where the purchasing

power of one company might force the competition to buy their organic materials at a higher price, thereby reducing profitability for the competition.

Why are these differences important?

As we have seen in chapter two, the concept of “perception is reality” greatly affects the infant food business and a negative interpretation of their food safety information can carry significant financial implications. This concept is very important for infant food companies to understand. If the infant food company attempts to justify its activities by framing them in one world and its customers interpret the actions through another, the results may not be what the infant food company expected. For example, if a customer interprets the public comments of an infant food company from a different world than the infant food company’s Public Relations department, the message understood by the customer may be quite different from what the company intended.

Different people view food safety risks in different ways. Whether it is the use of nuclear power or the safety of pesticide residues in food, women and non-whites consistently view the same issue as a greater risk than white men. A white male scientist working for an infant food company will interpret information about infant food safety programs through a different sense of lenses than a Hispanic homemaker interprets the same information.

This is a major reason why it is important to identify the multi-dimensional features of each company’s approach. From the perspective of an infant food company, how a customer interprets food safety information the company

provides, or withholds, may determine whether the customer's trust in the company increases or decreases.

Each stakeholder has different expectations for infant food companies. It is up to each infant food company to understand the implications of these expectations to avoid losing their "license to operate".

If infant food companies are saying something wrong or the customer interprets the message in a way the company did not intend, it could result in lost customer trust and lost sales.

If infant food companies should be saying something and they chose not to, for whatever reason, it could result in lost sales. If the infant food companies could say something about their programs or processes and they chose not to, they miss an opportunity to reach a market segment that is looking for specific signals from the infant food companies to reinforce customer trust and stimulate company sales.

Chapter Summary

How a company sees its role as a good corporate citizen determines the food safety and CSR programs it implements. This chapter introduced and analyzed several conceptual models used to understand the motives that corporations use when implementing CSR programs. Consolidating the theories into four major categories provided a way to understand the expanding number of CSR approaches. The chapter also discussed three different theoretical models for understanding the concepts of "responsibility", "stakeholders" and

“citizenship” relative to corporations in general and NA infant food companies in particular.

This chapter also showed how people interpret the actions of infant food companies through their own frames or lenses. Boltanski and Thévenot’s concepts of the worlds of justification provide a better means of understanding the conventions, or rules and norms, used to interpret those actions.

The next chapter lays out the methods used to collect and evaluate data collected from semi-structured interviews of actors involved in the US food safety system. In addition, data was also be gathered and evaluated from publicly available documents from the internet.

Chapter 4

Methods for Data Collection and Analysis

The previous chapter provided an overview of several conceptual approaches to CSR found in the business and sociological literature and categorized them to assist in identifying common themes among the approaches. In addition, the use of metaphors was presented as an alternative way to understand how corporations appeal to different CSR approaches. Finally, the previous chapter proposed Boltanski and Thévenot's "worlds" approach as a way to understand the appeals infant food companies use to present their food safety messages.

This chapter describes the approach used for identifying and analyzing the food safety statements of infant food companies. This approach relied on two sets of data: company websites and publicly available documents as well as interviews with various actors in the US food safety system. North American and European infant food companies use company websites and selected documents, such as presentations from public speeches, to portray food safety efforts to their customers. On the other hand, the interviews helped to identify and explore the broader range of food safety issues that affect infant food companies.

Analyzing infant food company messages

My methods for identifying and assessing the food safety messages and issues in the infant food industry draw upon several studies of corporate social

responsibility. Interviews with company management are commonly used to collect data regarding a wide variety of CSR issues. Fearne interviewed senior management of UK fresh produce suppliers to establish how they perceived the relationship between suppliers and retailers and to identify examples of best practice in the industry (Fearne and Hughes 1999). Interviews with company management allowed Clarkson to analyze corporate social performance based on a corporation's relationships with its stakeholders. Similarly, Bansal included in-depth interviews as one source of data to help understand why corporations adopt "green" strategies (Bansal and Roth 2000).

Many of these studies relied on other, multiple sources of information, including annual reports and other publicly available documents, company archives and participant observation. Snider and her colleagues are among those who looked to company websites as part of their assessment of the legal, ethical and moral statements of Forbes Magazine's top fifty US and top fifty multinational firms of non-US origin (Snider, Hill and Martin 2003). Based on these studies, I designed a qualitative approach that linked in-depth interviews with infant food system actors and the analysis of infant food company websites and public documents. The themes raised during the interviews helped to define the criteria used in coding the approaches of each company to food safety issues as presented on their websites and in other publicly available documents. The methods, described below, allow for the "transferability" or the replicability of this study based on similar data collection methods and analysis (Guba and Lincoln 1989).

Food safety actor interviews

Two different sets of infant food system actors were interviewed as part of the research for this dissertation. One set involved interviews with actors from North American infant food companies as well as others from the US food processing industry. The goal of interviewing these people was to generate insights into how infant food companies determine which food safety messages to emphasize.

In addition, interviews with regulatory, legislative and private sector actors who were asked to provide insights into the relative importance of specific food safety issues that affect the infant food industry by those actors who deal with food safety on a daily basis.

The primary goal of each interview was to understand the unique perspective from someone with an intimate knowledge of a particular aspect of the US infant food safety system. While the goal was to gain the perspectives of as many major food safety groups as possible, time and logistics limited the number of potential interview candidates. The three major groups involved in the implementation of food safety programs for the infant food industry are the regulators, the suppliers and the infant food companies. A major effort was made to conduct several interviews within these critical groups. The other groups, while also considered important, were not considered as critical to the overall stakeholder perspective as the first three groups. As such, the number of interviews conducted from each of these supplementary groups remained small.

Food Company Interviewees. Management determines which food safety programs become integral parts of the company's standard operating procedures. It is critical for every level of management, from the CEO on down, to embed safety, quality and CSR responsibilities into the annual goals and objectives of all employees or their efforts will ultimately fail (Weaver, Trevino and Cochran 1999).⁶⁴

This group was not intended to be representative of the entire infant food industry. Due to time and resource constraints, only three of the seven infant food companies that market in North America were represented in the interviews. In addition, being employed by one of the infant food companies made it difficult to find candidates from the competing infant food companies who were willing to be interviewed.

In addition to the actors from the infant food companies, actors from the greater US food processing industry were interviewed. Food processing industry representatives were interviewed to gain a sense of whether others within the US food processing industry felt the same way about food safety issues as the infant food companies. While this group does not necessarily represent the views of the larger US food processing industry, they could help to substantiate the views given by the infant food companies.

⁶⁴ The Public Relations group has the responsibility to present information about the company to outside groups in a clear and concise way. The Quality Assurance group performs risk assessments on food safety issues. Assuring compliance with all applicable regulations contained within the categories of Health, Safety and the Environment is the main purpose of the CSR compliance officer. The CSR compliance officer works directly with Public Relations to determine how and when to release information regarding these programs.

The initial interview candidates from the food processing industry were selected based on personal contacts. I was acquainted with two of the three food processing industry actors from previous collaborations. The third person was referred to me after my interview with one of the other food processing representatives. All three candidates were selected based on their familiarity with the US infant food industry. Because their views were very similar to the infant food company representatives, I decided to lump their interviews together with the infant food company representatives (Figure 1).

Figure 1. US Food Industry Actors Interviewed

Sector	Identity	Group	Title / Expertise
Food Processing Industry (3)	Al	Food industry	Food toxicology
	Bob	Food industry	Environmental Affairs
	Ann	Food industry	Food Safety Assessment
Infant Food Companies (4)	Curt	Infant Food processor	Agricultural Stewardship
	Don	Infant Food processor	Research & Development
	Betty	Infant Food processor	Product Safety
	Fred	Infant Food processor	CSR & HSE

Food System Interviewees. Given the diversity of actors involved in, or concerned by infant food safety issues, my research sought to capture some sense of the views and perspectives held by these different actors (Figure 2). For the purposes of this dissertation it was more important to identify the “lay of the food safety issue land,” than it was to undertake interviews with a statistically representative sample of individuals from each group of actors. As noted earlier, these interviews help primarily to identify some of the food safety issues that I looked for in my analysis of the infant food company websites and documents. They also provided insights into the relationships between infant food companies and their stakeholders. The interviews do not present a representative

perspective on food safety issues from different groups of actors outside the infant food companies.

Figure 2. Other US Food Safety Actors Interviewed

Sector	Identity	Group	Title / Expertise
Regulatory Agencies(6)	Cindy	Federal Reg Agency	EPA - Regional
	Diane	Federal Reg Agency	FDA
	Elizabeth	Federal Reg Agency	EPA - Regional
	Gertrude	Federal Reg Agency	USDA
	Judy	State Reg Agency	Agricultural Issues Manager
	John	State Reg Agency	Agricultural Issues Manager
Legislators (2)	Kent	US House	Legislative Staffer
	Larry	US Senate	Legislative Staffer
Suppliers (6)	Mark	Growers	Fruit grower
	Norman	Growers	Fruit grower
	Martha	Growers	Vegetable grower
	Louis	Growers	Vegetable grower
	Paul	Ingredient supplier	President
	Quincy	Ingredient supplier	Manager
Healthcare Providers (2)	Randall	Pediatrician	
	Renee	Pediatrician	

Three federal regulatory agencies, the EPA, FDA and the USDA are directly involved in defining and enforcing national food safety regulations.⁶⁵ With respect to the issues of importance in the infant food industry, state health officials commonly carry out federal food safety policy and inspect the safety and sanitation of local grocery stores and restaurants. In addition to government regulators, those in an infant food company's supply chain can have a significant impact on a company's reputation (Chaudhuri and Holbrook 2001).⁶⁶ In particular, supply chain actors play an important role in the implementation of

⁶⁵ EPA develops the risk assessment for each pesticide and assigns a tolerance level for each residue. FDA monitors processed foods for pesticide residues as well as many other contaminants. USDA inspects all meat and poultry and monitors fresh commodities for pesticides and other contaminants.

⁶⁶ While customers play a major role in food safety programs promoted by infant food companies, it is a rather obvious role. This study assumed that loyalty to the brand, which translates into additional sales, was the primary reason for courting customers. According to the marketing and economics literature, loyalty to a particular brand correlates directly with trust in that brand. Higher consumer loyalty also leads to higher market share.

food safety programs by infant food processors. These companies depend on their supply chain for safe, high quality commodities. Thus, getting the perspective of both ingredient suppliers and commodity growers provides insights into why food companies implement particular food safety programs.

The intent of interviewing legislative staffers was to provide the perspective of those who create the food safety statutes. Once again, interviewing only two legislative staffers was not intended to represent the perspectives of the greater legislative body. However, because their perspective, while important, was not as critical as other groups who are more intimately involved, such as suppliers, it was decided to focus on interviewing one representative from the US House of Representatives and one from the US Senate.

During the initial interviews, food company interviewees identified the crucial role that the medical community plays in an infant food company's success. In addition, new parents often seek advice from healthcare providers concerning food and feeding habits.

Selection of the healthcare providers was based on personal contact and referral. The initial contact was made through my family pediatrician. The second healthcare provider was referred to me by the first because of his many years of experience as both a pediatrician and a family practitioner.

Since I have worked with a major North American infant food company for over fifteen years, I developed the preliminary list of interview candidates from both personal contacts and references from other industry contacts. From this list, I used a modified form of snowball sampling based on the professional

networks or relationships among the diversity of food system actors in order to select the interviewees (Browne 2005).

This recruitment method was especially useful for the purposes of this dissertation for two reasons. First, for logistic reasons I needed to limit the number of interviewees. Second, given the importance of assuring anonymity in discussions of food safety, relying on networks of professional contacts and relationships offers one means to identify interview candidates that met the qualification criteria for the research interviews.

The primary criterion used for nominating potential interview candidates was first-hand knowledge of the food safety standards development process and personal experience working with at least one aspect of the food safety standards process. With this in mind, I contacted my professional acquaintances and asked them to recommend other individuals they felt would provide unique perspectives in the food safety system in the US as it pertains to infant foods. Several references were the result of previous professional collaborations between actors. For example, infant food company representatives suggested food processing industry representatives with a known interest in this topic. In addition, at least one food trade representative recommended contacting a couple specific federal regulators who previously had collaborated with the infant food industry on food safety issues.

Interview guides. The interview data for this dissertation were generated from three interview guides, one for government officials, one for the medical community and one for the food industry and suppliers. Each guide was used to

explore common concerns related to the food safety issues facing infant food companies, yet solicit the different perspectives from each group of actors (Appendix A). For example, suppliers can comment on collaborative efforts in implementing food safety standards at the farm level, but would not necessarily understand the intricacies of the public standards development process that government regulators and legislative representatives can address. The opposite is also true. While regulators understand many aspects of the US food safety system, they could not be expected to possess a substantial knowledge of the food supply chain. As a result, I replaced questions on public standards development in the government interview guide with questions about stakeholder involvement during the development of the private standards in the food industry guide.

Nevertheless, each interview guide covered four major food safety themes that are part of broader corporate strategies to demonstrate a sense of responsibility to society identified in the food safety and CSR literature. The major themes included effective communication between actors, the need for private food safety standards, company behavior and the development of partnerships.

The first theme is effective communication between actors. This aspect is important for building trust and utilizing the expertise of various actors in creating solutions to issues affecting food companies. This is an important component in a company's issue management program (Wood 1991). Questions based on this theme focused on how individuals define concepts like "risk," "trust" and "safe" to

identify characteristics of a perfect food safety system. The food safety and risk literature provides many discussions about the influence of perceptions of risk on the level of customer trust (Beck 1992).

The second theme concerns the need for private food safety standards by infant food companies. Questions brought out the food safety actors' perspectives about private standards that infant food companies present on their company websites. Questions included perceived costs of private standards, impacts on the supply chain and several other topics pertinent to the implementation of private standards. These questions drew upon numerous discussions in the food safety and CSR literature about the implications of private food safety standards (Reardon and Farina 2002).

The third set of questions focused on company behavior and stakeholders' expectations for maintaining high ethical company standards. The level of integrity and transparency maintained by a company greatly influences the company reputation in the eyes of stakeholders (Henriques and Richardson 2004).

The final set of questions explored the development of partnerships with other actors from the food safety system. According to the CSR literature, collaboration between companies and stakeholders offer important opportunities to demonstrate a commitment to social responsibility (Weaver, Trevino and Cochran 1999). The influence that suppliers and food companies have during the creation of both public and private food safety standards dominated this section of the interview guide. The goal of these questions was to understand the

importance of multi-stakeholder collaborations in the development of both public and private food safety standards.

While the major themes remained the same throughout the interview process, there was a refinement of the several questions within each theme. This attempt to refine and clarify the questions made the interview process less cumbersome and more efficient by reducing the confusion on the part of the interviewee and the need to repeat the question or ask it in another way.

Interview Process. Open-ended questions allowed for more in-depth answers by interviewees, and thereby provided a better understanding of people's perspectives about the relationships that are involved in the standards development process. As such, I was able to gain insights into the relationships of each actor within the food safety standards development process and to identify the expectations each actor has for other actors in the food safety system.⁶⁷

The willingness to be interviewed depended on the candidate's confidence in the researcher to protect their anonymity.⁶⁸ I implemented specific protocols during the interview process assured confidentiality of each interviewee's identity. All candidates were interviewed by phone except for two that were conducted in person. Each candidate received a consent form prior to the interview that explained the procedures of the interview and the rights of each interviewee. The

⁶⁷ The qualitative interviews were especially useful because they brought new light to the unique nuances of the infant food industry. The data from open-ended questions also helped to unravel intertwined relationships between the relatively small groups of players involved in making pesticide residue standards for infant foods in North America.

⁶⁸ Because the interviews involved human subjects, the Social Science, Behavioral and Education Institutional Review Board at Michigan State University approved the interview guide and protocols prior to the interviews (MSU IRB #07-707).

consent form was signed and returned prior to the interview. Candidates understood that they could refuse to answer any question and end the interview at any time. At the time of the interview, the consent form was reviewed with the candidate to answer all remaining questions. Each interview took approximately 1 hour.

I transcribed the interviews into Microsoft Word™ using Naturally Speaking™ voice recognition software. A second transcript review provided an opportunity to correct any transcription software mistakes. By deletion, or through the creation of an alias, any remaining references on the transcript that jeopardized the confidentiality of the interviewee were removed.⁶⁹ Once completed, each interviewee received an electronic copy of the transcript to review for changes or modifications prior to use of the data.⁷⁰

Interview Data Analysis.

I developed a set of codes derived from food safety issues identified in the CSR and food safety literature, as a first step in analyzing the interviews (Appendix B). I also developed codes based on the indicator words and phrases used to categorize the food safety messages from infant food company documents.⁷¹ This offered insights from the food safety actors that addressed the specific issues identified in the infant food company documents. For example, several interviews addressed the concept of “private standards.” Using this

⁶⁹ Aliases were generated by assigning the first female on the list with a name starting with the letter “A”. Therefore, the list of female aliases started with Ann, Barb, Cindy and so on. The men’s aliases received the same treatment.

⁷⁰ Recordings and transcriptions will remain in a locked filing cabinet for two years following the completion of the dissertation, at which time, all recordings and transcription files will be destroyed.

⁷¹ Refer to Figure 2.

concept as a code, quotes from the interviews provided perspectives about the implementation of private food safety standards that helped in analyzing the messages about private standards provided by infant food companies.

After the setting these codes, I used NVivo™ qualitative analysis software to code the transcripts. This program was an effective tool for separating the various quotes in the interviews and assigning them to each specific code. Once the interviews were grouped based on the codes, they were consolidated into the four major themes of communication, implementation of private standards, company behavior and development of partnerships. The themes provided the basis for analyzing the food safety messages presented by the infant food companies.

Infant food companies

The fourteen infant food companies evaluated in this study include all major North American infant food brands sold in the US as well as all of the Europe based companies, such as Nestlé, Danone and Hero.⁷²

Document Data Sources. Company websites contain the majority of each company's food safety messages, including insights into each infant food company's priorities for communicating food safety to potential customers (Figure 3). In addition, publicly accessible on-line documents such as CSR reports,

⁷² Because one company, Gerber, dominates the infant food industry in the US with over eighty percent of the US market share, analyzing only the infant food companies in the US would greatly bias the results in favor of the Gerber perspective.

annual stockholder reports, company publications and manuscripts from public speeches complemented and added depth to data from the websites.⁷³

**Profiling
Infant Food
Companies.**

Figure 3. Company Names and Websites

As discussed earlier, companies make multiple food safety appeals and thereby can be seen to create their own “food safety profile.” Morgan points out that the ability to analyze, or

Company Name	Company Website Address
Beech-Nut	http://www.beech-nut.com
Blédina	www.bledina.com
Cow & Gate	www.cowandgate.co.uk
Earth's Best	www.earthsbest.com
Gerber	http://www.gerber.com/home
Heinz	http://www.heinzbaby.com
Hero	http://www.heroexport.com
HiPP	http://www.hipp.co.uk
Milupa	www.milupa.com
Nature's Goodness	www.naturesgoodness.com
Nutricia	www.nutriciababy.co.nz
Nestlé	www.nestle.ca
Parent's Choice	http://www.parentschoicefoods.com
Wattie's	www.watties.co.nz

“read” an organization is key to understanding that organization (Morgan 1996). Looking at the different worlds to which infant food companies appeal represents a fruitful way to “read” each company. More specifically, Morgan suggests conducting what he calls a “diagnostic reading” to seek as comprehensive an understanding as possible, accompanied by a “critical evaluation” that integrates key insights. Performing this type of evaluation allows the reader to remain open-minded to multiple interpretations of the information. Without question, my diagnostic reading of a company's food safety messages may differ from that of another analyst. But the overall approach focuses more on identifying and exploring the multiple appeals than it does on identifying a particular profile for

⁷³ This part of the research avoided using any confidential or proprietary company information.

each company. Furthermore, this type of analysis has not been done with respect to infant food companies and as an exploratory analytic tool it helps to capture a multi-dimensional profile of infant food companies that can in turn inform a broader set of corporate and policy discussions related to infant food safety.

A diagnostic grid was used to develop the multi-dimensional profile of each company (Figure 4). The top row includes the “worlds” of appeals that each company could make. The second row identifies the key indicators that help to define each type of appeal.

These indicator words or phrases were derived from two sources. Several indicator phrases and words originated in the CSR and food safety literature (Garriga and Mele 2004), while others were identified in Boltanski & Thévenot’s presentation of the “worlds” (Boltanski and Thévenot 2006).

Figure 4. Infant Food Company Profile

	Company Profile Data					
	Civic	Domestic	Opinion	Industrial	Inspiration	Market
Indicator of each “world”	<i>“for the good of mankind” “doing the right thing”</i>	<i>Responsibility Heritage Trust Commitment</i>	<i>Reputation Recognition Identity “world class”</i>	<i>“strict control” Perform Test Standards Analyze</i>	<i>Innovative Partnership Sustainable Creative</i>	<i>“the best” Address customer demands Differentiate products “sets apart”</i>
Content		<i>“A trusted source for over one hundred years”</i>				

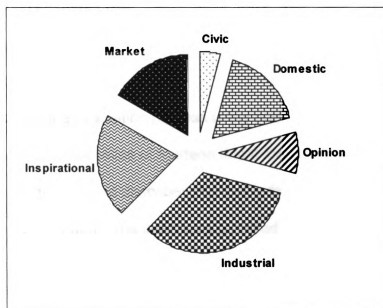
Placing the food safety messages in the corresponding columns on the grid provides a visual way to see how infant food companies often use multiple appeals to present their food safety messages. The frequency of references that appealed to a particular “world” provides insights into how that infant food

company justified its own food safety activities. Occasionally, the infant food companies used more than one appeal in the same food safety message. For example, if a company said, "We are a trusted source for food safety standards," the reference to trust is best understood through the Domestic world while the reference to standards resides in the Industrial world. Messages that contained multiple dimensional appeals were placed in multiple worlds according to their appeal.

From the diagnostic grids, pie charts were generated to visually demonstrate how

Figure 5. Food Safety Appeal Pie Chart

each infant food company presented its food safety appeals. The pie charts assisted in analyzing the multi-dimensional strategy that each company implemented to send



food safety messages to the reader (Figure 5). In the pie charts, the size of each wedge of the pie represents the number of appeals to food safety best understood in each one of the "worlds."

Data analysis

The challenge, as Morgan points out, is to convert the diagnostic readings into a critical evaluation of the organization (Morgan 1996). This evaluation, which Morgan refers to as a “storyline,” is where the reader ties together the insights that cover the issue of food safety for all the companies. Chapter Seven takes the insights provided by the food safety actors and combines them with the company profiles to create a storyline for food safety appeals made by infant food companies. The food safety storylines offer insights that should be helpful to those in the industry, and in specific companies who are trying to understand ways to increase infant food customer trust.

Chapter summary

This chapter described the evaluation process using publicly available documents to understand the perspectives of fourteen infant food companies on food safety and CSR. This chapter also described the methods for interviewing actors from the US infant food system. The interviews provided insights into the food safety issues that affect infant food companies. The interviews also identified the actors' expectations for infant food companies and their interpretations of the food safety and CSR activities within the NA infant food industry.

The next chapter, Chapter Five, presents the perspectives of people who have an intimate understanding of various aspects of the US food safety system. Interviewing infant food company representatives and other actors within the US

food safety system provides a way of understanding the current and emerging issues that surround the implementation of food safety programs by infant food companies.

Chapter 5

Perspectives on Food Safety Issues by Actors within the Food Safety System

The previous chapter described the methods used for selecting infant food companies for evaluation. It also described the methods used to select the actors from the US food safety system to interview. Finally, the chapter described the process for evaluating the food safety programs of infant food companies.

This chapter presents the perspectives of people who have an intimate understanding of various aspects of the food safety system in the US. Interviewing infant food company representatives and other actors within the US food safety system provides a way of understanding the current and emerging issues that surround the implementation of food safety programs by infant food companies. Using the interview data, this chapter creates a profile of the food safety expectations of several groups of food safety actors to provide a better understanding of key food safety issues raised by infant food companies, regulators, suppliers, legislative representatives, the healthcare community and other members of the US food industry.

How do we understand the key food safety issues facing infant food companies and their need to implement private food safety standards? Food safety issues were identified in the CSR literature that apply to infant food companies. Issues such as collaboration within the supply chain and the implementation of private standards to maintain trust with customers and suppliers applied to both food safety and CSR issues. In addition, there were

issues identified during the interviews that were not emphasized in the CSR and food safety literature.

There are several major groups of actors with influence on the US food safety system for infants including federal and state regulators, suppliers, healthcare providers, legislators, food trade associations and infant food companies. Interviews of representatives from each group provided insights into key food safety issues facing infant food companies and the need to balance implementation of private food safety standards with compliance to government food safety regulations.

Food safety themes from the interviews

Perception is reality for infant food companies. A company may have numerous food safety programs in place. However, if customers perceive that a company's programs are inadequate to ensure food safety, customers will choose a different company's product. As one infant food company person put it, "The worst thing that can happen is that you harm infants. It's bad enough when you harm adults but it's two times worse or five times worse, I don't know what it is, to harm babies or infants. There's very little forgiveness or wiggle room if you are working in those fields." (Fred)

The issues raised during the interviews can be summarized into four major themes. These are not mutually exclusive themes. Rather, there are numerous links between the themes as infant food companies address emerging food safety issues. For instance, both communication and collaboration are both major

themes repeated throughout the interviews. Both themes can stand on their own merits. However, the better the communication between partners, the more effective the partnership often becomes.

The first theme is clear and consistent communication with stakeholders. Regulators suggested that communicating with government regulators and others is an excellent way to strengthen an infant food company's reputation. As one state regulator put it, "I think that outreach is imperative - sharing with the public what you're doing and why. Certainly, partnering with state and federal agencies as well as industry and grower organizations is important." (Judy) Infant food companies also emphasized the importance of communicating with regulators. As one food industry representative put it, "Because then those folks have some sort of idea, if you are serious, if you are open with them and you have serious programs you can communicate with them, they are less likely to take a shot at you when an issue arises. Or they may speak positively of you, which is good." (Al)

Another theme from the interviews involves demonstrating company character through food safety issues. Responding to issues with integrity and transparency were identified during the interviews as excellent ways to show customers that the company accepts the ultimate responsibility for the safety of its food products. As one food industry representative put it, "I think individual companies and the industry at large can benefit by pushing the envelope and making constant improvements in food safety at the same time as unnecessary or scientifically unsound action standards are challenged. Helping the public, as

well as government, understand food safety and to participate in making improvements can be a beneficial endeavor.” (Bob)

Infant food companies pointed out that regulators need to respond to scientific fact during the development of food safety standards. However, individual companies must respond to customer perceptions. As one food company representative remarked, “Maybe what they’re saying is that the government needs to respond to fact, and we, as individual companies, can respond to perceptions. And maybe that is the difference between government regulation and private industry standards.” (Curt)

The third major theme consists of developing partnerships with stakeholders. Interviewees viewed their partnerships with infant food companies as a way to gain a better understanding of the future direction of the industry. Conversely, industry felt that collaborating with stakeholders gave industry a better understanding of the current food safety environment and an indication of the future direction of food safety regulation.

The final major theme from the interviews involves implementing private food safety standards. While there remains an underlying knowledge that government standards provide a minimum level of safety, the implementation of private standards provides additional assurances of safety to the customer. As one food industry person put it, “What the government says is legal and what the science says is okay, but they must meet consumer expectations.” (Al)

Trust plays a fundamental role in the relationship between customer and infant food company. Trust builds reputation and reputation influences trust.

From the perspective of the food safety actors, customer trust in the brand was a cornerstone of issue management strategy. As several interviewees pointed out, if there are issues that arise, the way a company responds reinforces customer trust. As one legislative aide said, "I think the public has come to trust or have confidence in that company mainly through experience because they put out a good product, and they have not had recalls. If they do have recalls, they go through a series of events to protect the consumer." (Kent)

One federal regulator expressed frustration over the decline in the confidence by consumers and food companies of the government's ability to maintain a safe food supply by saying, "From a regulatory stand point, I feel that the American people don't have trust in the regulators. Number one, we aren't doing our job. And number two, I feel that we've let the American people down and also the companies that depend on us like the food companies. They are expecting that our standards are trustworthy and if they aren't, then that becomes anarchy for everybody out there. Regulation is kind of a bright line of being able to be trusted." (Elizabeth)

Communication

According to the group, communication plays a major role in establishing and maintaining trust in infant food companies. During the interviews, several actors pointed out that clear, consistent communication from infant food companies increased their confidence in the ability of the industry to provide safe products during a time when many question the effectiveness of government

food safety standards. As one federal regulator pointed out, “There are a lot of times when people want more information and they want to know what is going into the food that they are feeding the children. In the lack of information, people will assume that you are just the same as everybody else.” (Diane)

This point is consistent with the CSR literature on the importance of communicating to stakeholders. People assume that if data about an issue is not available, that issue is not being managed (Clarkson 1995).

Communicating with Partners. The consensus from both inside and outside the infant food industry was that relationships built on effective communication resulted in stronger partnerships between infant food companies and external partners. In addition to the suppliers, collaborations with regulators and healthcare providers depended on clear, consistent communication to improve the information flow between partners.

The majority of the actors from inside industry pointed out that the effectiveness of the communication flow between regulators, suppliers and infant food companies during a food recall situation can determine whether infants become ill or not. The ability to alert both regulators and suppliers quickly during a food crisis mitigates the level of food safety risk to customers.

The perspectives from actors outside the industry were very similar to those from inside the industry. All five suppliers emphasized that clear communication also reduces uncertainty during the production of ingredients for infant food companies, resulting in an increase in performance and efficiency. Good communication increases supplier productivity because the suppliers are

not guessing what the processor wants. As one supplier put it, "I really appreciate a field department that let's you know something. I know they are under a lot of pressure, but I do appreciate that. If we know as much as the field people can tell us, then we can both make more money, the processor and grower, because it just avoids confusion and mistakes." (Louis) This supplier's remarks support a similar theme found in the CSR literature. Distrust between a company and its suppliers create uncertain production schedules and higher inventories that result in higher production costs for both the supplier and the company (Handfield and Nichols 2002).

The healthcare community also confirmed the importance of communication as a way to maintain an infant food company's reputation by providing accurate information about the products. As one pediatrician pointed out, "I think it is important for the company, first of all, to point out the balanced nutritional value of the company's food products in a manner in which most parents can understand what the factors of concern are. They also should assist the medical professionals that deal with infant nutrition so that they have a clear understanding of what the product is that is being offered, and at the same time, what the message is that's being given to the parents. So that the physician, parents and the infant food company are all on the same wavelength so they have the same understanding. That information needs to be presented in a way that parents can readily understand all the factors." (Randall)

Communicating with Customers. Food safety system actors viewed clear, consistent communications as critical for addressing customer demands.

Customers expect higher standards for food safety from infant food companies and consistent, concise communications are critical for portraying that information to customers in an effective way.

From the perspective of actors from outside the industry, providing customers with enough knowledge to understand why its product is different requires a significant educational effort on the part of the individual company. Several regulators identified efforts to educate customers about the differences among the new products as a critical element for ensuring the success of new products and new markets. Providing information about private standards is an important step toward customer recognition of the higher standards. As one federal regulator put it, "I think this gets back to the idea of perceived risks and the availability of information. Certainly, when people are talking about their children and thinking about protecting their children, they want to do everything they can and simply knowing that the government is trying to protect their children from things as best they can doesn't mean it's necessarily good enough as a parent. There are a lot of times where people want more information and they want to know what is going into the food that they are feeding the children." (Diane)

Influence of the Media. From the infant food industry perspective, media play a major role in building up or tearing down the reputation of an infant food company. All of the infant food company actors agreed that positive stories in the media can support a company's reputation. However, news of a recall can be devastating for an infant food company given the vulnerability of its customers.

One infant food company representative put it bluntly when he said, "A recall in the food industry, I mean, it's a disaster. You're dead." (Curt)

Traditionally, customers received negative news through television or print media sources. Today, with the growing popularity of internet blogs and chatrooms, a negative story can take on a life of its own causing further damage to a company's reputation. One food company representative acknowledged the impact that modern communication technology has on a company's reputation when she said, "Consumer trust is imperative, particularly with the number of food companies and the food choices available. If deceptive practices or harmful practices are associated with your name, it will live on almost to infinity with the courtesy of the Internet." (Betty)

Substantiation. There was a consensus among industry, regulators, legislators and suppliers that infant food companies are expected to substantiate their communications and claims with data. They viewed substantiating claims with data as a way to increase trust between infant food companies and the regulatory, supplier and the medical communities. From the industry perspective, as one food industry person put it, "What I don't think is adequate, is for a company to describe and market itself based on food safety and corporate social responsibility unless the claims can be clearly substantiated. I think using food safety as a marketing and communication message should not be used or minimally used at best because of the potential to confuse consumers and the difficulty of providing adequate substantiation." (Bob)

Those outside the industry also saw the need for substantiation, but for a slightly different reason. All of the suppliers emphasized that when a company can substantiate its claims with sound scientific data, the level of trust increases with the supplier. Several of them insisted that data provided by infant food companies that substantiate requests for changes in food safety programs helped reassure suppliers that the need for change was real and not just another marketing gimmick on the part of the infant food company. As one supplier put it, “And also, I think diligent testing to make sure that what is actually said is actually occurring. I think that is just really, really huge. Really knowing what things are, rather than speculating. So, having a scientific knowledge base and then following through and using that knowledge base to change practices is important.” (Mark)

Providing “due diligence” as a standard operating procedure was also identified by both industry and stakeholders as an important strategy for successfully managing issues. However, one food industry representative put it best when he said, “I think the critical point is to have a basis for the safety program. It has to be backed up with specific, demonstrable, describable actions, standards, procedures, processes and safeguards. It is not enough to say that safety is a condition of making food. It has to be clearly demonstrated and documented.” (Bob)

Company character

Company character, such as integrity, transparency and a desire to be proactive also contribute to the level of trust that society gives to an infant food company. Companies present food safety activities as part of their moral obligation to society. Companies address customer concerns by demonstrating to them that, “I hear your concern and I’m acting accordingly to address your concern.” (Bob) Providing honest and accurate information about food safety resulted in the greatest level of trust. This is consistent with the sustainable development literature that emphasizes that transparency, accountability and engagement are essential features of sustainable businesses (Henriques and Richardson 2004).

Integrity. Several actors from both inside and outside the industry identified integrity as the most important infant food company characteristic when establishing partnerships. Integrity is defined as a steadfast adherence to a strict moral or ethical code. From the industry’s perspective, infant food companies need to present food safety as something they do so that people outside the industry know they are trying to do “the right thing.” As one food industry person pointed out, infant food companies implement certain food safety activities, “just so that they can feel, ethically, that they have done their jobs to protect their customers, to protect their stockholders and so they can sleep at night. Businesses are run by people who have ethics, too” (Al)

Actors outside the industry also emphasize the importance of company integrity. Half of the regulators identified company integrity was critical to the

establishment of relationships with infant food companies. Because of the sensitivity over the perception of excessive influence by food companies in the regulatory process, regulators felt that clear, honest dialogue, substantiated with data, was a necessity for building relationships with infant food companies. As one regulator stated, "Be honest and upfront about what you're doing. Transparency. And I think consumers feel the same way." (Elizabeth) Others, such as the healthcare providers, felt the same way. As one pediatrician put it, "My expectations are such that all companies that offers food products for children in this country are of such high integrity that they are going to do their very best to assure that safety measures, as known today, are employed in every aspect of food production and preparation." (Randall)

Providing evidence that food companies have an ethical or moral responsibility to sustain the food supply in a safe manner is a critical aspect of maintaining customer trust. Actors from both inside and outside the industry emphasized this point. As one food company representative put it, "I think, as a participant in the infant food industry, the question is best answered, not in how the food company protects itself, but how the food company protects its customers." (Betty) This is consistent with the CSR literature that provides insights into the steps required of a company to develop public trust. In order for a company to receive credit from society for its behavior, it must implement programs where infant food customers see a personal benefit without an obvious benefit to the company (Harvard Business School 2003).

The industry insisted that there is a sense of ethics supporting the food safety system in NA. All three of the food processing industry people emphasized this point. However, one food processing industry representative put it best when he pointed out, "I think individual companies and the industry at large can benefit by pushing the envelope and making constant improvements in food safety at the same time as unnecessary or scientifically unsound action standards are challenged. Helping the public, as well as government, understand food safety and to participate in making improvements can be a beneficial endeavor." (Bob)

That sense of ethics is demonstrated through what one food industry person referred to as a "culture of prevention" when she said, "The reason food safety happens at all is because there is a culture of prevention, of HACCP, of good manufacturing practices within the industry. It is that mindset of prevention that makes the system works." (Ann) She and others from the processing industry point out that a culture of prevention is not found everywhere in the world. "The mindset of the producers is what is really important. You can see that when you look at the problems that we have been having with China. They have laws and regulations in China. What is missing is that culture of preventing risk." (Ann)

As the supply chain becomes more global, ethical issues at the international level take on importance similar to domestic ethical issues for actors outside the industry. The expectation that an infant food company will implement ethical business practices applies wherever the company resides regardless of

whether the company conducts its business in NA or whether its supply chain reaches into many other countries. While the issue was expressed by several outside actors, one healthcare provider put it best when she said, “I also have expectations that they are looking out for the well-being of the community and supporting that as well. And if they are getting products from outside the United States, that those products and suppliers, whether that is labor, whether that is food, bottle, labels, or whatever, that those companies that they deal with are also treating their employees and the environment in an appropriate fashion.”

(Renee)

According to one regulator, negative stories about a company’s international behavior would affect a company’s domestic reputation. As she put it, “So when you look at a company you look at it in a whole, with all the pieces put together. With a food company, I think a lot of people might want to know if other companies do this type of thing because they are international companies. How do they go about taking care of the hungry in other parts of the world?”

(Cindy)

Transparency. Several actors from outside the industry expected the company to act in a proactive and transparent way at all times. The majority of the regulators expressed their expectation of the infant food companies to be open in their food safety efforts. As one federal regulator put it, “Be honest and upfront about what you’re doing. Transparency. And I think consumers feel the same way, because, whenever you figure out that a company has not followed the rules or the regulations, people lose confidence in that sort of company.”

Cooperation and respect among the different stakeholders is really key.”

(Elizabeth)

Proactive. Companies that took a proactive stance on addressing food safety issues enhanced their reputation, according to several regulators . They felt that being proactive was critical to mitigating food safety risks and managing food safety issues by infant food companies. As one federal regulator put it, “I think it is really important for a company to be proactive. And I know that there is a fine line to being proactive and to scaring the public. Being very careful, I think we need to educate the public.” (Cindy)

That same sentiment was expressed by the majority of the infant food industry actors as well. As an infant food company person put it, “Given the industry that we’re in, where you have that targeted consumer, I would be concerned with just maintaining the current government regulated standards and not anticipating where the standards are going or trying to proactively stay ahead of those standards.” (Don)

Partnerships

The next major theme is the partnerships that develop with stakeholders and regulators. Specifically, partnerships with the regulatory, healthcare and supplier communities contained benefits unique to each community during the establishment and implementation of food safety standards. One example might include collaborating with government to develop standards and guidelines to fill gaps in the regulations. It also might include working closely with suppliers to

address a pesticide residue issue or the medical community to study infant nutrition. One food industry person said, “The one thing that I see, again, is an area where food companies, especially infant food companies to really consider taking a proactive approach to advancing food safety that includes having the programs and resources devoted to identifying what could be done to improve safety.” (Bob)

Partnerships with Regulators. Regulators also advocated for a multi-stakeholder process in developing regulations as well as in creating private standards. Almost all of the regulators expressed the opinion that their involvement with the infant food industry helped the regulators better understand the ongoing changes that occur in the industry. As a state regulator put it, “I think that we should be an active partner so that we understand the industry practices. I do not know that we have as much a regulatory stance, but I think there are times when the private sector will come and say, ‘We can’t do this alone. We need to develop and raise the bar under the general standards.’ So we need to know what issues are out there and what trends are going on in the industry. What is industry doing to be more active, to be proactive or to be above the bar.” (John)

This regulator’s comments help illustrate the point made in the CSR literature about trust and the transfer of information between partners. There is an important role for developing trust for successfully transferring information within a partnership. Trusting the other party is critical because no one wants the promises between partners to be broken (Lucas 2005).

Both regulators and the industry also felt that collaborating resulted in better decisions. Both sides recognized that they each brought benefits to the relationship and that better programs were the results of the collaboration. Industry recognized that it brought certain expertise to the relationship that government regulators might not possess. Regulators suggested resources that they could contribute, such as laboratory facilities, to benefit the relationship.

One federal regulator greatly appreciated programs designed to establish partnerships with infant food companies because they provided an opportunity to learn from each other. “I just think about the pesticide program and what it has with the Pesticide Environmental Stewardship Program. It is called PESP. It is strictly a voluntary partnership program that companies, or grower groups, or even cities, for that matter, will create voluntary partnerships with the EPA. Basically, it's just a place to talk about what they're doing, develop strategies on how to improve environmental stewardship, on what they can do to accomplish that and, in this case, it's not a regulatory program, it's a voluntary program. I think those are very good because they offer not only the partnerships, where you can learn a lot from each other, but also they show people what is possible to do and what can be done.” (Gertrude)

Partnerships with the Healthcare Community. Providing the healthcare community with proper information regarding food safety and nutrition for each stage of an infant's development was very important to the healthcare providers. Both healthcare providers emphasized the importance of partnering with infant food companies. As one healthcare provider put it, “I think it is important for the

company, first of all, to point out the balanced nutritional value of the company's food products in a manner in which most parents can understand what the factors of concern are. They also should assist the medical professionals that deal with infant nutrition so that they have a clear understanding of what the product is, that is being offered, and at the same time, what the message is that's being given to the parents. So that the physician, parents and the infant food company are all on the same wavelength so they have the same understanding. That information needs to be presented in a way that parents can readily understand all the factors." (Randall)

Infant food companies look to the medical research community to provide the latest in food safety and nutritional research so that the companies can incorporate the research recommendations during the development of age-appropriate products. From the industry standpoint, contradicting the advice of the medical community is a big mistake. As one industry person explained, "Where the pediatric community has accepted and adopted a policy, or a scientific finding, as being significant, the expectation from their profession is for the infant food industry to make sure the opinion or the position of the pediatric community is considered. From a marketing standpoint going against reputable and widely recognized recommendations would not be very wise." (Bob)

Partnerships with Suppliers. Suppliers also encouraged the establishment of partnerships with infant food companies. Several suppliers pointed out that collaborating instead of dictating on the part of the infant food company would result in better programs and easier implementation of food

safety standards within the supply chain. The supply chain management literature emphasizes that a breakdown in the trust relationship between a company and its suppliers results in higher production costs for both parties (Handfield and Nichols 2002).

A couple of the food industry representatives acknowledged that suppliers have expertise to translate theoretical standards into practical applications. Their expertise is very valuable during both the development and implementation of food safety standards. "Where the suppliers have an influence is in taking their experience in translating potentially theoretical standards, desirable standards, and influencing them to demonstrate that it is or is not feasible or practical to reach and having that kind of understanding. Farmers' / suppliers' impact can include bringing knowledge of what adjustments and what alternative risks and / or benefits may be introduced to meet a standard. They could be, and should be, the source of that information, being able to anticipate and deal with what would otherwise be unanticipated consequences of those standards." (Bob)

Creating partnerships in a multi-stakeholder process generated goodwill among the partners and often resulted in solutions that are more effective. "To engage people in the discussion, so everybody can kind of come to a natural consensus. I think that is the most important thing, without a doubt, is that most people, most rational beings, will come to similar agreements in similar consensus, given the same information. The information in the discussion process leads to a consensus. That would be the best thing. Be a consensus builder - not a dictator." (Norman)

Partnerships with suppliers provided infant food companies with ways of responding to food safety issues in a quick and efficient manner with a minimal amount of disruption in the supply chain. Suppliers responded that they appreciated when infant food companies chose to collaborate with them to develop solutions instead of dictating changes to supply programs.

Finally, there was a consensus between industry insiders and outsiders that infant food companies should collaborate with suppliers to implement food safety innovations. As the supply chain expands globally, there is a recognition that implementing and maintaining an expected level of food safety is more difficult outside NA, especially in developing countries. Making changes with international suppliers often requires additional infrastructure resources from an infant food company in order to receive the desired level of food safety.

This desire to create meaningful partnerships with the various communities that influence infant food companies is consistent with the CSR literature. There are several characteristics of successful public – private partnerships including a clear agenda understood by both partners, a commitment to change on both sides and a willingness to invest in the effort by all partners (Harvard Business School 2003). Those characteristics from the literature can be found throughout the comments made by both the infant food companies and their food safety partners.

Private standards

The final major theme from the interviews involves implementing private standards. There was a broad consensus about the importance of implementing private standards as an integral part of substantiating food safety efforts and protecting the company's reputation. A state regulator echoed those same concerns when she said, "It's imperative that [infant food companies] are able to demonstrate to the public that they operate under the highest standards." (Judy)

The group was unanimous in its endorsement of private standards for infant food companies. The primary reason for implementing private standards was the higher expectations placed on infant food companies. From the food processing industry's side, it is a way to meet customer expectations during this period of declining confidence in the government food safety standards. One food industry person stated it well when he said, "With respect to the infant side, I think it's absolutely essential. My reason for that is, again, in looking at the way in which standards are set both domestically and internationally. Regulations are regulations and they become a minimum standard. But from the standpoint of whether or not the science calls for a more stringent standard, particularly for infants and children, still needs to be considered and, if necessary, reflected in internal standards. I don't think all of the standards globally take into account the science of infant physiology, infant susceptibility to harm, etc." (Bob) When asked, "Why are private standards necessary?" he summed up the argument by saying, "Again, meeting consumer perception and consumer expectations are

key. If government standards are not viewed as protective, internal standards become a necessity.” (Bob)

Filling Gaps in Government Regulations. Private standards help fill gaps in current government standards or where standards do not exist. The case of mycotoxin contaminant levels for US foods provides an excellent example of this type of situation. General standards exist for certain mycotoxins, such as aflatoxin and patulin, but standards do not exist for other mycotoxins, such as ochratoxin A or zearalenone (Robens and Cardwell 2003). Similar to the pesticide standards, in the case of aflatoxin and patulin, consideration of the vulnerability of infants is not recognized with separate standards in the US. Again, from the industry perspective, one food company representative explained this situation by saying, “I think a general example would be where a standard does not exist or where a benchmark does not exist from the government. An example of that would be with microbial standards, because there are very few specific microbial standards for food in the US. Therefore, industry, in order to interpret and translate the performance standards issued by the government to translate into something that demonstrates safety, establishes a numerical standard, for example, to fill in the gap, where one does not exist within government standards. Or where government has not set one at all. For mycotoxins, in the United States, very few standards have been set. Again, to assure safety, establishing standards or benchmarks within the industry is very important.” (Bob)

Even the regulators acknowledged that there are areas where the regulators do not go far enough to assure safety. “I am told that they are safe enough but I think that we need to go beyond regulations. An example would be, and you would actually mean like the environmental protection laws that are out there right now. We know that by doing IPM or having that legislation, we can reduce exposures to even less.” (Cindy)

Extra Margin of Safety. Private standards can provide infant food companies with an extra margin of safety. That extra cushion of safety is very important, especially in these days of frequent product recalls and waning customer trust in government’s ability to protect the US food supply. Moreover, the additional safety margin between private standards and regulatory compliance keeps the company name out of the negative press – and off FDA’s product recall website. While several of the industry actors acknowledged the importance of the additional margin of safety, one food company representative put it best when he said, “Given the industry that we’re in, where you have that targeted consumer, I would be concerned with just maintaining the current government regulated standards and not anticipating where the standards are going or trying to proactively stay ahead of those standards.” (Don)

That extra margin of safety, as well as meeting the regulatory compliance levels in the US, is the reason why one food company representative talked about the responsibility of food companies to “police” their global supply chain. “US federal controls are not sufficient and I don’t know if there is a say in how you define the controls. The regulations may be sufficient, but the enforcement

may be insufficient. So it's incumbent on us, as buyers of the product, to serve as a regulatory function.” (Curt)

Traceability. All of the groups identified the ability to trace products throughout the supply chain as an integral part of private standards. Traceability strategies provide a reassurance of food safety during times of crisis. Moreover, traceability programs can mitigate the severity of a crisis and help contain the spread of food safety issues when they arise. If a company is unable to control its products from farm to store shelf, customers and regulators will question its ability to protect the integrity of its products. One infant food company person put it bluntly when she said, “Traceability goes beyond just pesticide testing. Traceability is the stewardship of your product. It is part of your verification that you can address, correct and control product issues. I think it really is the traceability part that is an indication of your control and quality. It is documentation of how you substantiate your claims of safety.” (Betty)

The attitude outside the food processing industry is that traceability is a very important aspect of food safety throughout the supply chain. Whether it is the suppliers, legislative aides or the regulators, the consensus is that the ability to identify the source of the food ingredients is a critical element in maintaining customer trust. “I think you will increase the safety. Again one of the problems is how to handle the data, the information and the education through the supply chain from the growers to the company down to the source.” (Marsha)

These comments from the infant food industry closely align with the food safety literature that emphasizes the value of traceability systems. As the impacts

on industry of distributing unsafe food continue to escalate, the benefits of traceability programs to an infant food company increase as well (Golan, Krissoff and Kuckler 2004).

Product Differentiation. Private standards are increasingly used to differentiate a company from its competitors. Companies that create private standards increasingly use those standards as a way to differentiate themselves from competitors. An example of this type of standard would be a Quality assurance standard that results in greater safety for all of its products.

The perspectives of those within the processing industry acknowledge the need for consistently meeting the expectations of the customer. While product differentiation was not the top food safety issue identified by the industry actors, one food processing industry actor summed up the perspective of the industry when he said, “Companies need to make sure that that consumer expectation is met otherwise they lose business. It’s as simple as that.” (AI)

The actors from outside the industry appeared to be a bit more skeptical about the ultimate intentions of some company food safety programs. Several actors from outside the food safety system speculated that increased market share was the major reason why infant food companies implement private standards. One federal regulator responded to the question about the reason for private standards by saying, “Probably just growth, in general. If a company has their own private standards and the public views that company as having high integrity, they have more potential to expand in the market and maybe grow into different sectors, or add a new product.” (Elizabeth).

Raising the Bar. Several food processing industry people discussed the “ripple” effects that infant food company innovations have on the entire industry. By adopting higher standards, an infant food company can force the rest of the industry to follow suit, forcing competitors to increase their costs of production. One infant food industry person said, “If you have companies who are setting good standards in place, you know, rigorous, good practices by their suppliers and their growers, that can only serve to set an example for other companies and eventually other companies will come up to that standard, too. I think it can only be a good thing.” (Al).

Third-Party Certification. A major challenge to implementing private standards is whether or not customers will recognize these higher standards. If customers do not see the merit of the higher standard, the company falls short of realizing any anticipated benefits from the implementation of higher standards. One way US food companies attempt to build credibility for their private standards is to subject company standards and practices to third-party certification programs. These companies anticipate that consumers and other stakeholders will be convinced that certification by a seemingly disinterested third party will substantiate claims made by the company. A few industry actors commented about the need for third-party certification during the interviews, although one infant food company representative stated it best when he said, “I think the other thing it does is it brings in a unbiased third-party point of view to your company. It’s external. It’s not somebody from within your organization that has an internal bias.” (Don)

A few other actors from outside the industry were cautiously optimistic about the value of a third-party certification of production practices. While they could conceptually see the value of such programs, they were also quite concerned that the costs of implementing these programs ultimately belonged to the supplier, not the infant food company. As one supplier pointed out, “The cost obviously includes more paperwork, more staff time and more liaison time with that third party. And then, of course, there is compliance. And the benefit is the verification that, “Yes, this is what they are saying and this is what they are doing.” (Mark)

The willingness of a customer to be influenced by advertisements is directly connected to a customer’s level of confidence that infant food companies have both the desire and ability to protect the food supply. Once again, the CSR literature, in response to the lack of trust in corporations, advocates transparency coupled with third-party certification as solutions for generating trust in corporations (Henriques and Richardson 2004).

However, the jury is still out on validity of the many third-party certification programs invading the US food industry today. As one food company representative pointed out, “Private food standards that are inordinately restrictive, offer no added value if you cannot demonstrate that there is additional protection to the consumer. If these are imposed, or if competitive advantages are implied, by using them, then you have added a level of cost and complexity that offers no additional safety.” (Betty)

Supply Chain Vulnerability. In the post-9/11 world, food companies, and especially infant food companies, must demonstrate to customers, regulators and others “due diligence” that its supply chain is as protected as possible from contamination by substances that are harmful to consumers.

More than one industry person admitted that supply chains are vulnerable to inadvertent and intentional acts of contamination. “Traceability is much more difficult overseas, particularly since our goal tends to be to go look for less expensive product. You are moving to an environment that has less infrastructure, less education, less resources. Therefore, it is much more difficult to maintain that traceability and it’s something that you really struggle with. You can make all the demands that you want from your suppliers. “You will have full traceability”, but the fact is, not too many of them do.” (Curt)

Several actors from outside the food processing industry also expressed concern over the vulnerability of the supply chain. As one state regulator explained, “One area the state regulators have worked on is vulnerability assessments of various foods supply chains. Vulnerability assessments by food companies are strongly encouraged by this agency but, to my knowledge, are not in any statute anywhere.” (Judy)

A few suppliers also acknowledged the vulnerability of the supply chain. One supplier said, “How to stop someone who truly wants to do you harm, is exceedingly difficult and expensive to have 100% control. I don’t know if there is ever a perfect way. But, awareness is the key.” (Norman)

Costs of Additional Standards. Nevertheless, there are impacts within the food company and its supply chain that must be addressed if private standards are to succeed. For the majority of the suppliers, the additional documentation that comes from implementation of traceability, pesticide restriction or even credence attribute programs can put a tremendous strain on the resources of any food company's supply chain. If the supply chain contains both domestic and international sources, the complexities of those issues appear to grow almost exponentially. Those additional costs are recognized by several industry actors as well. As one infant food company representative said, "Well, the negative aspects are - you have to put an infrastructure in place to do it. You have to have people working with growers. You have to have researchers doing work that moves the thing forward. You have to support research to move you away from products that you don't want to be using. I do think it's a lot easier domestically to work with your suppliers." (Curt)

Chapter summary

The goal of conducting interviews with actors from the NA food safety system was to understand the major food safety issues facing infant food companies. Interviewees came from the federal and state regulatory agencies, the legislative branch of government, suppliers and the medical community. Creating a comprehensive strategy to identify where an infant food company is vulnerable to perceptions by customers and stakeholders is an effective way to understand how one piece of the strategy influences the other pieces.

The next chapter presents profiles for each of the fourteen infant food companies. The overlapping appeals to food safety by infant food companies provide the basis for these multi-dimensional profiles. They demonstrate how each company justifies their food safety programs using appeals that are best understood using the metaphor approach described in Boltanski and Thévenot's "worlds."

Chapter 6

How Infant Food Companies Portray Food Safety

The previous chapter presented insights on food safety issues from people who have an intimate understanding of various aspects of the infant food safety system in the US. Interviewing infant food company representatives and other actors within the US food safety system provides a way of understanding the issues that influence the implementation of food safety programs by infant food companies.

What strategies do infant food companies develop and promote? How do we understand these strategies to maintain consumer confidence in the face of problematic public standards? This chapter analyzes data from publicly available company documents to develop a profile of the food safety messages presented by infant food companies.

Infant food company food safety data

What messages do infant food companies present to their customers, regulators and other stakeholders? Each company presents its own food safety information in a unique way, based upon its own situation. Companies decide which food safety programs to implement based on their assessment of the issues that affect their business. Likewise, infant food companies decide which programs to present to customers and which to remain silent about, based on their interpretation of what message the customer should hear.

Concepts used to Illustrate Different Appeals. Drawing upon the concept of 'worlds' identified by Boltanski and Thévenot, this chapter identifies and discusses the multiple types of appeals used by infant food companies to what these companies see as the interests and concerns of various targeted groups, including customers, regulators and stakeholders. These multiple appeals help to define each company's food safety profile.

These profiles are drawn based on each company's expression of different appeals. Companies that refer to "for the good of society," "doing the right thing" and "quality of life" are clearly appealing to what they see as the collective, civic or societal expectations for infant food companies. References to "responsibility," "heritage," "trust" and "commitment" on the other hand are consistent with more domestic appeals to hierarchy and tradition. At the same time a company might draw attention to its reputation," "recognition of accomplishment," "identity" and "world class" standing as it appeals to public opinion.

Alongside these appeals a company may draw attention to "strict control," "performance," "test," "standards" and "analyze" in its appeal to a more industrial expectation of efficiency, performance and standards. But at the same time a company might also promote a type of inspired capacity to be "innovative," "creative," "collaborative," develop "partnerships," and be "sustainable" along with its market appeal to providing "the best" product, "meeting customer demands," be "better than the competition," or "set apart" through product differentiation, competitive advantage and meeting customer demands.

The food safety messages from all fourteen companies were analyzed to gain a better understanding of which types of appeals each company made. The data tables provide a visual way to differentiate between the food safety appeals. (Appendix C)

Beech-Nut. Beech-Nut's message focuses on quality assurance and testing of its food products. While the number of food safety messages is low, a few different statements help to illustrate the multiple ways in which the company draws upon notions that appeal largely to its adherence to standards.

The company's pesticide standards are a primary example of these private standards where the company claims that their pesticide standards are better than the federal government standards. The company's primary food safety message is to provide a product that is "safe" and "wholesome."

Beech-Nut's food safety messages also embody multiple appeals by using its focus on standards as a means to differentiate and market its products as distinct from other conventional infant foods. For example, "In fact, **levels** in our baby foods are negligible to non-detectable, **making our products comparable to organic.**"

Company Background

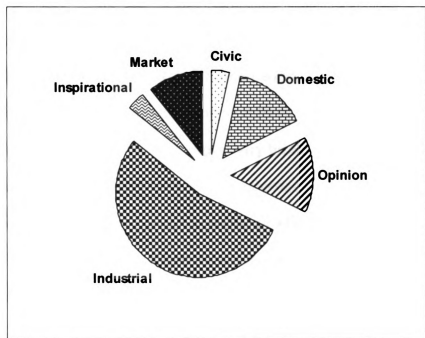
Beech-Nut is a well-established infant food company that has produced infant food products in North America for generations. Beech-Nut began in 1891 and still produces its infant food products in upstate New York. Beech-Nut began producing infant purees in 1931. Beech-Nut has been owned by several different companies throughout the years, including Nestlé and Ralston Purina. The Hero Group, from Switzerland, purchased Beechnut in 2005. Beech-Nut makes no reference to Hero on its website.

Similarly, Beech-Nut appeals to the uniqueness of its products based on food safety with statements like, "We pick only **high quality** fruits, vegetables, dairy and meats, and **don't use unnecessary additives**" and in pesticide residue

limits that exceed the federal requirements, "We at Beech-Nut care about your baby's health as well as the environment. Our pesticide **standards are significantly stricter** than the Federal requirements." The company also attempts to differentiate its products by emphasizing what is missing from its products. "At Beech-Nut, we start with simple, wholesome ingredients and fortify them with vitamins, and minerals. **We don't use unnecessary additives** like salt, refined sugar, modified starch or harsh spices to our infant foods."

Beech-Nut appears to take a very conservative slant on the food safety of their products. The company provides a small number of references spread across several worlds, including messages that contain multi-dimensional appeals. The

Figure 6. Beech-Nut Profile of Food Safety Appeals



company's claim that all incoming fruits and vegetables have residues below ten percent of the US tolerance level is another way to differentiate its products. Other food safety messages portrayed by the company emphasize the fact that its products are not organic yet provide food safety over and above what the federal

government requires. The company's primary food safety message is that it avoids a host of "unnecessary additives" while providing "simple, wholesome ingredients".

Beech-Nut positions its products in the market for the cost-conscious consumer (Figure 6). As such, the company provides a similar "cost-conscious" style with its message of simple, wholesome, safe products for infants. As such, Beech-Nut spreads a small number of food safety messages across several categories in an attempt to appeal to multiple groups of readers.

Blédina. Blédina's food safety message relies primarily on quality assurance standards and inspection of its food products. Comments like "The

Company Background

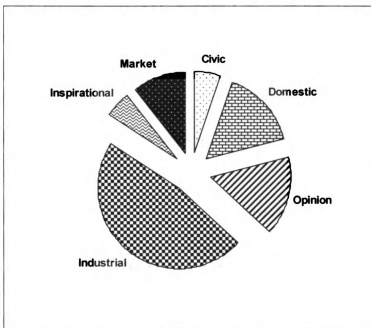
Danone can trace its involvement in the infant food business back many years. Best known in the US for its Danon® yogurt products, the company also owns globally recognized brands such as Evian® water. While Blédina® has produced infant foods since 1906, Danone has owned the Blédina® brand of infant food products since 1997.

regulations define the optimal level of safety from an agricultural standpoint" emphasize the company's appeal to industrial-type standards. The company website specifically lists the **European Union regulatory limits** for pesticides (10 ppb) and nitrates (200 ppm) in infant foods and emphasizes that they are the strictest standards available. "Fruits are grown in orchards where crops are grown far from the source of pollution and their treatments **are strictly limited.**"

Blédina also refers to its supplier selection process in similar terms: "Strict standards are **our responsibility.** This is why Blédina **rigorously selects** its farmers." This refers to abiding by European and French government standards. Blédina does not refer to any collaboration with its suppliers or regulators.

Blédina's strategy involves sending messages to several different audiences with the expectation that each audience will connect with at least one food safety message (Figure 7). However, the company appears to favor communicating its food safety efforts by reference to specific food safety regulations in Europe.

Figure 7. Blédina Profile of Food Safety Appeals



Cow & Gate. The Cow & Gate food safety message relies on its claims to follow government standards and implementing "strict quality standards." Such a message about regulatory compliance with statements is: "We meet the new legal requirements on pesticides and herbicides."

Company Background

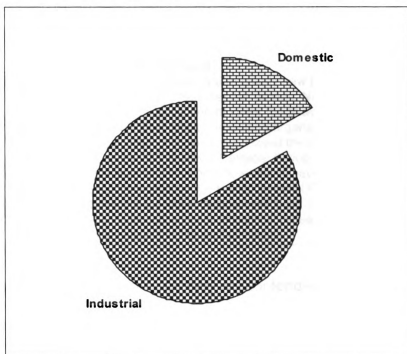
Cow & Gate® is a well-established United Kingdom-based infant food company that has produced purees and fortified milk-based infant food products for almost 100 years. Nevertheless, Cow & Gate® is part of the Numico family, which is now a part of Group Danone. Ironically, the only reference to its foreign owners is the line "This website is owned by Nutricia, Ltd." in the small print at the bottom of the page on its customer website.

Cow & Gate promotes the idea that their own standards that exceed government standards to address food safety. "Naturally, we're scrupulous in

making sure **we meet all the latest safety and quality standards**. But to make sure that we keep up with the latest scientific developments, **we usually set our own internal standards even higher** and work continuously towards improving every recipe." The company discusses the implementation of private food safety standards in its quality assurance programs, although it does not provide specific examples.

Figure 8. Cow & Gate Profile of Food Safety Appeals

Using the appeal to private standards, the company implies that it also maintains strict control over supplier practices as well. "By controlling the way our ingredients are



grown and produced, we can also ensure our suppliers **conform to our strict environmental guidelines**." The company presents traceability as part of food safety. "We can **trace** every single cereal back to the field it came from and the expert farmer who grew it."

Cow & Gate appears to place a significant emphasis on the safety of their products. It portrays its efforts in food safety almost exclusively in terms of

meeting strict proficiency and performance standards for that assure quality and safety.

The company discusses the implementation of private food safety standards in its quality assurance programs, although it does not provide specific examples. In reference to its use of private standards, the company implies that it also maintains strict control over supplier practices as well.

Earth's Best. Earth's Best presents its food safety message with a focus on the superiority of its

organic products. With most of its attention given to marketing, Earth's Best appeals to food safety with competitive claims such as, "We only use natural

Company Background

Earth's Best® is a relatively new brand of infant food compared to the other NA brands. Nevertheless, it was the first organic line of infant foods available in the US. Earth's Best began producing organic purees for infants in 1987. HJ Heinz purchased the company in 1996 and sold it to Hains Celestial Group in 1998. The Earth's Best line of products is one of several "natural" product lines sold by the Hains Celestial Group that includes the Celestial Seasoning® teas. Today, Earth's Best sells an assortment of organic purees, dry cereals and formula in the US and Canada.

wholesome ingredients right from the Earth...as they were intended to be."

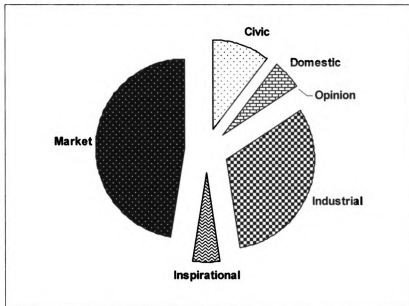
These claims imply that Earth's Best products are more natural than its competition's products.

Attention to product differentiation is also seen in messages like, "Organic ingredients are grown in soils **without harmful pesticides.**" The company website provides several variations of this message in an attempt to convince the reader of the food safety difference between its organic products and the competition.

Closely related to this effort to differentiate its product, the company appeals to food safety as a way to “do the right thing.” For example, “We believe organically grown foods are best...**best for your child and best for the Earth.**” The company extends this appeal to civic concerns when it describes the efforts its growers put forth to make the world a better place. “Our growers **share our commitment** to providing families with healthier foods to grow up on and a cleaner safer world to grow up in.”

With a primary focus on the ways in which organic ingredients differentiate its products (Figure 9), the company’s food safety messages devote very little attention to other

Figure 9. Earth’s Best Profile of Food Safety Appeals



types of appeals. This may reflect the company’s assumption that the use of organic ingredients substitutes for the need to make food safety appeals on other grounds.

Gerber. Gerber focuses on quality assurance and food product testing and its adherence to standards.

Gerber's references to food safety are defined largely in terms of the company's attention to quality assurance standards and performance. Messages like, "**stricter quality control** to provide safe and healthy products" portray this emphasis on product safety. Traceability is an important feature of this food safety message. Messages like, "Do you know where your baby food comes from? Gerber does. **We know which fields**, which orchards your baby's fruits and vegetables come from and what's been grown there for over a decade," emphasize both the traceability aspects of its agricultural program as well as the company's long-term relationships with its growers.

Company Background

Established as a small local canning company in 1901, Gerber began producing pureed infant foods in 1928. Located in Michigan, the company eventually eliminated all of its other canned food products and focused exclusively on food and care products for infants. The Swiss pharmaceutical giant Sandoz purchased Gerber in 1994. Nestlé purchased this US food icon from Sandoz, now called Novartis, in 2007. Gerber sells infant food and care products in North America, Latin America and Eastern Europe.

The same reference to standards and monitoring is used for its organic line of products. "All of our fruits, vegetables, meats and grains have been certified organically grown by Oregon Tilth. They are the USDA accredited third-party agency that **carefully inspects** the fields and processing facilities, **tests** the soil and water and **reviews the procedures** to make sure that the growers and handlers are **meeting strict standards**. It's simply another way we put extra effort into making Gerber Organic baby foods." This approach also offers the basis for a marketing strategy in which the company positions its organic line as another choice for customers instead of using organic as a demonstration of food safety. In this way, Gerber avoids tarnishing the reputation of its conventional line of products while offering the choice of both organic and

conventional products. For example, the focus is on the differentiation of its organic products with statements like, “We could use plain apples. But we **search for the best** of the organic orchards for apples **worthy** of Gerber Organic.”

Gerber tempers the “industrial” notion of traceability by drawing attention to its partnerships with its suppliers. The company refers to the “**personal relationships**” with long-term suppliers and its collaborative efforts with suppliers, land-grant universities and government agencies. Closely tied to this appeal, Gerber’s food safety program draws upon a notion of “doing the right thing” in its support for infant health research through its *Pediatric Basics* magazine.

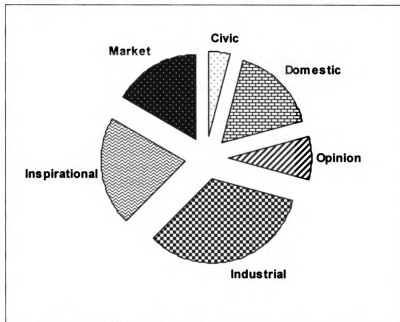
“Pediatric Basics:

Our quarterly professional publication written by pediatric experts includes practical information on current pediatric

issues.” Other companies may provide access to an expert or two, but the depth and breadth of the research available through the Gerber website is exceptional.

Gerber also uses phrases in specific food safety messages that demonstrate its multi-dimensional appeal (Figure 10). “At Gerber, our **relentless**

Figure 10. Gerber Profile of Food Safety Appeals



commitment to babies carries over to everything we do. It's in our very DNA. In fact, **it's who we are.**" The company's appeal to "commitment" is best understood through the Domestic world. However, its reference to "who we are" appeal to the company's reputation and is best understood through the Opinion world.

Overall, Gerber relies on multiple appeals, but tends to define its food safety messages largely in terms of its "industrial" attention to quality control and the "inspirational" appeal of its innovative relationships with suppliers.

Heinz. Heinz emphasizes quality assurance and testing of its food products. While the company uses multiple food safety appeals it primarily relies on its standards and monitoring programs to demonstrate its food safety.

Different types of statements help to illustrate the ways in which Heinz draws

Company Background

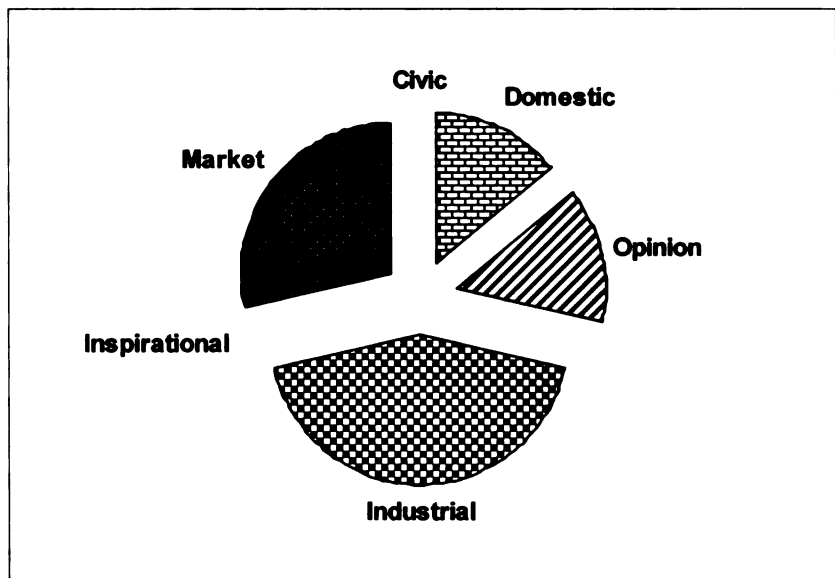
An American company, HJ Heinz began producing a line of pureed infant foods in 1931. Currently, the Heinz brand of infant foods is available in Canada and the United Kingdom (UK). While Heinz is an American brand icon, as well as a major player in the global infant food industry, it does not sell infant foods in the United States (US). Heinz sold its infant food business in the US to Del Monte in 2002. Among its many other consumer brands, Heinz owns the Wattle's infant food company that distributes infant foods in Australia and New Zealand.

upon notions that appeal largely to adherence to standards. Statements like, "From farm (We're very picky about how and where our produce is grown) to finished product, a Heinz sweet potato – or wax bean or strawberry – is actually **inspected, analyzed, vision-tested, checked and re-checked** before it's vacuum-packed" speak to the performance standards Heinz imposes on its products.

Heinz's relationships with its agricultural suppliers also focus on standards. Comments like, "Heinz requires all these growers to adhere to **rigorous standards** that are up to **five times more stringent** than industry requirements" speak to the performance standards Heinz imposes on its suppliers as an aspect of their food safety programs.

Several food safety messages by Heinz make multiple appeals as a means to generate trust by differentiating its products with safety features claimed as unique in its market

Figure 11. Heinz Profile of Food Safety Appeals



segment (Figure 11). "Each jar is then **safety-sealed; no other baby food maker does that**. In this way, Heinz combines the use of "industrial" standards with market differentiation and an appeal to more "domestic" interests.

Hero. Hero appeals to the readers almost exclusively through its quality testing programs. Major emphases within Hero's food safety

Company Background

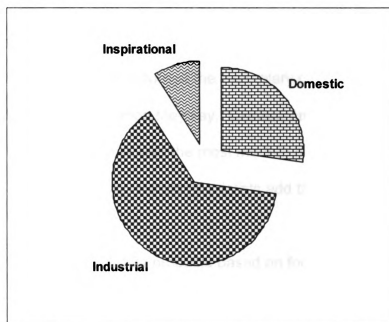
The Hero Group is a well-established food processor located in Switzerland. Started in 1896, the company produces many food products, from fruit jellies to confectionary decorations and infant nutrition. The company has made significant moves to increase its presence in the global infant food market by purchasing Galactina® in 2004, Beech-Nut in 2005, Plum Organics in 2008.

messages include adherence to "**strict quality standards**," although there is no

mention of any standards that exceed government regulations. Hero appeals to its use of the highest levels of quality and food safety by saying, "In order to offer products of **irreproachable quality** to you and to ensure a maximum level of food safety." However, the company does provide limited details of its quality assurance program by referring to its ISO 14000 certification. Hero highlights its use of an outside laboratory called "la societ  Squali" as a way to maintain quality because, "More than 100 **quality tests** are carried out each month."

Hero also

Figure 12. Hero Profile of Food Safety Appeals



appeals to its heritage and the company's sense of responsibility, although the number of references for each appeal is small (Figure 12).

HiPP. HiPP presents itself to the public with a message focused on quality

assurance and testing of its food products. Based on the relatively high number of food safety messages presented by the company, food safety appears to be a very important

Company Background

HiPP, the family-owned German organic baby food company, has sold organic infant food products in Germany and beyond for over fifty years. Located in Southern Germany, its target markets include Europe, Asia and the United Kingdom. HiPP's infant products include purees, juices, cereals, biscuits and teas.

issue for HiPP, and organic production appears to play a prominent role in demonstrating the company's commitment to food safety.

HiPP's food safety efforts portray a picture of proficiency and performance in meeting their exacting standards for quality and safety. With an appeal to "industrial" standards, the company points to its quality standards when it says, **"Up to 260 quality checks.** The contents of each jar goes through a **stringent quality control** program from soil **testing through analysis** of raw materials to checking finished product. Any anomaly results in **rejection** of the entire batch." The company also paints a colorful word picture of the exemplary performance of the "craftsmen" who work in the factory when they say, **"Craftsmen and Technology.** HiPP production teams work with the most modern manufacturing methods. And overseeing this technology, human specialists add the personal touch."

HiPP appeals to the uniqueness of its products based on food safety with statements like, "What makes HiPP **so special? Certified organic. No harmful pesticides. No genetically modified ingredients. Free-range meat. No antibiotics or growth-promoting hormones.**" HiPP even created its own "seal of approval" for its ingredients. The HiPP "BIO Seal" implies that the ingredients that bear this seal are the standard by which to judge all others. HiPP also draws upon an appeal to its reputation in order to differentiate its products. The company appeals to its own reputation by claiming to have one of the most advanced residue laboratories in the world. "One of the best laboratories in Europe, HiPP's superbly-equipped laboratory **is a world leader** in residue

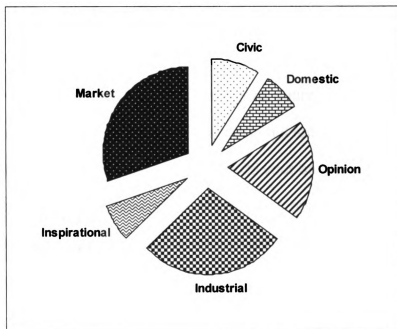
analysis." This claim demonstrates how HiPP attempts to establish itself as a world-class leader in food safety. The company also provides several customer testimonials lauding the food safety attributes of its products.

HiPP also uses a domestic appeal to the trust relationship with its suppliers to demonstrate why customers should trust HiPP. "Organic food comes from **trusted** sources. All organic farms and food companies **are inspected** at least once a year. These standards for organic food are **laid down in European law**."

More broadly, HiPP focuses its approach to food safety on organic production. HiPP is clearly committed to organics and it also seeks to demonstrate a major commitment to reducing the environmental footprint of its production practices, in both the field and factory.

Figure 13. HiPP Profile of Food Safety Appeals

HiPP positions itself as a premium brand in the market and the level of information it provides illustrates the "value-added" to its customers. The company makes



numerous and overlapping food safety appeals (Figure 13). "In the German

speaking countries, HiPP is clearly the top premium brand in baby food products. As proven through market research, the HiPP brand is associated with the values of health, quality and organic products.” By portraying their efforts to assure food safety, they communicate a picture of proficiency and performance in meeting their exacting standards for quality and safety while at the same time using this feature to differentiate and market its products.

Milupa. Milupa’s focuses on customer trust and company heritage. While the number of food safety messages is low, a few statements help to illustrate the ways in which the company draws upon notions that appeal largely to trust and heritage.

The majority of Milupa’s® food safety references employ appeals to responsibility,

Company Background

Milupa began in 1921 as a small bakery business in Germany. In 1933, it entered the infant food business with its first infant cereal product. Today, Milupa produces infant formula and milk-based products in addition to its infant cereal business. Milupa also exports to several other countries including Canada. Milupa products are not available in the US. Nutricia purchased Milupa in 1995, and together with Cow & Gate, became Numico. Danone purchased Numico in 2008.

heritage, trust and commitment. Milupa presents brief statements about suitability of its products for vegetarians and its avoidance of allergens during production to demonstrate the company’s sense of responsibility as an infant food company.

For example, “When you choose Milupa®, you build your baby’s future on reassuring past. With **over 70 years’ experience** of producing balanced, nutritious baby foods, we are a brand **trusted** by parents across the world, with a **firm commitment** to research and development.”

Milupa® does not provide much information to its customers in the area of food safety (Figure 14).

The only food safety message, other than the appeal to the company's heritage, is buried within the Frequently Asked

Questions section. Overall, the company does not offer much information about how the company views its responsibility to its products or community.

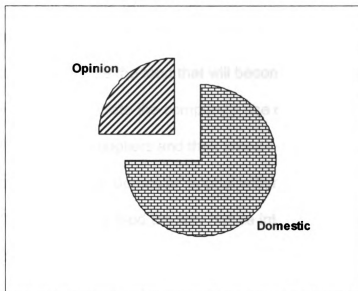
Nature's Goodness. Nature's Goodness presents itself to the public with a message focused on quality assurance and testing of its food products. Several types of statements help to illustrate the multiple ways in which the company draws upon notions that appeal largely to adherence to standards. It also evokes a sense of heritage in its

appeals to readers while drawing attention to its central concern with an "industrial" feature, ingredient quality.

"Nature's Goodness goes to the source - whether it's the farm,

the ranch or the supplier - **to see for ourselves how the food is grown,**

Figure 14. Milupa Profile of Food Safety Appeals



Company Background

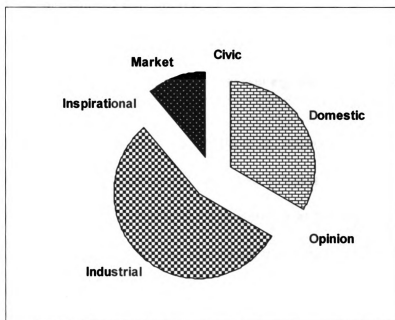
While Nature's Goodness is a relatively new brand of infant food sold in the US, it can trace its roots back many years and can point to several US brand icons as part of its lineage. Nature's Goodness is the brand produced since 2005 by Treehouse Foods Inc, a spin-off division of Dean Foods Company. In 2002, The Del Monte Corporation bought the US infant food business from HJ Heinz. In 2006, Del Monte sold the infant food business with its private label soup business to Treehouse, which specializes in pickles, non-dairy creamers and institutional food products.

handled and prepared⁷⁴ prior to delivery." A second message tells how the company scrutinizes its suppliers prior to buying the crop. "Nature's Goodness baby food is **highly selective when it comes to the growers** and farmers, as well as the ingredient suppliers who produce the food that will become Nature's Goodness baby food." Both messages illustrate the company's use of performance standards to judge both the suppliers and their crops.

But the company also makes a more "domestic" appeal with reference to its food production heritage. "We make baby food the way nature intended. Nature's Goodness baby food **has a long history** of providing high quality baby foods and our experienced team has a strong passion for quality."

Many of these are then brought together in Nature's Goodness® market attempt to differentiate its products based on food safety with statements like, "You expect your baby's

Figure 15. Nature's Goodness Profile of Food Safety Appeals



food to be healthy, wholesome and delicious. That's why there are **no artificial**

⁷⁴ The text in **bold** highlights words or phrases that indicate the "world" that is the focus of the appeal being made by an infant food company.

flavors, colors, preservatives or any modified food starches in Nature's Goodness® baby foods."

Nature's Goodness® appears to place a significant emphasis on the safety of its infant food products (Figure 15). By portraying food safety efforts primarily in industrial and domestic terms, the company frames its food safety program as a direct result of its long-standing tradition of implementing stringent quality standards. Even relationships with its suppliers appear in the context of standards and supplier performance. Nature's Goodness makes the case that these stringent standards differentiate its products for the competition.

Nestlé. Nestlé presents itself to the public with a message focused on quality assurance and testing of its food products. Comments like, "There are some classes of raw materials where it is not possible to purchase on the open market because of

Company Background

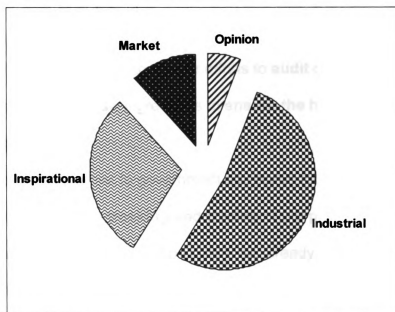
Nestlé traces its involvement in the infant food business back to the year 1866 when Henri Nestlé developed a milk-based product for infants that could not breast-feed. Today, Nestlé is the world's largest food company with products in over eighty countries.

strict limits for quality that are imposed either by Nestlé or by national food legislation. Vegetable and fruit puree as well as cereals used in foods for infants and young children are a case in point," speak to the standards that Nestlé imposes on its suppliers. Nestlé also presents the standards that it imposes on its ingredients in comments such as, "To ensure that instructions have been followed by the farmers and that the raw materials **meet the required quality**, they are **rigorously controlled** before their processing."

In contrast to many other infant food companies, Nestlé's presentation of its agricultural programs emphasizes an appeal to sustainability and relationships. For example, in its concern for local knowledge and collaborative efforts with suppliers: "The main agricultural competence exists at the Supplier, Farmer and Input Provider level. Nestlé **works closely with all involved.**" The company provides specific details about its involvement with suppliers worldwide in the implementation of sustainable practices for both its infant and adult food products.

Figure 16. Nestlé Profile of Food Safety Appeals

Nestlé's food safety messages address the company's strict adherence to standards, performance and productivity (Figure 16). Private standards



do not appear to be a part of the Nestlé program. No reference to exceeding government standards was found in any of the documents.

Nutricia. Nutricia offers a message focused on quality assurance standards and inspection of its food products. These messages communicate a high level of performance in meeting their exacting standards for quality and safety.

Examples of Nutricia's food safety messages emphasize adherence to traceability: "Product integrity: **testing, tracking and tracing**" to assure customers that Nutricia retains tight control on all quality measures. "Each batch of food **is tested** during manufacturing by our **highly skilled Quality Assurance team**. In addition, all baby food is held for a minimum two weeks after manufacture and **retested as a final safety measure.**" The company also emphasizes control over the performance of its fruit and vegetable suppliers. "In 2006, we continued our efforts to **audit** our agricultural suppliers and to **test** our raw ingredients to **ensure the highest standards of product quality.**"

Company Background

Established in 1896, Nutricia, together with Milupa and Cow & Gate, joined forces in 1995 to become Royal Numico (Numico). Nutricia produces products for both the infant and clinical nutrition markets. For the infant market, Nutricia produces infant formula and milk-based products in addition to its infant purees and juices. Nutricia sells infant foods in countries throughout the European Union, Asia, the Middle East, Australia and New Zealand.

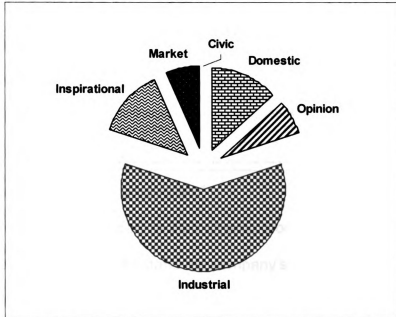
Nutricia appeals to its adherence to government standards for quality assurance standards when it says, "In **tracking and tracing** of our products right across the production, processing and distribution chain, we already comply fully with the General Food Law regulations in Europe and **legal regulations** elsewhere. The company goes one step further when it suggests the implementation of private standards to reassure readers. "In 2006, we introduced even **tighter controls** throughout the system."

Nutricia also appeals to food safety in its relationship with its agricultural suppliers by saying, "We have always **worked closely** with our agricultural suppliers to maintain the **highest standards** of product integrity. For higher-risk

Figure 17. Nutricia Profile of Food Safety Appeals

ingredients, we work only with those who practice low impact agriculture, keeping fertilizer and pesticide use to **agreed minimum levels** on their growing crops.”

Nutricia also



emphasizes responsibility to its “vulnerable” customers: “Given the vulnerable nature of our customers, who place **great trust** in us to meet their nutritional needs, we take the utmost care in ensuring the **highest standards of quality and food safety.**” (Figure 17)

Parent’s Choice. Parent’s Choice is a private label brand of infant food products sold by Wal-Mart. The line consists of a handful of purees, a couple “finger food” items and organic infant formula. Neither Wal-Mart, nor Parent’s Choice discuss food safety. The only appeal to food safety appears as a claim to the standard of “certified kosher” purees, although they do not define this standard.

Wattie’s. Wattie’s presents itself to the public with a message focused primarily on quality assurance standards and inspection of its food products. The company communicates a picture of proficiency and performance in meeting their exacting standards for quality and safety. For example, “You can be

assured of safety as ingredients are **meticulously inspected** and are carefully prepared and packaged in sterile jars and cans.” The company presents its use of private standards through comments such as, “Wattie’s has well established and **tightly followed Quality Assurance standards** that were **developed in-house** and are

Company Background

Wattie’s produces both conventional and organic purees and snacks for infants. The company has a long history of producing infant food products in Australia and New Zealand. It is a part of the HJ Heinz family of food brands.

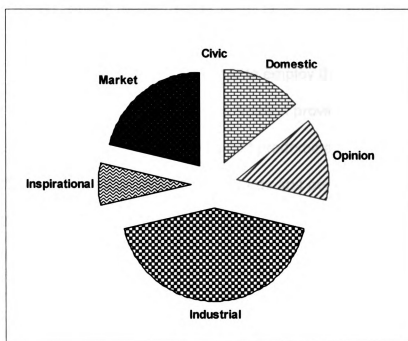
applicable from the beginning of product production.”

This appeal is also made with respect to their organic products. Phrases about certification and testing help us understand the company’s relationship with the organic certification agencies. “All Wattie’s organic baby foods are **certified** organic and have been **tested and approved** by the Biological Farmers of Australia (BFA) – the largest and most significant certifying body in Australia.”

However, the company does not provide any references to actually working with its suppliers.

Wattie’s also makes multiple overlapping appeals (Figure 18). One example involves

Figure 18. Wattie’s Profile of Food Safety Appeals



the way the company speaks about its food safety standards as a reason for trusting the company. “Wattie’s is a **trusted** brand because we have **strict quality standards and procedures** which ensure all our products are healthy, safe and of high quality.” The appeal to “trust” is best understood through the Domestic world, while the appeal to quality resides in the Industrial world.

Wattie’s places significant emphasis on the safety of their products by communicating a picture of proficiency and performance in meeting their exacting standards for quality and safety.

Assessment of infant food company profiles

As the above discussion illustrates, each company creates its own food safety profile based on an appeal to multiple worlds of concerns and interests by a range of actors from consumers to regulators. Despite the variability in these profiles, the analysis of the infant food company messages offers an opportunity to reflect on some more general themes.

Quantity of Information. The companies appear to employ three distinct strategies with respect to the amount of food safety information provided. A first group appeals to food safety using references understood predominantly through the Industrial world with its the control provided by standards and performance expectations for ingredients and suppliers. For these companies, other appeals played a secondary role in the overall profile.

Half of the companies follow the strategy of appealing to food safety through messages about the enforcement of food safety standards. There are

two important implications of this type of appeal to safety primarily through performance and adherence to standards. The first implication is that this type of message only appeals to those readers who interpret safety through the adherence to a set of standards and industrial efficiency. No messages target those who understand food safety using other appeals, such as civic responsibility or competitive advantage. The second implication from this predominantly food-safety-by-standards approach is that it gives the impression to the reader that food safety only occurs when infant food companies mandate safety to its suppliers, instead of a collaborative approach where infant food companies work together with their suppliers to find solutions to food safety issues.

Of the seven companies that used this strategy, six are Europe-based companies. The other company within this group, Heinz, is a North American company with a major European presence. The more restrictive infant food safety standards in Europe, discussed in Chapter Two, force these companies to do extensive testing in order to meet the minimum regulatory compliance standards. The companies are able to provide significant evidence of testing by merely describing the efforts needed to meet the regulations.

A second group of companies sends “mixed messages” using multiple and overlapping appeals to food safety. Whether it is adherence to standards, collaboration with suppliers, heritage or doing the right thing, many messages are presented by these three companies, all of which can be interpreted in a positive way by every reader. This “buckshot” approach of spreading it thick and

spreading it wide provides these companies with the best chance of providing at least one message that resonates with each person who accesses the company website. This approach or “more is better” leaves the reader with the impression that the company is doing everything reasonably possible to assure the safety of its infant food products.

There is a commonality between these three companies. All of them position their infant foods as premium products within the infant food market segment. As such, these companies appear to provide these multiple safety messages as a “value-add” to help justify their premium prices.

A third group of companies limits its food safety messages and types of appeals. Readers are not given much evidence of food safety by the three companies in this group⁷⁵. However, all of these companies share a common strategy by positioning themselves as cost-conscious brands within the infant food segment. Their lack of food safety communication is hard to explain. As one regulator pointed out in her interview, “There are a lot of times where people want more information and they want to know what is going into the food that they are feeding the children.” (Diane) In the absence of evidence to contradict the messages of doubt in the media about a crumbling food safety system, readers are left to assume that the company is only meeting the bare minimum food safety standards.

⁷⁵ One additional outlier, Parent’s Choice®, made no appeal to food safety other than one brief reference to “kosher” on its baby food website. Therefore, it is not included with the other groups.

Food Safety Themes.

Several general themes emerged from the analysis of the company food safety messages.

Standards. The adherence to standards surfaced as a primary issue. Most of the infant food companies claim to adhere to strict standards in an attempt to appeal to the reader's sense of food safety.

While several companies appeal to food safety standards, there are interesting differences between the North American infant food companies and their Europe-based counterparts. The European companies, as a group, appeal to their adherence to government standards. Several companies refer to "tough" government regulations as the basis for their quality assurance programs, although few of the companies provide any concrete examples. This situation is most likely due to the European Union standards that specifically address infant foods, as discussed in Chapter Two. By contrast, the North American companies, when they make appeals to food safety standards, appeal to private food safety, instead of government standards. This appears to be due to the decreasing level of trust in the government food safety standards, as discussed in Chapter 1.

Only five of the fourteen infant food companies highlight any food safety standards that exceed relevant government standards. Often, company websites only mention quality assurance standards that exceed existing government standards. Few companies provide specific examples of those private standards.

More often, they refer to “in-house” standards that were stricter than required by the government.

Traceability. Traceability programs play a significant role in demonstrating food safety to customers and regulators (Golan, Krissoff and Kuckler 2004). Nine of the infant food companies present messages about their traceability programs. Phrases such as “we can trace back” and “we know where our ingredients came from and the farmer that grew them” provide evidence of the traceability efforts of the infant food companies. The frequency at which food companies present their traceability programs indicates the importance of this issue for the infant food industry. These messages are designed to assure customers that the infant food companies maintain control over their supply chain.

Relationships with the Supply Chain. The CSR and supply chain management literature identifies the importance of building strong relationships as an important aspect of maintaining trust in food safety programs (Weaver, Trevino and Cochran 1999). Seven of the infant food companies present their relationships with suppliers in terms of enforcing a strict supplier approval process or mandatory high standards for suppliers. However, four companies present their relationships with suppliers in terms of the “collaboration” and “partnerships” to indicate how they work together with their suppliers to develop innovative solutions to food safety issues.

Sense of Responsibility. How a company positions itself in relation to food safety also illustrates some important differences among companies. Almost

half of the infant food companies position their food safety programs as an integral part of their responsibility to customers while others make no attempt to do so. Messages that portray this sense of responsibility appeal to the reader's sense of trust and commitment, such as "It's in our DNA" and "It's who we are."

This appeal by infant food companies to their sense of food safety responsibility to customers corresponds well with the numerous references from the CSR literature about a company's sense of responsibility to its customers and to society in general (Wartick and Cochran 1985).

Organic. Companies that sell only organic infant food products present organic as the primary driver of their food safety program and as a point of differentiation relative to non-organic products. By contrast, companies that sell both organic and conventional lines of infant foods portray organic as a way to respond to customer requests for more product choices and not a food safety issue. Organic products are presented as another choice offered to parents. These companies are very careful to avoid making a distinction between the food safety of their conventional and organic infant food products. Creating too much of a distinction would cast a shadow of doubt over the food safety of the conventional line. Finally, companies offering only conventional products make claims that their products are as safe as organic, with one infant food company attempting to discredit organic by pointing out that organic food is not the same as "pesticide-free."

Target Audience. Infant food companies adjust their level of food safety appeals to their targeted audience's expected level of safety information. For

example, HiPP, the German organic infant food company, provides a wealth of food safety and environmental CSR information on its website. HiPP admits to positioning itself as a “premium” line, and so this additional information appears to be an appropriate “value-added” feature to justify its position in the market. On the opposite end, Parent’s Choice, the private label infant food brand offered by Wal-Mart, offers almost no food safety information about their product, other than its great value for the price. This, too, appears to be an appropriate message given the cost-conscious market targeted by Wal-Mart.

Chapter summary

This chapter provides an analysis of the food safety strategies promoted by fourteen infant food companies from NA and Europe. These fourteen companies represent the vast majority of the world’s commercial infant food production.

The next chapter analyzes the infant food company profiles against the food safety insights provided by the interviews to create a critical evaluation, or “storyline,” about the food safety messages made by infant food companies. This is used to develop recommendations for the infant food industry to assist in developing more effective food safety messages to customers, regulators and stakeholders.

Chapter 7

Lessons for the Infant Food Industry

One of the basic functions of government is to protect its food supply. Despite the recent food safety scares, there is the perception that government will maintain a “hands on” approach in its efforts to protect even its most vulnerable citizens. People want government oversight to ensure the minimum level of food safety by infant food companies and to ensure that each company can adequately substantiate its claims.

As we have seen, the concept of “perception is reality” applies to infant food companies. Misinterpretations of food safety messages by customers can carry significant financial implications for those customers. This concept is very important for infant food companies to understand. As we shall see in this chapter, infant food companies must recognize the challenges in communicating food safety as well as the opportunities provided by these emerging food safety issues to successfully accomplish this task.

Chapter Five highlighted several food safety issues, identified by actors in the US food safety system, which greatly influence infant food companies in their efforts to maintain customer trust. Armed with those insights from people who deal with these food safety issues on a daily basis, Chapter Six analyzed the food safety appeals made by infant food companies in their efforts to convince customers to put their trust in a specific infant food company.

This chapter contains insights gleaned from the data that should be implemented by the infant food industry with the intent of establishing and

maintaining customer trust in their food safety programs. Lessons for the infant food industry come in two forms – challenges and opportunities. The list of challenges include factors that can have a great affect on infant food companies, but that the companies can do very little to change. The list of opportunities includes several factors that can greatly influence infant food companies, although companies appear to have the ability to change the outcome.

Challenges for the infant food industry

Infant food companies face three major challenges when presenting their food safety messages. The first challenge is the expectation that infant food companies will implement programs to address the ever-expanding list of known food contaminants. The second is the vulnerability of infant food companies to negative news. The final challenge that infant food companies face is the different perceptions of risk among infant food companies, regulators, suppliers, and customers.

Expectations of infant food companies. Chapter Two demonstrated why expectations for infant food products are higher than for other products. As the scientific community identifies additional biochemical and physiological concerns from food contaminants, customer demands for protection from contaminants will increase. The level of risk to infants for many of the emerging food safety issues is still unknown. Chemicals, such as bisphenol A, semicarbazide and epoxylated soybean oil require additional research to determine their effects on developing children.

These higher expectations for infant food companies were also expressed during the interviews, presented in Chapter Five, as actors emphasized their expectations for high levels of company character as demonstrated through transparency and integrity.

Sensitivity to Negative News. Chapter Two also discussed the sensitivity of infant food companies to negative media. Over the past few decades, negative stories in both print and television media have created major public relation issues for infant food companies. Whether it was Alar® or the Environmental Working Group, customer reaction to negative stories resulted in significant financial loss for the companies.

It appears that infant food companies will face even greater challenges controlling negative news in the future. The advent of the internet brings with it new challenges for infant food companies. Blogs and chat rooms can create almost instantaneous movement of information across the globe. All too often, this type of information is not adequately substantiated to guarantee its accuracy. This trend will only continue to accelerate.

Opinions of Risk. Different people view food safety risks in different ways. Whether it is nuclear power or pesticide residues in food, women and non-whites consistently view the same issue as a greater risk than white men (Flynn, Slovic and Mertz 1994). A white male scientist working for an infant food company will interpret information about infant food safety issues through a different set of lens than a minority female homemaker. As pointed out in Chapter Three, this is a particularly important implication for infant food companies

because women remain the main meal planners (Davidson and Freudenburg 1996).

Both men and women interviewees spoke about the need for transparency and consistent communications by infant food companies. However, women were the greatest advocates for providing specific examples of food safety measures when asked for specific ways in which infant food companies can demonstrate their sense of responsibility to customers. Women interviewees emphasized that infant food companies need to communicate how they avoid risks. In fact, seven of the ten interviewees who specifically advocated for more food safety information were women. They emphasized that, without information explaining what a company is doing, customers make assumptions about company food safety based on their personal bias for, or against, infant food companies. One women interviewee from outside the industry stated it clearly: "There are a lot of times when people want more information and they want to know what is going into the food that they are feeding the children. In the lack of information, people will assume that you are just the same as everybody else." (Diane) This point is consistent with the CSR literature on the importance of communicating to stakeholders. People assume that if data about an issue are not available, that particular issue is not being managed (Clarkson 1995).

Infant food companies must take this important aspect into consideration when formulating internal food safety risk assessments. Each company must consider how the perceptions of risk vary within their audience when determining an acceptable level of risk from an emerging food safety issue. This type of

assessment is also critical when determining whether or not to implement private food safety standards to address an issue. The alternative is to leave the regulation of the issue in the hands of the government regulators.

Infant food companies currently face significant challenges from emerging food safety issues. However, these safety issues also provide several opportunities to demonstrate company character for infant food companies willing to address the issues as they emerge.

Opportunities for the infant food industry

In order to take advantage of the opportunities that are available, infant food companies should conduct a thorough analysis of where their food safety programs are vulnerable to public perception. By completing this type of analysis, an infant food company can implement the programs necessary to address those issues in a meaningful and lasting way. As one food industry representative put it, "I think it is essential that food companies develop a comprehensive strategy to identify where their business is at risk from consumer perception. Certainly they will do this for real health concerns, real regulatory health concerns, but they also need to look at what their consumers think is important. Then they need to develop a comprehensive strategy to protect that - to protect their business." (AI)

Both the documents and interviews identified several food safety issues that could have a major influence on an infant food company's ability to maintain customer trust. Each food safety issue identified below contains a short summary

from the documents and the interviews as well as recommendations about how to address the issue.

Multi-dimensional Perspectives on Risk. This multi-dimensional view of risk is the major reason why it is important to understand the multi-dimensional aspects of each company's approach to food safety. How a customer interprets the food safety information provided, or withheld, by the company may determine whether the customer's trust increases or decreases.

As we saw in Chapter Six, one of the strategies implemented by infant food companies was to make multiple food safety appeals across several "worlds" because each reader will frame food safety issues using their own set of criteria. To take full advantage of this situation, infant food companies must make appeals across all six worlds so that each reader has the opportunity to identify with more than one food safety message.

Proactive Steps by Infant Food Companies. Providing insufficient or misleading food safety messages to the most important customer base, the shopping mother, carries serious implications for infant food companies.

As identified in Chapter Five, the food safety system actors in the US expect infant food companies to be proactive in their food safety programs and communications. Various food safety actors emphasized during their interviews that infant food companies must be at the forefront in addressing emerging food safety issues in order to retain customer trust.

Currently, infant food companies appear to underestimate the importance of communicating food safety issues. The documents show that only a few infant

food companies provide any information at all about emerging food safety issues.

⁷⁶ All of the infant food companies that mentioned emerging food safety issues directed their discussion about those issues specifically towards healthcare professionals. The majority of infant food companies chose not to address emerging issues at all.

Infant food companies should first identify where they are vulnerable to food safety issues and then map out a strategy to address each issue before it becomes an industry crisis. Companies should develop control strategies in a proactive manner instead waiting until the companies have to address them in a reactive way.

Private Standards. “Standards are the measures by which products, processes and producers are judged.” (Bingen and Busch 2005). Given the current mistrust in government standards, private standards will continue to expand. While all infant food companies must comply with regulations, several NA infant food companies have supplemented public food safety standards with private standards.

In addition, the actors in Chapter Five unanimously supported the implementation of private food safety standards to supplement compliance to government standards. The adherence to standards surfaced as a primary food safety issue during the analysis of company websites and documents. Most of the infant food companies claimed to abide by strict quality standards in an attempt to appeal to the reader’s sense of food safety. A couple of the European

⁷⁶ One company, HiPP, provided position statements on the company website to address the new issues.

infant food companies specifically mentioned the ten parts per billion standards for pesticide residues on their websites. Other European infant food companies simply referred to “tough” government regulations as the basis for their quality assurance programs, without providing any concrete examples.

Actors from both inside and outside the industry unanimously endorsed private standards as a way to meet customer expectations. The primary reason for implementing private standards was the higher food safety demands placed on infant food products. Even government regulators supported efforts by infant food companies to develop private standards.

Infant food companies should implement private food safety standards to maintain customer trust. Standards reduce the asymmetry in product knowledge between the buyer and seller in market transactions. Customers are looking for signals from the infant food companies that will assure them of a food safety level that meets their expectations (Bingen and Busch 2005). In this situation, infant food companies reassure their customers when they present information about their food safety programs.

Infant food companies are not expected to completely abandon existing government standards and create a complete set of private standards. The magnitude of such a task would be overwhelming. A more realistic approach would be for companies to supplement public standards in those areas that present unacceptable risks to the infant consumer. Frequently, blending public and private standards can create a more comprehensive set of food safety standards than using either set alone. Adhering to government standards and

supplementing private standards to fill gaps where government standards do not exist can provide infant food companies with an extra margin of safety. That extra cushion of safety is very important, especially during these days of frequent product recalls and waning customer trust.

Substantiation of Food Safety Measures. Too often, there is a temptation by infant food companies to make claims about food safety benefits without providing evidence to substantiate their food safety claims. It is very easy to make claims of using “strict” quality standards without providing any substantiation for the claim.

During the interviews in Chapter Five, several suppliers and regulators mentioned that substantiation of food safety claims was needed to convince customers of the worth of the standards. Suppliers expressed the desire for substantiation when companies implement new food safety programs in the supply chain. Regulators expressed the desire for data when infant food companies petition for changes in the regulations. Healthcare providers expressed the desire for research results to substantiate any additional product health claims made by the company. This allows the healthcare providers to fully understand the science behind the potential health benefits.

Regulators encouraged companies to provide customers with information about their food safety programs. An infant food company must demonstrate the steps it is taking to protect consumers from food safety risks. However, more than one regulator cautioned against overselling the benefits of the programs. If a customer interprets that the message about the products are too good to be true,

the customer will not trust that company. Part of that program is to set clear standards in a transparent process and substantiate any claims made.

With that level of support from the stakeholders and other interested parties, it is surprising then that the infant food companies, in general, appear to be hesitant to provide any more food safety information than is absolutely necessary. The documents presented in Chapter Six demonstrated a tendency by some of the infant food companies to provide only the bare minimum evidence of their food safety programs. However, several other companies provided numerous examples of specific food safety programs as a way to substantiate their claims of “strict” standards.

Infant food companies should provide as many examples of their food safety programs as reasonably possible to substantiate their claims of food safety. Whether the intended audience is a customer, regulator or a supplier, it is important to infant food companies to have the data to back up their claims.

Traceability. Despite the current cries for traceability in the fresh produce industry, traceability appears to be the norm within the infant food industry. One reason for the emphasis placed on maintaining identify of ingredients for infant foods is the attention placed on traceability in Europe, where traceability forward and backwards within the supply chain is required by law (European Commission 2002).

During the interviews presented in Chapter Five, almost all of the food safety actor groups commented about the necessity for traceability. Regulators also emphasized the importance of traceability programs. One regulator

commented that if a company cannot identify the original source of its ingredients, customers would question other aspects of its food safety program.

Even suppliers acknowledged the need for traceability programs in infant food production. The suppliers recognized that it was their responsibility to provide valuable information, such as spray history data, to the infant food companies down to the field level. This sense of responsibility on the part of the suppliers echoed the sense of responsibility expressed by the infant food companies.

Chapter Six provided many examples by infant food companies of claims about traceability back to the field level. Claims of “tracing back” or “we know where our ingredients come from” on company websites spoke about the efforts these companies implemented in order to maintain traceability of their products throughout the supply chain.

Traceability is an essential aspect of an infant food company’s food safety program. Infant food companies should continue to highlight their traceability programs because, as one infant food company representative put it, “Traceability is the stewardship of your product. It is part of your verification that you can address, correct and control product issues.” (Betty) Without the ability to identify quickly the source of a suspected ingredient, other aspects of a company’s food safety program come into question. One only needs to look at the fresh produce industry to understand that customers lose confidence in the industry with every passing hour when the contamination source cannot be found during a food safety crisis.

Seek partnerships. Partnerships with the regulatory, healthcare and supplier communities contain benefits unique to each community during the establishment and implementation of food safety standards.

Both regulators and the infant food companies recognized that creating opportunities to collaborate on food safety issues was an important avenue for building trust between both parties. In addition, there was a consensus among all of the groups interviewed that infant food companies should collaborate with suppliers to implement new food safety programs. Suppliers emphasized that collaborating with infant food companies results in better solutions to food safety issues. Healthcare providers also emphasized that collaborating with infant food companies provided an accurate transfer of product information to parents. Finding ways to work together is critical to the success of infant food companies.

In the company documents provided in Chapter Six, only a few infant food companies acknowledged the need for partnerships with suppliers, regulators or the healthcare professionals. Attempts to create partnerships with healthcare professionals were evident in the food safety and nutritional information companies targeted to pediatricians. On the websites, most supplier relationships were presented as one-sided relationships, where new food safety practices were dictated to suppliers. This was in contrast to a few companies that presented their supplier relationships as collaborations seeking better solutions to issues that faced both parties.

Infant food companies should seek to collaborate with suppliers instead of dictating food safety. Suppliers recognize that there are instances when the

implementation of food safety measures must be non-negotiable. However, in most instances, working together as partners resulted in the development of better food safety standards.

Demonstrating Sustainability. The global food industry is finally starting to discuss issues of sustainability. Previously, sustainability was defined by the business literature as the energy and waste reduction programs within a production facility. Today, there are expectations that go beyond producing a safe infant food product. In Chapter Five, one food company person clearly stated the issue when she said, “If the food industry, including the agricultural sector and the processing sector, is not cognizant of, and actively working towards sustainability and safety, there will be significant economic impact. Food companies have an ethical responsibility, not only the infant food companies, to safely sustain our food supplies.” (Betty)

Several food safety actors identified expectations of infant food companies for the implementation of sustainable development strategies. They also expected infant food companies to implement land stewardship strategies with their suppliers. While this concern is small relative to the food safety concerns expressed by actors, it appears to be a growing concern. They expressed interest in knowing how ingredients were produced. In addition, they also wanted to know that the company’s worker and environmental safety efforts applied regardless of where the company sourced ingredients.

A few infant food companies provided evidence of sustainable food production on their websites. This is especially true for the Europe-based infant

food companies. Often, company websites tied the use of organic ingredients in their products to the benefits of sustainable production. However, infant food companies most often present their sustainability efforts from a CSR perspective by listing the environmental programs in place, such as the company's recycling or energy reduction programs.

The current expectations for sustainable crop production have driven infant food companies to expand the definition of sustainability beyond the walls of the production facility. As such, infant food companies should identify sustainable food production practices in their global supply chain as part of their food safety message. It is a way to demonstrate to customers the company's sense of moral responsibility to their suppliers, workers and the environment.

International Implementation of Food Safety Standards. That sense of responsibility seems to apply wherever the company does business today. Gone are the days when a company's buying practices with suppliers in a developing country are ignored in the developed countries. As globalization of the supply chain continues, customers are beginning to question how infant food companies ensure the safety of ingredients regardless of where they originated in the global supply chain.

It is one thing to have standards. It is another to have enforcement of those standards. If those standards are not enforced, the confidence in the system dissolves quickly. One infant food company person pointed out during his interview that it is very difficult to establish a reliable international supply chain when educational and surveillance infrastructures in the supply chain are not

available. The task becomes impossible if either one of those infrastructures is not present.

It is evident in the company document data from Chapter Six that companies provide very little evidence about private food safety standards and international suppliers on the company websites. A few of the parent companies referred to international food safety programs with suppliers. However, all of those programs were in reference to other commodities purchased by the parent company, such as cocoa, tomatoes or coffee.

Infant food companies should provide evidence of the food safety programs they implement across the global supply chain. As noted previously, in the absence of correct information, people will suspect that infant food companies are not implementing the same level of food safety protection with their international suppliers as they do with their domestic suppliers.

Chapter summary

There are several significant food safety issues that infant food companies face in their effort to establish and maintain customer trust. However, there are also opportunities for presenting food safety messages in a clear and convincing manner. These emerging issues, if addressed in a proactive manner, provide opportunities for demonstrating an infant food company's sense of responsibility for food safety.

Chapter 8

Conclusions

One of the basic functions of government is to provide its citizens with a safe food supply. It was demonstrated in Chapter One of this study that customers have lost confidence in the government's ability to protect the food supply. Chapter Two demonstrated why customers have higher food safety expectations for infant food companies than for other segments of the food industry. In addition, history has shown that infant food companies often struggle to maintain customer trust in the wake of negative media stories.

As a result, infant food companies attempt to reassure their customers of their sense of responsibility by presenting their food safety programs using various food safety messages. This study seeks to gain a greater understanding of the food safety messages presented by infant food companies and how those messages are interpreted by several groups that can greatly influence infant food companies including regulators, healthcare providers and suppliers. Interviews with actors from the US food safety system provided insights that assisted in interpreting the infant food safety messages.

Several recommendations arise from the research data, which target industry, regulators and academia. These recommendations can guide infant food companies as they communicate their food safety programs in an attempt to maintain customer trust. In addition, there are four research recommendations to guide academia in their drive to better understand the influences that affect the infant food industry. Finally, there are additional recommendations for regulators

designed to encourage and guide regulators as they seek ways to improve the effectiveness of food safety regulators that affect the infant food industry. However, it must first be acknowledged that there are also limitations to this research.

Limitations to the research

While this study provides many insights in to infant food company efforts to maintain customer trust through food safety, there are limitations to the research. The first limitation is the relatively small number of interviews used to guide the analysis of the infant food company documents and websites. Neither time nor resources allowed for conducting an extensive number of interviews. However, as was pointed out in earlier chapters, the interviews targeted representatives from the stakeholder groups with significant influence on the infant food companies.

The second limitation of the research is that my interviews targeted only US food safety actors with a working knowledge of the issues that affect the infant food industry. The industry perspective would have been different if I interviewed other segments of the industry, such as the snack food producers.

Industry recommendations

Several recommendations for the food processing industry and the infant food industry in particular arise from the data analysis. All are presented with the

intent of providing insights to help infant food companies build customer confidence in their products and in the infant food system.

Advocate for a strong set of government food safety regulations. The first recommendation focuses on strengthening the regulatory infrastructure for the entire food system. A strong set of base regulations helps everyone by instilling greater confidence in the entire food supply. Food companies cannot create and maintain a complete set of food safety regulations. The task is too great for any one company. The industry must rely on the government for the bulk of the food safety regulations. Therefore, it is in the best interest of the infant food industry to advocate for a strong federal and state food safety regulatory structure.

Promote collaborations. Every food safety system actor discussed the importance of partnerships with infant food companies. Whether it was a supplier faced with implementing new food safety standards or a regulator addressing an emerging food safety issue, partnerships resulted in better solutions and greater acceptance of new standards.

Government policies should be designed to create opportunities for additional multi-stakeholder food safety collaborations between infant food companies, regulators and suppliers. Taking advantage of the local knowledge of suppliers, the research expertise in the infant food industry and the consensus building expertise of the regulators, significant advances in sustainable crop production are possible.

Private standards. The food safety system actors unanimously supported the implementation of private standards by infant food companies. No one suggested that infant food companies scrap the entire set of government food safety standards and create an entirely new set of food safety standards that exceed government standards. Instead, they advised infant food companies to create a comprehensive strategy for assessing whether their products are vulnerable to public perception. This process would identify where the government standards might not provide them with the high level of protection needed to maintain customer trust. Implementing private standards to “fill in the gaps” will provide an effective way to maximize customer trust with limited resources.

Research recommendations

The focus of this study was kept purposefully narrow to make the project manageable. During the study of these infant food companies, four other research topics were identified that were outside the scope of this study.

Infant Food Company Expectations by European Food Safety Actors.

This study focused on the food safety issues identified by US food safety actors. Obviously, the focus is centered on food safety issues that affect the US food industry and the US infant food companies in particular.

The web search of infant food company documents included the examination of several European infant food companies. NA and European infant food companies presented their sense of responsibility to society using different

messages. One of the most interesting differences is the way European infant food companies present CSR relative to the NA infant food companies. While investigating other types of CSR activities on the part of infant food companies is outside the scope of this study, there are distinct differences between the levels of CSR activities reported by European companies relative to NA companies. CSR for NA infant food companies appears to be product based, whereas CSR for European infant food companies is more company based. In other words, the NA infant food companies put almost all of their focus on the food safety and nutritional aspects of its products instead of demonstrating the company's sense of responsibility to society to do more than just provide a safe product.

Would European food safety actors identify the same food safety priorities for European based infant food companies as the US actors did for the NA companies? Based on the differences between the US and European infant food company food safety messages, the European actors would identify additional issues for infant food companies. In addition, given the greater emphasis on general CSR strategies by European infant food companies, it appears that European actors would place greater expectations on the activities of an infant food company than the US actors. The NA infant food companies focused almost exclusively on food safety and nutrition.

Nutrition as CSR. Several infant food companies presented more information about the nutritional benefits of their products than they did about their food safety programs. For example, based on the amount of information accessible from its website, nutrition represents a major form of CSR to Gerber.

The “Start Healthy, Stay Healthy” program represents a prime example of this type of emphasis on nutrition as a form of CSR. The company’s on-line healthcare magazine, “Pediatric Basics”, provides current information on an exceptional range of infant health issues.

Which nutritional standards would indicate an attempt by infant food companies to present nutrition as a form of CSR? It would be beneficial to infant food companies to have a better understanding whether or not nutrition is recognized as a form of CSR. If the standards are not understood through the concept of CSR, the benefits of these standards may be misunderstood. The healthcare community would also benefit from a better understanding of the interaction between food safety and nutrition. From the supplier point of view, understanding how production techniques to improve food safety influence nutritional content would be beneficial as well.

Food safety standards as CSR for infant formula companies. This study focused on the food companies that produce purees, cereals and milk-based products for infants. However, another segment of the infant food industry specializes in the production of infant formula products. This industry segment is regulated to a greater extent than other segments of the infant food industry. Often, infant formula companies specialize in producing formula and do not produce cereals or purees.

What food safety programs do infant formula manufacturers use and how are the food safety messages presented? Examining how the infant formula segment presents food safety issues would benefit infant formula manufacturers

as well as several outside groups. Infant formula manufacturers would gain a better understanding of the importance of private food safety standards for this industry segment. Regulators would gain insights into the effects of government regulations on this unique food industry segment. A study of this type would provide healthcare providers with a better understanding of the infant formula manufacturers' sense of responsibility to its vulnerable consumers.

Organic. The concept of “organic” contains both written and unwritten expectations. Both proponents and opponents point to data that support their side of the discussion. Several years ago, opponents of organic suggested that there was a link between the use of manure as a nutrient source in organic crop production and higher potentials for food borne illnesses. While those myths have been discredited, it does bring up a question about the expectations of organic food by actors within the food safety system including: regulators, food processors, suppliers, and healthcare providers.

What exactly are the food safety expectations for organic foods? Are the food safety expectations for organic foods higher, lower or the same as conventionally grown foods? This research would provide infant food companies with insights into the expectations from the various actors within the food safety system. It would also provide insights into the regulator expectations for the production of organic products.

Policy recommendations

There are opportunities for additional research. However, not all of the recommendations require additional research. Some of the recommendations require changes in policies among the various actors within the US food safety system.

Standardized documentation of sustainable practices. Several interviewees, including regulators, suppliers and legislative aides commented about burden placed on suppliers from the expanding documentation requirements in agriculture.

Currently, the number of monitoring tools to assess sustainable practices appears to be closing in on the number of sustainable practices. Standardizing the documentation of sustainable practices will reduce transaction costs throughout the supply chain. Efforts to standardize practices such as Good Agricultural Practices and CSR audits allows suppliers to complete one audit that would be accepted by several buyers instead of the current practice of completing individualized audit forms from several different buyers.

Single food safety agency. One of the subjects discussed during the interviews was the creation of a single food safety agency in the US. The benefits cited by the interviewees include a rapid and efficient communication chain in the event of a food safety crisis and “one stop shopping” for all food safety regulations. The consensus among those who responded was that a well-coordinated, seamless food safety agency in the US would be a great thing. However, forcing the EPA, USDA, FDA and potentially other agencies to merge

into one single agency did not receive a great deal of support from those who are intimately involved in the regulation of food on a daily basis. Their lack of support for the merger of that type came from fear that the limited resources, already spread thin between the various agencies, would be consumed working through the merger of several bureaucracies of colossal size.

However, even if a single food safety agency is neither feasible nor practical, certain consolidations among the sixteen US federal agencies charged with food safety responsibilities seems to be both logical and possible. Efforts should proceed to determine which consolidations are wise and which would create more problems than solutions.

APPENDICES

APPENDIX A

INTERVIEW GUIDE FOR FOOD COMPANIES AND THEIR SUPPLIERS

Introduction

In this interview, our discussion will center on your knowledge of the US food safety system and the standards food companies must implement to meet the expectations of the regulatory community to assure safety. We will also discuss the impacts of government and private food standards that food companies impose on their supply chain to establish and maintain consumer trust. For this discussion, the term “private” food safety standard means, “Any standard above the minimum regulatory compliance level”. Because I am using the case of pesticide standards for infant foods to demonstrate the dynamics of the food safety system in the US, I will also ask you questions to address that subject.

Interview Themes

1. *Food safety communication with customers, regulators and other stakeholders*
 - a. What factors affect consumer confidence in the US food system?
 - b. How would you define the term “safe” as it pertains to food in the US?
 - c. How would you define the term “risk” as it pertains to food in the US?
 - d. How would you define the term “trust” as it pertains to food in the US?
 - e. In relation to other aspects of food safety, such as foodborne illnesses, how great of a risk do pesticide residues represent in the food chain.
 - f. Are the federal regulations good enough to assure consumers that food is as safe as it can be? Why?
 - g. Are the pesticide residue regulatory levels safe enough to protect infants and young children? Why?
2. *Infant food companies and the development of private food safety standards*
 - a. How do today’s standards reflect a more comprehensive picture of the safety and risk components?
 - b. Is there less safety implied in the older standards?
 - c. Why do food companies feel the need to implement food safety / pesticide standards over and above government regulations?
 - d. Using the term “private” food safety standards to mean, “Any standard above the minimum regulatory compliance level,” are there any instances where private standards could be necessary to maintain consumer trust? Any examples?
 - e. What are the costs and benefits of a 3rd party certification of a food company’s production program?
 - f. What are the anticipated impacts of private standards on the food industry?
 - g. When is it appropriate for a food company to develop its own food safety standards?

- h. What is the impact of private food safety standards on the US food supply chain?
- i. Should food companies develop their own food safety standards?
- j. How is the supply chain impacted by the implementation of government standards?
- k. How does the development and implementation of private standards impact the global supply chain for domestic consumption? International consumption?
- l. How have international food safety issues, such as the Mad Cow incident in Europe, influenced the setting of food safety standards in the US?
- m. How does food security play a role in the development of food safety standards?
- n. How important is it that food standards are harmonized globally?
- o. How is the standards development process more unique when the products are highly specialized, like foods for infants and young children?
- p. Are you aware of any efforts to harmonize infant food safety standards outside the US?
- q. Do private standards undermine consumer confidence in government standards?

3. *Company behavior and ethical standards*

- a. What strategies might help food companies demonstrate to regulators and consumers their commitment for food safety?
- b. In your opinion, how does an infant food company protect itself from criticism of its food safety programs?
- c. Describe the roles of consumer expectations on food safety. Regulator expectations. Supply chain expectations. Community expectations.
- d. Describe the roles of consumer expectations of food companies in terms of demonstrating that they are good corporate citizens. Regulator expectations. Supply chain expectations. Community expectations.
- e. Are those expectations different for a food company that produces food for infants vs. adult food? If so, how?
- f. What input should consumers have in developing food safety standards? Either as individuals or as part of advocacy groups.

4. *Food safety partnerships that occur between food manufacturers, suppliers and other stakeholders*

- a. What impact do farmers / suppliers have on food companies during the development and implementation of private pesticide safety standards?
- b. How should a food company work together with other segments of the industry to develop private food safety standards?

- c. How should farmers / suppliers work together with other segments of the industry to develop food safety standards?
- d. What role do relationships between government regulators and industry play in the development of food safety standards?
- e. How much influence do industry associations have on developing government food safety standards? What about individual companies?
- f. Are there any advantages to working together to develop standards?
- g. What role does government play in the development of private standards?

APPENDIX B

INTERVIEW CODES

CODE 1: COMPETITIVE ADVANTAGE

CODE 2: CORPORATE CITIZENSHIP

CODE 3: CUSTOMER EXPECTATIONS

CODE 4: "DOING THE RIGHT THING"

CODE 5: FAMILY OR HERITAGE

CODE 6: FOR THE GOOD OF ALL MANKIND"

CODE 7: INNOVATION IN THE SUPPLY CHAIN

CODE 8: LICENSE TO OPERATE

CODE 9: MANAGE RISK

CODE 10: PARTNERSHIPS

CODE 11: PRODUCT DIFFERENTIATION

CODE 12: PRODUCTIVITY

CODE 13: REPUTATION

CODE 14: SUSTAINABLE DEVELOPMENT

APPENDIX C.

FOOD SAFETY MESSAGE DATA TABLES

Figure 19. Beech-Nut Profile Data

Beech-Nut Profile Data					
	Civic	Domestic	Opinion	Industrial	Inspiration
Indicators of each "world"	- "for the good of mankind" - "doing the right thing"	- Responsibility - Heritage - Trust - Commitment	- Reputation - Recognition of accomplishment - Identity - World Class	- "strict control" - Performance - Test - Standards - Analyze	- Innovative - Partnerships - Sustainable - Creative
Content		- "For over 75 years, we've been making sure our baby food is not only nutritious but also delicious"	- "As part of our commitment to giving babies a healthy start in life, we've taken a leadership role in keeping pesticide residues to an absolute minimum"	- "Our pesticide standards are significantly stricter than the Federal requirements." - "We pick high quality fruits, vegetables, dairy and meats, and don't use unnecessary additives." - "In fact, levels in our baby foods are negligible to non-detectable, making our products comparable to organic"	- "the best" - Address customer demands - Product differentiation - "sets us apart" - "At B-N, we start with simple, wholesome ingredients and fortify them with vitamins, and minerals. We don't use unnecessary additives like salt, refined sugar, modified starch or harsh spices to out infant foods" - "In fact, levels in our baby foods are negligible to non-detectable, making our products comparable to organic "

Figure 20. Blédina Profile Data

Blédina® Profile Data					
	Civic	Domestic	Opinion	Industrial	
Indicators of each "world"	- "for the good of mankind" - "doing the right thing"	- "responsibility" - "heritage" - "trust" - "commitment"	- Reputation - Recognition of accomplishment - Identity - "world class"	- "strict control" - Performance - "test" - Standards - "analyze"	- "innovative" - Partnerships - "sustainable" - "creative"
Content	- "We have dozens of specialists working on these questions because scientific evidence for the health benefits of our products is absolutely essential to lasting credibility with consumers and society at large." - "We favor strict standards, in particular as regards health claims,	- "Corporate responsibility is in our genes." - "Strict standards are our responsibility – but they're also in our interest." - "The structure and scale of our research teams reflect our conception of responsibility in this area."	- "That move has given us the widely recognized credibility which we now enjoy." - "The major challenge is to continue to develop consumers' trust in brands." - "Since its creation, Blédina® has had a host of awards, becoming the market leader." - "Blédina® has developed unique expertise in every baby food segment."	- "Strict standards are our responsibility" - "Fruits are grown in orchards where crops are grown far from the source of pollution and their treatments are strictly limited." - "The government has strict regulations for baby food so that the products perfectly address the nutritional needs of babies up to three years old. The regulations also define the optimal level of safety from an agricultural standpoint." - "EU regulatory limits for pesticides – 10 ppb and nitrates – 200 ppm" - "This is why Blédina® rigorously selects its farmers." - "Baby food grade" ingredients" are the highest quality" - "We favor strict standards, in particular as regards health claims, which we believe should be backed by clinical trials. The structure and scale of our research teams reflect our conception of responsibility in this area." - "We favor strict standards, in particular as regards health claims, which we believe should be backed by clinical trials. The structure and scale of our research teams reflect our conception of responsibility in this area "	- "I would say that our health positioning is genuinely distinctive and gives us a real lead on the competition." - "Since its creation, Blédina® has had a host of awards, becoming the market leader."

Figure 21. Cow & Gate Profile Data

Cow & Gate Profile Data						
	Civic	Domestic	Opinion	Industrial	Inspiration	Market
Indicators of each "world"	- "for the good of mankind" - "doing the right thing"	- Responsibility - Heritage - Trust - Commitment	- Reputation - Recognition of accomplishment - Identity - World Class	- "strict control" - Performance - Test - Standards - Analyze	- Innovative - Partnerships - Sustainable - Creative	- "the best" - Address customer demands - Product differentiation - "sets us apart"
Content		- "At C & G, we have almost one hundred years of experience in making safe and wholesome milks and foods for generations of babies."		- "To help guarantee the best quality, we have all our milk, fruit, vegetables, cereals and meat ingredients grown especially for us. We then test and check at every stage to make sure our products meet the highest standards." - "Our baby meals in jars go through 250 checks before we're satisfied that they're fit for tiny tummies" - "Naturally, we're scrupulous in making sure we meet all the latest safety and quality standards. But to make sure that we keep up with the latest scientific developments, we usually set our own internal standards even higher and work continuously towards improving every recipe." - "By controlling the way our ingredients are grown and produced, we can also ensure our suppliers conform to our strict environmental guidelines." - "We can trace every single cereal back to the field it came from and the expert farmer who grew it." - "We meet the new legal requirements on pesticides and herbicides." - "Our ingredients are baby-grade, which means they've been grown specifically for babies."		

Figure 22. Earth's Best Profile Data

Earth's Best Profile Data						
	Civic	Domestic	Opinion	Industrial	Inspiration	Market
Indicators of each "world"	- "for the good of mankind" - "doing the right thing"	-Responsibility -Heritage -Trust -Commitment	-Reputation -Recognition of accomplishment -Identity -World Class	- "strict control" -Performance -Test -Standards -Analyze	-Innovative -Partnerships -Sustainable -Creative	- "the best" -Address customer demands -Product differentiation - "sets us apart"
Content	- "We believe organically grown foods are best...best for your child and best for the Earth." - "Our growers share our commitment to providing families with healthier foods to grow up on and a cleaner safer world to grow up in."	- "Our farmers have made a commitment to organic farming."		-Ingredients meet both organic and kosher standards -Rigorous product testing" - "Fruit is inspected prior to shipment by state or federal inspections to ensure that the quality of the fruit meets our strict specifications." - "I really enjoy working with the team from Earth's Best. They are very careful to do residual chemical testing on the soil and carrots. I admire that." - Amy, the organic carrot grower - "A majority of our line is kosher, adhering to those strict standards required for certification."	- "I really enjoy working with the team from Earth's Best." – Amy, the organic carrot grower	- "Earth's Best baby foods are organically grown in soils not contaminated with harmful pesticides" -Growers turned to organic based on customer demand - "We only use natural wholesome ingredients right from the Earth...as they were intended to be." - "No genetically engineered ingredients" - "Organic ingredients are grown in soils without harmful pesticides" -Organic grower profiles emphasize no fertilizers or pesticides - "It is the first brand of baby food to be produced without genetically engineered ingredients." - "A majority of our line is kosher, adhering to those strict standards required for certification." - "No added salt, modified starches or refined sugars"

Figure 23. Gerber Profile Data

Gerber Profile Data						
	Civic	Domestic	Opinion	Industrial	Inspiration	Market
Indicators of each "world"	-for the good of mankind" -doing the right thing"	-Responsibility -Heritage -Trust -Commitment	-Reputation -Recognition of accomplishment -Identity -World Class	-strict control" -Performance -Test -Standards -Analyze	-Innovative -Partnerships -Sustainable -Creative	-the best" -Address customer demands -Product differentiation -sets us apart"
Content	"Pediatric Basics®: Our quarterly professional publication written by pediatric experts includes practical information on current pediatric issues."	"At Gerber, our relentless commitment to babies carries over to everything we do. It's in our very DNA. In fact, its who we are" "A brand built on heritage and trust" -Taking good care of your baby is all we do at Gerber" -Gerber Grower profiles – growing for Gerber for 15 years	"At Gerber, our relentless commitment to babies carries over to everything we do. It's in our very DNA. In fact, its who we are" "A brand built on heritage and trust"	-Stricter quality control to provide safe and healthy products" -Do you know where your baby food comes from? Gerber does. We know which fields, which orchards your baby's fruits and vegetables come from and what's been grown there for over a decade." -All our fruits, vegetables, meats and grains have been certified organically grown by Oregon Tilth. They are the USDA accredited third party agency that carefully inspects the fields and processing facilities, test the soil and water and review the procedures to make sure that the growers and handlers are meeting strict standards. It's simply another way we put extra effort into making Gerber Organic baby foods." -Taking good care of your baby is all we do at Gerber. So we take the same care when choosing our organic growers." -Gerber abandoned the US pesticide regulations as a guide to product safety and created private consumer demands."	-Partner in the SE Sweet Potato IPM Program -Gerber works together with farmers in the management of crops -personal relationships with growers" -grower education -Partner with land-grant universities on pesticides and residue programs -Partner with EPA on pesticide reduction project	-We could use plain apples. But we search for the best of the organic orchards for apples worthy of Gerber Organic. Our organic apple products are made from a select blend of Golden Delicious, Red Delicious, Gala and Fuji apples. Each one grown with care – and certified organic, of course." -Gerber abandoned the US pesticide regulations as a guide to product safety and created private standards in 1991 to address consumer demands -All our fruits, vegetables, meats and grains have been certified organically grown by Oregon Tilth. It's simply another way we put extra effort into making Gerber Organic baby foods."

Figure 24. Heinz Profile Data

Heinz Profile Data						
	Civic	Domestic	Opinion	Industrial	Inspiration	Market
Indicators of each "world"	-for the good of mankind" -doing the right thing"	-Responsibility -Heritage -Trust -Commitment	-Reputation -Recognition of accomplishment -Identity -World Class	"strict control" -Performance -Test -Standards -Analyze	-Innovative -Partnerships -Sustainable -Creative	-"the best" -Address customer demands -Product differentiation -"sets us apart"
Content		<p>"We use only quality ingredients from a selection of trusted sources, many of whom have worked with Heinz for over twenty years."</p> <p>"Each jar is then safety-sealed; no other baby food maker does that."</p> <p>That's why you can trust the safety of Heinz baby food."</p> <p>"All of our baby food is triple tested for Quality, Safety and Nutrient value, so you know you can trust it completely."</p> <p>Safety and Nutrient value, so you know you can trust it completely."</p>	<p>"At Heinz, we have the highest standards and the strictest guidelines. We wouldn't settle for anything less."</p> <p>"Heinz Organic Foods are certified by Oregon Tilth and OC/Pro-Cert Canada Inc, the foremost North American certifiers of organic food products. Our organic certifiers inspect every recipe to ensure that all production and growing practices meet the most stringent Organic standards."</p>	<p>"Heinz requires all these growers to adhere to rigorous standards that are up to five times more stringent than industry requirements"</p> <p>"Purity Assurance - "All of our baby food is triple tested for Quality, Safety and Nutrient value, so you know you can trust it completely."</p> <p>"All Heinz baby food is then safety sealed, so when you feed your baby Heinz, you can rest assured that all the goodness is locked in"</p> <p>"Heinz growers have extremely high standards. In fact, our requirements for growing fresh produce are even more stringent than those enforced by the Canadian government."</p> <p>"From farm (We're very picky about how and where our produce is grown) to finished product, a Heinz sweet potato – or wax bean or strawberry – is actually inspected, analyzed, vision-tested, checked and re-checked before it's vacuum-packed."</p> <p>"We only use fruits, vegetables, meats and whole grains that meet our Purity Assurance standards and the stringent Organic standards of Canada."</p> <p>"Heinz outlines its global agricultural practices and policies for suppliers in the Heinz Good Agricultural Practices handbook."</p> <p>"At Heinz, we have the highest standards and the strictest guidelines."</p> <p>"Each jar is then safety-sealed; no other baby food maker does that."</p>		<p>"Each jar is then safety-sealed; no other baby food maker does that."</p> <p>"There is no added salt in any of our baby range products, plus we have introduced a range of organic foods to meet mums' growing demand for good food for their babies every day."</p> <p>"Heinz has Canada's widest assortment of 100% Certified Organic baby foods and cereals."</p>

Figure 25. Hero Profile Data

Hero Profile Data					
	Civic	Domestic	Opinion	Industrial	Inspiration
Indicators of each "world"	<ul style="list-style-type: none"> -for the good of mankind" -doing the right thing" 	<ul style="list-style-type: none"> -Responsibility -Heritage -Trust -Commitment 	<ul style="list-style-type: none"> -Reputation -Recognition of accomplishment -Identity -World Class 	<ul style="list-style-type: none"> -"strict control" -Performance -Test -Standards -Analyze 	<ul style="list-style-type: none"> -Innovative -Partnerships -Sustainable -Creative
Content		<ul style="list-style-type: none"> -120 years in business -Adhere to Company Code of Ethics -"We are a family company that keeps its promises" 		<ul style="list-style-type: none"> -"In order to offer products of irreproachable quality to you and to ensure a maximum level of food safety" -"More than 100 quality tests are carried out each month" -They use "la société Squall" – an independent outside lab for testing ingredients and finished products -New objectives <ol style="list-style-type: none"> 1. limit use of natural resources 2. tighten quality specs 3. limit defects and recalls -ISO 14000 certification -"We have focused Hero on consistently delivering high quality branded products and innovations" 	<ul style="list-style-type: none"> -"the best" -Address customer demands -Product differentiation -"sets us apart"

Figure 26. HiPP Profile Data

HiPP Profile Data						
	Civic	Domestic	Opinion	Industrial	Inspiration	Market
Indicators of each "world"	-for the good of mankind" -doing the right thing"	-Responsibility -Heritage -Trust -Commitment	-Reputation -Recognition of accomplishment -Identity -World Class	-strict control" -Performance -Test -Standards -Analyze	-Innovative -Partnerships -Sustainable -Creative	-the best" -Address customer demands -Product differentiation -"sets us apart"
Content	-This section of the site contains information for health professionals." -Avian flu -E. sakazakii -SEM -A pure organic diet can be more beneficial during the first few months of life than at any other time. Babies have immature systems and need the very purest and safest foods." -Organic food comes from trusted sources. All organic farms and food companies are inspected at least once a	-HiPP offers reassurance of infant food that is pure and uncontaminated at a time in your baby's life when it really matters." -Organic food comes from trusted sources. All organic farms and food companies are inspected at least once a year. These standards for organic food are laid down in European law." -HiPP has been making organic baby foods for over fifty years." All organic farms and food companies are inspected at least once a	-Customer testimonials -"One of the best laboratories in Europe. HiPP's superbly-equipped laboratory is a world leader in residue analysis." -HiPP offers total accountability on every single product that you buy." -First place – Environmentally-oriented Corporate Management – Nat Association of German Industries - 1998 -Dr Hipp is awarded the 1996 Bavarian Environmental Medal -Bavaria's Environmental Sec praised HiPP in 2002 -Ninety-six percent of mothers in Germany want to feed their children with organic products. And this is	-Genetically modified crops and ingredients are not allowed under organic standards." -Up to 260 quality checks. The contents of each jar goes through a stringent quality control program from soil testing through analysis of raw materials to checking finished product. Any anomaly results in rejection of the entire batch." -Craftsmen and Technology. HiPP production teams work with the most modern manufacturing methods. And overseeing this technology, human specialists add the personal touch." -Traceability -"Safety is of prime importance to HiPP and to you. That is why we use only newly manufactured glass jars which are	-HiPP's Organic Farming methods – "At HiPP, we do all in our power to let our fruit, vegetable and cereals grow as naturally as possible." -" At HiPP, we grow our fruits, vegetables and cereals as naturally as possible." -HiPP Philosophy. We guarantee to produce healthy and tasty infant foods of the highest quality in harmony with nature."	-HiPP Organic baby foods are made from naturally good ingredients grown without chemical pesticides, nitrates, growth hormones or other unwanted extras." -What makes HiPP so special? -Certified organic -No harmful pesticides -No GM ingredients -Free-range meat -No antibiotics or growth-promoting hormones" -Our milk comes from organic farms nesting in the foothills of the Alps in Bavaria. We can therefore guarantee that the animal feed is unpolluted and so is the milk." -HiPP BIO Seal – differentiates their ingredients from competition -"In 1956, when most farmers were going over to

Figure 26 continued

	year. These standards for organic food are laid down in European law."		how HiPP has become the largest processor of biological raw materials world-wide."	checked by the manufacturer and then again before they are filled by HiPP." - "Constant advice and checks. HiPP farmers receive assistance, advice and stringent quality control by HiPP from the moment of sowing to the peak of harvest." - ISO14000 certified - "Intensive controls guarantee the high quality of the raw materials used." - "Organic food comes from trusted sources. All organic farms and food companies are inspected at least once a year. These standards for organic food are laid down in European law."		intensive farming, HiPP converted the family farm into one of the first organic farms in Europe." - "In the German speaking countries, HiPP is clearly the top premium brand in baby food products. As proven through market research, the HiPP brand is associated with the values of health, quality and organic products." - HiPP. The best from nature. The best for nature."
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Figure 27. Milupa Profile Data

Milupa Profile Data						
Indicators of each "world"	Civic	Domestic	Opinion	Industrial	Inspiration	Market
	- "for the good of mankind" - "doing the right thing"	- Responsibility - Heritage - Trust - Commitment	- Reputation - Recognition of accomplishment - Identity - World Class	- "strict control" - Performance - Test - Standards - Analyze	- Innovative - Partnerships - Sustainable - Creative	- "the best" - Address customer demands - Product differentiation - "sets us apart"
Content		- "As indicated on the side of Milupa's baby cereal boxes, the product is 'Suitable for lacto-ovo-vegetarians.' In other words, it is suitable for individuals who eat only plant foods, dairy products, egg products and their derivatives" - "When you choose Milupa, you build your baby's future on a reassuring past. With over 70 years' experience of producing balanced, nutritious baby foods, we are a brand trusted by parents across the world, with a firm commitment to research and development."	- "When you choose Milupa, you build your baby's future on a reassuring past. With over 70 years' experience of producing balanced, nutritious baby foods, we are a brand trusted by parents across the world, with a firm commitment to research and development."			

Figure 28. Nature's Goodness Profile Data

Nature's Goodness Profile Data					
	Civic	Domestic	Opinion	Industrial	Inspiration
Indicators of each "world"	-for the good of mankind" -doing the right thing"	-Responsibility -Heritage -Trust -Commitment	-Reputation -Recognition of accomplishment -Identity -World Class	-"strict control" -Performance -Test -Standards -Analyze	-Innovative -Partnerships -Sustainable -Creative
Content		-"We make baby food the way nature intended. Nature's Goodness ® baby food has a long history of providing high quality baby foods and our experienced team has a strong passion for quality." -Project Trust" program ensures Nature's Goodness® baby food is always of the highest quality."		- "Nature's Goodness ® baby food is highly selective when it comes to the growers and farmers, as well as the ingredient suppliers who produce the food that will become Nature's Goodness ®'s baby food." -Throughout every phase of the production process, we check for quality – quality ingredients and quality product. -Nature's Goodness® goes to the source-whether it's the farm, the ranch or the supplier-to see for ourselves how the food is grown, handled and prepared prior to delivery." -Project Trust" program ensures Nature's Goodness® baby food is always of the highest quality." -We make baby food the way nature intended. Nature's Goodness ® baby food has a long history of providing high quality baby foods and our experienced team has a strong passion for quality."	-the best" -Address customer demands -Product differentiation -"sets us apart" -"You expect your baby's food to be healthy, wholesome and delicious. That's why there are no artificial flavors, colors, preservatives nor any modified food starches in Nature's Goodness® baby foods."

Figure 29. Nestlé Profile Data

Nestlé Profile Data						
	Civic	Domestic	Opinion	Industrial	Inspiration	Market
Indicators of each "world"	- "for the good of mankind" - "doing the right thing"	- Responsibility - Heritage - Trust - Commitment	- Reputation - Recognition of accomplishment - Identity - World Class	- "strict control" - Performance - Test - Standards - Analyze	- Innovative - Partnerships - Sustainable - Creative	- "the best" - Address customer demands - Product differentiation - "sets us apart"
Content			- Harvard Business School recognizes Nestlé's involvement in the Sustainable Agriculture Initiative	- "There are some classes of raw materials where it is not possible to purchase on the open market because of strict limits for quality that are imposed either by Nestlé or by national food legislation." - "Nestlé specialists select growing regions that are ideal for the intended crops and identify farmers who are willing and able to fulfill the technical requirements. They advise farmers on the minimum use of pesticides and fertilizers to remain within the limits, but which still give the required quality in the crop. They also provide advice on the production of healthy crops and on the avoidance of environmental contamination." - "To ensure that instructions have been followed by the farmers and that the raw materials meet the required quality, they are rigorously controlled before their processing. For these analytical controls, close to DM 4.5 million was spent in 1999." - "Nestlé's objective is to produce and market quality food products which satisfy consumer expectations. Quality and safety are extremely important elements in these expectations."	- "Nestlé interacts with more than 400,000 farmers directly supported by more than eight hundred sourcing agronomists and three thousand five hundred technical staff working at the farm level and in the supply chain." - "Nestlé also runs more than one hundred fifty sustainable agriculture projects worldwide with many different stakeholders." - "The 'Preference' methodology and the associated contractual agreements create close relationships between Nestlé and potato producers." - "The main agricultural competence exists at the Supplier, Farmer and Input Provider level. Nestlé works closely with all involved."	- "Nestlé's objective is to produce and market quality food products which satisfy consumer expectations."

Figure 30. Nutricia Profile Data

Nutricia Profile Data						
Indicators of each "world"	Civic	Domestic	Opinion	Industrial	Inspiration	Market
	-for the good of mankind" -doing the right thing"	-Responsibility -Heritage -Trust -Commitment	-Reputation -Recognition of accomplishment -Identity -World Class	-"strict control" -Performance -Test -Standards -Analyze	-Innovative -Partnerships -Sustainable -Creative	-the best" -Address customer demands -Product differentiation -"sets us apart"
Content		-"Food safety is our first priority." -Given the vulnerable nature of our customers, who place great trust in us to meet their nutritional needs, we take the utmost care in ensuring the highest standards of quality and food safety."	-All Nutricia Golden Circle products are tested to ensure their safety. Our production facility by baby food is one of the most advanced in the world, with state-of-the-art x-ray scanners and weighing facilities.	-All Nutricia Golden Circle products are tested to ensure their safety. -Each batch of food is tested during manufacturing by our highly skilled Quality Assurance team. In addition, all baby food is held for a minimum two weeks after manufacture and retested as a final safety measure." -Product integrity: testing, tracking and tracing" -Given the vulnerable nature of our customers, who place great trust in us to meet their nutritional needs, we take the utmost care in ensuring the highest standards of quality and food safety." -Use only premium quality ingredients" -We take food safety very seriously and we know our customers expect the highest standards." -We are also reinforcing our commitment to environmentally friendly agriculture by formally extending our own standards into our supply chain." -We have always worked closely with our agricultural suppliers to maintain the highest standards of product integrity. For higher-risk ingredients, we work only with those who practice low impact agriculture, keeping fertilizer and pesticide use to agreed minimum levels on their growing crops."	-We have always worked closely with our agricultural suppliers to maintain the highest standards of product integrity. For higher-risk ingredients, we work only with those who practice low impact agriculture, keeping fertilizer and pesticide use to agreed minimum levels on their growing crops."	-We take food safety very seriously and we know our customers expect the highest standards."

Figure 31. Parent's Choice Profile Data

Parent's Choice Profile Data						
Indicators of each "world"	Civic	Domestic	Opinion	Industrial	Inspiration	Market
	- "for the good of mankind" - "doing the right thing"	- Responsibility - Heritage - Trust - Commitment	- Reputation - Recognition of accomplishment - Identity - World Class	- "strict control" - Performance - Test - Standards - Analyze	- Innovative - Partnerships - Sustainable - Creative	- "the best" - Address customer demands - Product differentiation - "sets us apart"
Content				Certified Kosher		

Figure 32. Wattie's Profile Data

Wattie's Profile Data					
Indicators of each "world"	Civic	Domestic	Opinion	Industrial	Inspiration
	<ul style="list-style-type: none"> -for the good of mankind" -doing the right thing" 	<ul style="list-style-type: none"> -Responsibility -Heritage -Trust -Commitment 	<ul style="list-style-type: none"> -Reputation -Recognition of accomplishment -Identity -World Class 	<ul style="list-style-type: none"> -strict control" -Performance -Test -Standards -Analyze 	<ul style="list-style-type: none"> -Innovative -Partnerships -Sustainable -Creative
Content		<p>"Wattie's is a trusted brand because we have strict quality standards and procedures which ensure all our products are healthy, safe and of high quality."</p> <p>"In New Zealand, Wattie's has been manufacturing quality food products since 1934."</p>	<p>"The Biological Farmers of Australia (BFA's) endorsement can be found on the label of every Wattie's Organic baby food product."</p>	<p>"You can be assured of safety as ingredients are meticulously inspected and are carefully prepared and packaged in sterile jars and cans."</p> <p>"Wattie's has well established and tightly followed Quality Assurance standards that were developed in-house and are applicable from the beginning of product production"</p> <p>"All Wattie's organic baby foods are certified organic and have been tested and approved by the Biological Farmers of Australia (BFA)"</p> <p>"Wattie's Organic baby food is certified organic by Australian Certified Organic (ACO). ACO certification is the consumer's assurance that all steps in the growing and processing of Wattie's Organic baby food have been independently scrutinized by ACO and meet their organic standards."</p> <p>"Wattie's is a trusted brand because we have strict quality standards and procedures which ensure all our products are healthy, safe and of high quality."</p> <p>"Wattie's is a trusted brand because we have strict quality standards and procedures which ensure all our products are healthy, safe and of high quality."</p>	<p>"Organic producers avoid the use of synthetic fertilizers and pesticides, and instead foster a sustainable, naturally balanced, environmentally friendly food production system."</p>
					<p>-the best"</p> <ul style="list-style-type: none"> -Address customer demands -Product differentiation -sets us apart" <p>"We aim to respond to the changing needs of our customers"</p> <p>"Wattie's Organic baby food is certified organic by Australian Certified Organic (ACO). ACO certification is the consumer's assurance that all steps in the growing and processing of Wattie's Organic baby food have been independently scrutinized by ACO and meet their organic standards."</p>

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