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HOW SHOULD PLASTIC-PACKAGING COMPANIES APPLY ARTIFICIAL
PROOFS AND TOPICS OF INVENTION TO COMMUNICATE SUSTAINABILITY?
A HEURISTIC DEVELOPED ON THE BASIS OF RHETORICAL ANALYSIS

by

SHRISTY BASHYAL ACHARYA

A THESIS

Presented to the Faculty of the Graduate School of the
MISSOURI UNIVERSITY OF SCIENCE AND TECHNOLOGY

In Partial Fulfillment of the Requirements for the Degree
MASTER OF SCIENCE IN TECHNICAL COMMUNICATION

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Approved by

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ABSTRACT

This study examines how the ten plastic-packaging companies use artificial proofs and topics of invention to communicate sustainability-related information. The objective of this study was to answer the following research questions:

- (i) Do plastic-packaging companies define *sustainability* on their website?
- (ii) What are the strengths and weaknesses of the arguments in these companies' sustainability-related communications?
- (iii) What invention strategies should technical marketing communicators use to communicate company's sustainable practices?

To answer these questions, I analyzed the sustainability-related documents available on the websites of the ten companies. On the basis of this analysis, I developed an invention heuristic that can be used by technical marketing communicators to communicate sustainability-related information on their website.

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1. INTRODUCTION

This chapter explains the focus and importance of this study. It attempts to relate this study to the field of technical communication and discusses methods used to conduct this study.

1.1 FOCUS OF STUDY

Consumers today are interested in and concerned about the environmental impacts of a company. This increased level of interest and concern has affected their buying behavior, meaning that consumers today prefer to buy environmentally friendly products over the regular products (Armind & Mario, 2009, p. 365). They demand sustainable practices from companies and also support the “sustainable companies” through buying their products (Pelsmacker, Driesen, & Rayp, 2005, p. 363). Therefore, companies must inform these conscientious consumers about their sustainable business practices in order to remain competitive. Effectively communicating sustainable business practices can help companies attract customers. This type of communication is a form of technical marketing communication.

In this thesis, I examine the sustainability-related marketing literature of ten plastic-packaging companies; therefore, my thesis is a study in technical marketing communication. Specifically, I attempt to answer the following research questions:

- (i) Do plastic-packaging companies define sustainability on their website?

(ii) What are the strengths and weaknesses of the arguments in these companies' sustainability-related communications?

(iii) What invention strategies should technical marketing communicators use to communicate the company's sustainable practices?

1.2 RELATION OF STUDY TO TECHNICAL COMMUNICATION

Technical marketing communication is a combination of technology, marketing, and communication (Harner & Zimmerman, 2002). It is similar to other forms of marketing communication as it attempts to persuade an audience to take action.

Marketing communication is a process of identifying the target audience or individuals, determining their needs and motives, and introducing them about a business's products and advantages (Mara, 2008, p. 450). Moreover, it is similar to other forms of technical communication in that it attempts to convey scientific and technical information.

Technical communication scholars have long shown interest in technical marketing communication (see, for example, Burr & Lawrence, 1967; Olken, 1968; Frey, 1968; Carry, 1970; Mambert, 1970; Arrott, 1974; Rohne, 1975; De Bakey, 1980; and Zachry, 1998). In fact, an entire section of an issue of the journal *Technical Communication* was devoted to the subject (King & Matherne, 1995; Guthrie, 1995; Kruell, 1995; and Teague, 1995). Sandra Harner and Tom Zimmerman's *Technical Marketing Communication* (2002) is a textbook devoted to technical marketing communication. It attempts to explain the role of marketing communication and where it intersects with the field of technical communication (Harner & Zimmerman, 2002). It explains concepts of technical marketing communication and attempt to define communication, marketing,

and technology. It also includes topics such as needs and audience analysis, strategy development, and different genres of technical marketing communication.

Texts communicating sustainability practices and definitions of sustainability may fall in the category of technical marketing communication. "Technical refers to any scientific, methodological, specialized work related to the development, sales, service, distribution, application, and integration of technology" (Harner & Zimmerman, 2002, p. 13) and "marketing refers to strategically oriented alignment of products and services with target markets" (p. 15). Sustainability is technical because it is scientific, methodological, and specialized work related to the development, application, and integration of technology. Ensuring sustainability requires companies to innovate efficient production processes that help companies to use fewer or no scarce natural resources. To do so, companies require continuous research and advanced technology. Companies also require specialized expertise of sustainability professionals and strategic integration of science and technology. Being innovative is not enough; companies need to communicate their efforts to the target audience as well. Companies need to communicate their sustainability-related efforts to persuade audiences to take action in company's favor. Hence, communication of sustainability definitions and practices is a technical marketing communication process.

The technical communication body of knowledge is interdisciplinary and dispersed. Considering this fact, STC has developed Technical Communication Body of Knowledge (TCBOK) Portal, which helps technical communication professionals to find the body of knowledge they need. Using the same portal, I have identified that this study fits under business knowledge—marketing, types of deliverables, and rhetorical theories

in the technical communication body of knowledge (STC, 2012). My study is closely related to marketing because I have analyzed the marketing materials of ten companies. The study is concerned with a type of deliverable that technical communicators produce: communication of sustainability practices and public relations materials because I have analyzed communication objectives and products that help technical communicators meet those objectives. My study is also concerned with applying theories to improve practice because I used rhetorical theories to analyze texts of ten companies and have created an invention heuristic that may help technical communicators to communicate more effectively using classical rhetorical theories.

1.3 METHODS

For this study, I selected ten companies in the plastic-packaging industry, using convenience and purposeful sampling methods. Convenience sampling is a process of selecting the participants based on the convenience of the researcher (Castillo, 2009), and purposeful sampling is a sampling method in which a researcher selects the participants or subjects with special qualities (Koerber, 2008, p. 464). The companies that I studied are the following:

- Amcor Rigid Plastics
- Berry Plastics Corp.
- Graham Packaging Co.
- Klockner Pentaplast Group
- Plastic Packaging Inc.
- PRENT Thermoforming
- Polynova Industries

- RPC Group
- Sonoco
- Wipak Ltd

I collected and analyzed these ten companies' definitions of sustainability and texts communicating their sustainable practices. Because this type of communication is a form of technical marketing communication, and technical marketing communication is a form of persuasion, I used classical rhetorical theory as my analytical lens because this theory is well suited to retrospective analysis of persuasive texts. In particular, I focused on two aspects of classical rhetorical theory: the topics of invention (common and special) and the artificial proofs (logos, pathos, and ethos). Technical communication scholars have shown interest in the topics of invention and persuasive appeals. Miller and Selzer (1985), for example, highlighted the use of special topics for analyzing arguments in engineering reports. Other scholars have shown interest in persuasive appeals (for example, Halloran, 1971; Katz, 1992; Longo, 2000; Ross, 2009; Rife, 2010). I further explain classical rhetorical theory, particularly topics of invention and artificial proofs, in the methodology chapter (Chapter 3) of my thesis.

1.4 DEFINITIONS OF SUSTAINABILITY

Sustainability in general means the capacity to endure, which includes how biological systems remain diverse and productive over time. Sustainability is concerned with long-term maintenance of environmental, economic, and social well-being. Sustainability has been defined in many ways by scholars and experts.

The most popular definition of sustainability or sustainable development, however, is the one offered by World Commission on Environment and Development (WCED). In 1987, the WCED defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations, 1999, para. 2). The definition of sustainability by Paul Hawken, author of *Natural Capital: Creating the Next Industrial Revolution* (1999) and *The Ecology of Commerce* (1993), is another popular definition. According to him, “Sustainability is leaving the world better than you found it, taking no more than you need, trying not to harm life or the environment, and making amends if you do” (Environmental Education in Wisconsin, n.d.).

Besides these popular definitions of sustainability and sustainable development, there are many other definitions that are not as popular and not as widely accepted but provide unique approaches to sustainability. Following are the varied definitions of sustainability as listed on the Environmental Education in Wisconsin (EEW)’s website. EEW is a group of statewide environmental education entities that help to increase knowledge and awareness of the community about the environment and develop skills that enable responsible decisions and actions that impact the environment.

Table 1.1 Varied definitions of the term *sustainability*

Author	Definitions
David Orr, Author of	Sustainable design is the set of perceptual and analytic abilities, ecological wisdom, and practical wherewithal

Table 1.1 Varied definitions of the term *sustainability* (cont.)

<p><i>Ecological Literacy: Educating Our Children for a Sustainable World</i> (2005)</p>	<p>essential to making things that fit in a world of microbes, plants, animals, and entropy. In other words, (sustainable design) is the careful meshing of human purposes with the larger patterns and flows of the natural world, and careful study of those patterns and flows to inform human purposes.</p>
<p>Environmental Protection Agency</p>	<p>Sustainability is the ability to achieve continuing economic prosperity while protecting the natural systems of the planet and providing a high quality of life for its people. Achieving sustainable solutions calls for stewardship, with everyone taking responsibility for solving the problems of today and tomorrow-individuals, communities, businesses and governments are all stewards of the environment.</p>
<p>Alliance for Global Sustainability Principle Investors</p>	<p>Sustainability is asking ourselves today: How much do we really need? Then not taking more from the earth than that.</p>
<p>Dr. Karl Henrik-Robert, MD Founder of <i>The Natural Step</i></p>	<p>A transition to sustainability involves moving from linear to cyclical processes and technologies. The only processes we can rely on indefinitely are cyclical; all linear processes must eventually come to an end.</p>

Table 1.1 Varied definitions of the term *sustainability* (cont.)

Alliance for Global Sustainability Principle Investors	Sustainability occurs when human activity does not adversely affect the quality of the environment and resource base available for future generations of living things on the planet.
Robert Gilman Director of <i>Context Institute</i>	Sustainability is equity over time. As a value, it refers to giving equal weight in your decisions to the future as well as the present. You might think of it as extending the Golden Rule through time, so that you do unto future generations (as well as to your present fellow beings) as you would have them do unto you.
Aldo Leopold Author of <i>A Sand County Almanac</i> (1949)	A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.

Apart from these definitions, authors of various articles have attempted to define sustainability. For example, according to McConnell and Abel (2007) “sustainability is broader than environmentalism because it includes social aspects and is based on the ‘triple bottom line’ approach: planet, people, and prosperity” (p. 19). Lowitt, Hoffman, Walls, and Caffrey (2009) defined sustainability as “the goal of sustaining economic growth while maintaining natural ecosystems and assuring the equitable distribution of goods and services” (p. 6). They added, “Sustainability aims for two things: first, an

ongoing and stable resource base that does not deplete, and, second, an ongoing and stable social system that creates or preserves just standards of living and security of all” (Lowitt, Hoffman, Walls, & Caffrey, 2009, p.7).

1.5 IMPORTANCE OF COMMUNICATING SUSTAINABILITY

Sustainability has become the catchphrase and increasingly popular in today’s business world. It has impacted almost every industry and has been in legislative agendas of most governments and a hot topic for media coverage (Berns, Townend, Khayat, Reeves, Hopkins, & Kruschwitz, 2009). The plastic industry, which is often accused of having negative environmental impacts, is concerned about sustainability as well. However, sustainability not only challenges the industry but also offers opportunities for innovation. “The sustainability arena offers an unprecedented opportunity for the plastics industry, if approached with creative and forward thinking,” said Seetha Coleman-Kammula of Simply Sustain LLC (as cited in Blanco, 2007, p. 38).

Sustainability is not only a way to make stakeholders happy but is also a key to “competitive advantage” (Berns et al., 2009, p. 23). According to Bob MacDonald, Chairman, President, and CEO of Procter & Gamble, "What is important is that we don't treat environmental sustainability as different from our base business, when we operate sustainably, we earn gratitude, admiration, and trust that lead to opportunity, partnerships, and growth" (as cited in Hockensmith, 2010, p. 23). Most companies today agree that sustainability has a capability to ensure profitability, enhance goodwill, and encourage innovation (Dunphy, Griffiths, & Benn, 2003).

1.6 THESIS OVERVIEW

Chapter 1 of this thesis is an introduction to and justification of my research. I have attempted to show how my thesis fits into the technical communication body of knowledge and set the stage for the chapters that follow. In Chapter 2, I review the relevant literature about technical marketing communication and the use of classical rhetorical theory in technical communication to further contextualize my study. In Chapter 3, I outline the methods I used for this study, discussing my rationale for choosing the ten companies and explaining the classical rhetorical theory I use in my analysis of the sustainability-related texts. In Chapter 4, I present the results of my rhetorical analysis—i.e., my retrospective analysis of the use of common and special topics of invention and the artificial proofs. In Chapter 5, I present an invention heuristic that technical marketing communicators can use as an aid to communicate companies' definitions of sustainability and sustainable practices to the public.

1.7 CONCLUSION

Numerous studies have concluded that the definition of the term sustainability varies from company to company (e.g., Environmental Education in Wisconsin, n.d.; Waddell, 1995; Brown, Hanson, Liverman, & Merideth, 1987), even within the plastic-packaging industry (see Bashyal, Bachman, & Baumann, 2011). None of the studies has used classical rhetorical theory to analyze the persuasive strategies in the public documents (principally websites) that communicate a company's sustainable practices. Finally, no studies provide invention heuristics for crafting a company's materials for communicating its sustainability-related information. My thesis is an attempt to fill this gap in the scholarship.

2. LITERATURE REVIEW

This chapter aims to situate this study in a context of technical communication scholarship. Technical marketing communication is a recognized area of research in technical communication scholarship, and technical communication scholars make extensive use of classical rhetorical theory in their research and publications. The following discussion reviews relevant literature in technical communication that either discusses technical marketing communication or applies classical rhetorical theory as an analytical tool. The purpose of this chapter, however, is not to explain the theory I have used in my analysis of sustainability-related texts. Classical rhetorical theory will be explained fully in Chapter 3.

2.1 TECHNICAL MARKETING COMMUNICATION

Technical marketing communication was identified as a separate discipline in the 1960s when computer technology migrated from R&D to applications in business and industry (King & Matherne, 1995, p. 223). Although technical marketing communication became a discipline, it was not well defined because it is not easy to figure out what it includes and what it does not include. According to Willerton (2004) “technical marketing communication involves creating materials (in various media) to promote technical products and services in specific markets,” and he also raised questions regarding whether to welcome or leave out technical marketing communication from the field of technical communication (Willerton, 2004). Harner and Zimmerman (2002) attempted to clarify the concept of technical marketing communication: “Technical

marketing communication is a strategic combination of technology, marketing, and communication” (p.21).

Technical marketing communication is considered similar to other forms of marketing communication because like other forms of marketing (i) it attempts to persuade an audience to take action and (ii) it attempts to convey scientific and technical information. Marketing communication in general is a process in which marketing communicators identify audiences, analyze them to ascertain their motives and objectives, and inform and persuade them to take intended action in favor of the company (Mara, 2008, p. 450). The technical in technical marketing communication is used to differentiate the subject matter of general marketing communication. In this sense, technical marketing communication deals with technical information.

In establishing a connection between technical communication and technical marketing communication, Harner and Zimmerman (2002) defined all three terms individually: technical, marketing, and communication. They defined technology as "any scientific, methodological, specialized work related to the development, sales, service, distribution, application, and integration of technology" (p. 13). Marketing, as defined by Harner and Zimmerman (2002), is the strategically oriented business of understanding markets, aligning products and services with target markets, and coordination of efforts to attract, capture, and fulfill sales to those markets (p. 14). They defined communication as "the development, application, and distribution of content across various media to convey information that is clearly understood by a particular audience" (p. 14).

Harner and Zimmerman (2002) defined each term separately, but defining the terms is not enough to understand the concept of technical marketing communication. It is also important to distinguish what it includes and what it excludes. Harner and Zimmerman (2002) pointed out that technical marketing communication strategically coordinates and incorporates the application of tools like technical documentation, but it is not the discipline of how to create and execute the tools themselves (p.14).

Most companies have recognized the importance of marketing communication in highly competitive and rapidly changing markets. According to King and Matherne (1995), “not only has technical marketing writing gained acceptance in industry, it is finding its way into technical communications curricula” (p. 224). Online marketing such as email marketing and website marketing is commonly used by businesses today and is a very important part of technical marketing communication. Businesses have been using the Internet as a means of communication for years, but now it is being used as a marketing tool. Almost two decades ago, though, Teague (1995) noted that the Internet is such an effective medium of communication that technical marketing communicators must not overlook it (p. 236). Use of the Internet has created new marketing opportunities for technical marketing communicators. Today the success of a business highly depends on the effectiveness of technical marketing communication strategies.

Effectiveness of technical marketing communication strategies depends on the rhetorical situation. However, in general, technical marketing communication should meet three important criteria to be successful: “it should be clearly understood by a targeted audience, it should be valued for its content, and it should be clear in its actionable directions” (Harner & Zimmerman, 2002, p. 14).

2.2 CLASSICAL RHETORICAL THEORY

Rhetoric deals with the study of persuasion and focuses on practical qualities of language. Aristotle defined rhetoric as “the faculty of observing in any given case the available means of persuasion” (cited in Halloran, 1971, p. 17). According to Halloran (1971), “the rhetorical approach to composition assumes that writing is a deliberate act of communication undertaken for the achievement of a particular aim, and that the verbal artifact exists solely for that aim” (p. 20). Rhetoric in this sense has three important elements and all three elements must be considered while creating a communication material. The three elements are writer, the audience, and subject. A rhetorician should aim at achieving balance among these three important elements to persuade an audience in a specific rhetorical situation. The relevance of classical rhetoric to modern writing has been questioned by a few scholars (e.g., Hagge, 1996; Moore, 1997), but most scholars (e.g. Halloran, 1971; McNair, 1991; Newman, 1999; Gordon, 2002; Whittemore, 2008) believe that the theory is relevant to the successful practice of rhetoric (including technical communication) and therefore to its teaching. These scholars also point out the importance of teaching rhetoric to contemporary students. Rhetorical theories must be taught to students as rhetorical practices are based on theories and the success of students as technical communicators largely depends on their knowledge of theories (Gordon, 2002). Although classical rhetorical theory is an old concept, it is being used today by technical communicators to communicate technical and scientific information (Miller, 2000; Longo, 2000; Whittemore, 2008); therefore, practitioners must have a thorough understanding of rhetoric and rhetorical theories.

Understanding and using classical rhetorical theories may help technical marketing communicators to meet their communication goals effectively. It is true that Aristotelian rhetorical theory is not necessarily the most appropriate framework for teaching and practicing technical communication, but it is helpful in teaching students about the importance of theories and how theory relates to practice (Newman, 1999). Moreover, the rhetorical theories can be an effective basis for analyzing existing documents and pointing out the strengths and weaknesses of a document which helps students learn better. Also, these theories can be applied to teach students how to create effective documents by showing them the relationship between theories and practice.

The studies related to the application of classical rhetorical theories provide insights for technical marketing communicators and help them understand how these theories can be applied for developing communication materials. The degree of usefulness of these theories depends on the type of a discourse. Each communication discourse is unique in itself because of its unique purpose, audience, and context, and the strategies that work for one may not be appropriate for another set of audiences. The choice of rhetorical strategy should be made by a communicator on the basis of the rhetorical situation. The communication patterns are different in different industries and they are generally shaped by “generic,” “institutional,” and “disciplinary” conventions of that industry (Miller & Selzer, 1985, p. 338). So rhetorical choices should take into account the conventions of the community and industry to which the rhetor is responding. For example, Spoel, Goforth, Cheu, and Pearson (2009) analyzed two different environmental communications and pointed out the differences in the communication strategies of the communicators. They analyzed two documents that have different

rhetorical-political situations and explained how the differences in the rhetorical situations caused the differences in the overall emphasis and tone of these two documents. The appropriateness of classical rhetorical strategies depends on the rhetorical situations.

2.2.1 Application of Classical Rhetorical Theories. A technical marketing communicator can apply classical rhetorical theories to persuade a company's target audience to take intended actions. Kallendorf and Kallendorf (1984) strongly argued that classical rhetorical theories are applicable to corporate communication, and that these theories can be used profitably as a tool by business communicators. They stated that classical rhetoric is applicable even today because:

First, Aristotle stresses the applicability of rhetoric to any class of subjects from cost containment in health insurance to deregulation of natural gas, from import quotas to export licenses, whatever interests today's business community would have interested Aristotle as well. Second, classical rhetoric is useful and the rules and systems of the past survived because they are practical ways to find things to say, to organize one's ideas, to express those ideas with clarity and grace, to remember a speech, and to deliver it well. Third, the rhetoric of antiquity emphasizes persuasion. It teaches the speaker how to find those arguments that will guide an audience to see a problem as he or she sees it. And is that so far from what the corporate speaker of today is trying to do?

(Kallendorf & Kallendorf, 1984, p. 4)

Scholars (for example, Dragga & Gong, 1989; Dragga, 1993; Connors, 1993; Rude, 2004; Smith, 1992, Whittmore; 2008; and McNair, 1991) have further studied the application and usefulness of each of the five canons of rhetoric invention, arrangement, memory, style, and delivery. The canon of memory, for example, has been applied to computer databases (Whittmore, 2008), and the canon of delivery has been applied to document design (Dragga & Gong, 1989) and broader aspects of contemporary communication (Rude, 2004).

2.2.2 Invention Strategies. Invention strategies can be used by technical marketing communicators to find arguments. In a rhetorical situation, invention is concerned with finding something to say. Invention is closely related to logos and is concerned with what is being said rather than how it is being said. Aristotle, in fact, defines rhetoric primarily as invention, "discovering the best available means of persuasion" (cited in Burton, 2007). The classical topical system considers two broad categories of topics: common topics and special topics. According to Miller and Selzer (1985) "throughout its history, invention has been alternatively treated as the mechanical finding of content (as inventory) or as the creating of arguments. Topics can thus be conceived, alternatively, as pigeonholes for locating already existing ideas or as patterns of thought or methods of analysis that can be called on in the construction of arguments" (p. 311). Technical communicators use common topics to find reasons or to develop general arguments.

Special topics are used to locate issues to be addressed and are occasion- or genre-specific (Miller & Selzer, 1985). Miller and Selzer (1985) identified three broad types of special topics: generic special topics (a certain genre—e.g., NFS grant proposal—may

suggest an argument), institutional/organizational special topics (the values or concerns of a company may suggest an argument), and disciplinary special topics (the specialized information in a discipline may suggest an argument) (p. 311). Communicators use different invention methods and strategies to influence the audience. According to Hall (1976), invention is the rhetor's "artificial, systematic, and more or less exhaustive analysis of his or her knowledge and experience of the objects which have attracted or, much more commonly, demanded the [his/her] attention" (p. 13). In that sense, invention is a process in which a communicator generates arguments based on his/her experiences and knowledge. Communicators need to find the arguments that will persuade their target audiences, and hence, the effectiveness of the communication depends on the choices made by the communicators. The choices made by communicators depend on the discourse community they belong to and availability of institutional topics they can choose from (Miller & Selzer, 1985).

Invention as a process helps technical marketing communicators to create a context or a framework for generating a speech or preparing communication material (Hall, 1976). Technical marketing communicators can communicate more effectively if they recognize the enthymeme, which is a classical rhetorical strategy identified by Aristotle (Lay, 1984, p. 12). An enthymeme is a way of structuring an argument that is based on probability rather than certainty. It is the rhetorical counterpart of the logical syllogism. Using enthymemes in persuasion is concerned with providing good reasons for the claims and arguments that technical marketing communicators make. Using enthymemes enhances a communicator's credibility and encourages an audience to participate in an argument.

Although some invention strategies may be impractical and not useful to modern corporate speakers, some topics are very useful to corporate speakers even today. The nine topics most useful to the corporate speakers, according to Kallendorf and Kallendorf (1984), are the following:

- Definition: negative definition, restricted definition, division;
- Comparison: similarity, dissimilarity, partial resemblance;
- Consequences: cause and effects, probability, possibility (p. 6).

Different topics are useful in finding arguments in different rhetorical situations. Technical communicators should list the applicable topics for a given situation and generate ideas. Doing so helps communicators to focus on one thesis and fixed categories of ideas. According to Kallendorf and Kallendorf (1984), the topical system should complement “external invention,” and the communicator should explore available topics before exploring the external sources (p. 12). Technical communicators use topics to find arguments because doing so is efficient and saves time.

2.2.3 Artificial Proofs. Many technical communication scholars (e.g. Halloran, 1971; Reynolds, 1992; Little, 1999; Campbell, 1995; Myers, 2007; Rife, 2010) have published articles related to the use of artificial proofs (i.e., ethos, pathos, and logos). As defined by Halloran (1971), “Ethos is the classical term for the appeal exerted by the force of the rhetor’s character as he ‘comes to life’ in his writing; pathos is the appeal to the feelings and attitudes of the audience; logos refers to the appeal generated by the subject-matter under consideration, that about which the rhetor proposes to write” (p. 20).

The technical marketing communicators even today use these appeals to persuade their audiences. Ross (2009) identified the importance of building ethos in modern-day technical marketing communication, and Campbell (1995) suggested that understanding and applying ethos effectively helps technical marketing communicators to create marketing materials and information that are more readable as well as more ethical. Due to excessive competition, the corporation has to convince the audience that the company is the most credible company in the industry. And to establish the organization's credibility, the writer must understand the organizational culture as well as the ethos of the organization because without doing so the communication materials produced by the writer cannot be effective (Katz, 1992).

2.2.4 Communicating Sustainability. Companies need to communicate their concern regarding sustainability and efforts towards sustainable development. Technical marketing communicators might apply classical rhetorical theories advantageously to communicate sustainability-related information effectively. Considering rhetoric helps technical marketing communicators identify and better understand the target audiences and their attitudes (Bruner & Oeschlaeger, 1998). The audience's attitude and knowledge play a very important role in communicating sustainability because understanding those aspects of the audience helps communicators communicate their information effectively. While communicating information related to sustainability, technical marketing communicators must be aware of how much the audience knows about sustainability, what the audiences' attitudes regarding sustainability are, and what the desired actions of a discourse are (Coppola, 1997). Communicators must analyze their audience to determine whether they know the importance of sustainability and sustainable practices.

Do they know what sustainability means? Do they know the environmental impacts of the products they consume? If they know these things, the other important question to ask would be “Do they care?” There are still many people who do not care about the environmental impacts of the products they consume. After identifying the knowledge and attitudes of an audience, communicators must then consider the desired outcome of the discourse and ethics. They should provide truthful information to the audience and should not be treated as “mere message targets” (Patterson and Lee, 1997, p. 38).

According to Bruner and Oeschlaeger (1998)

From a contemporary rhetorical standpoint, if the ecophilosophical project is to be successful in a democratic context, that is, actually help transform the industrial growth society into a sustainable society, then it must meet at least three criteria.

(1) Its discourse must be cognitively plausible. Here environmental ethics gets high marks, since its arguments are carefully crafted and supported by data. (2) It must evoke sentiment. For a democratic society to move in a new direction, even if good reasons exist, a strong majority must feel a compelling need to do so.

Most ecophilosophers do not attempt to move their audiences emotionally even though they themselves have been motivated by strong feelings they have for the natural world. (3) To be efficacious, ecophilosophical discourse must reach a majority of the people, that is, gain a wide audience and hearing.

(Bruner & Oeschlaeger, 1998, p. 215)

Communicating sustainability becomes even more difficult when there is no general consensus on the definition of sustainability and sustainable development. In fact,

there is varied opinion about the meaning of sustainability and the concept of sustainable development (Waddell, 1995). Hence, it is important for effective environmental discourse to reach a point where communicators and the target audience have a consensus on the definition of environmental terms such as sustainability.

2.3 SUSTAINABILITY COMMUNICATION

The term sustainability is used by many scholars, professionals, and writers often without any specific meaning which makes sustainability communication a challenging process. Audience analysis is even more important in sustainability communication because sustainability lacks an exact meaning and means different things to different audiences. Sustainability communication is a relatively a new concept, but it is connected with other subfields such as environmental, risk, and science communication. The concept of sustainability communication is interdisciplinary and thus can be approached from many different angles, including that of technical marketing communication.

Sustainability communication according to Godemann and Michelsen (2011) is “a process of mutual understanding with the future development of society at the core of which is a vision of sustainability and it is both about values and norms such as inter- and intragenerational justice and about research into the causes and awareness of problems as well as about the individual and societal possibilities to take action and influence development” (p. 6). Sustainability communication enables technical marketing communicators to critically introduce and promote the company’s sustainability-related practices to their target audiences as part of a larger public relations and/or marketing program.

The success of communication about sustainability and sustainable development depends then on a large number of factors, and this fact makes the communication process complex. To communicate sustainability-related information effectively, companies must have a theoretical framework for sustainability communication because theoretical frameworks help communicators understand communication processes about sustainability. Theoretical frameworks help communicators clarify important concepts, recognize their deficits, and analyze and develop the concepts; however, methods and tools—for example social marketing and empowerment—are equally important (Godemann & Michelsen, 2011, p. 9).

2.3.1 Importance of Communicating Sustainability. From a government's effort to educate its citizen to a company's effort to educate its stakeholder, communicating sustainability has become a very famous trend in today's world. Today companies are spending a significant number of resources to communicate their sustainable practices and development to their audiences. In fact, sustainability is the most discussed environmental concept of the twenty-first century (Waddell, 1995). Although coalitions such as the "Wise Use Movement" emerged to fight environmental laws, society is more environmentally aware (Brick, 1998, p. 195) and consumers expect companies to apply sustainable practices to produce the products they consume.

Today, companies use sustainable innovation as evidence for their commitments to the triple P bottom line: people, environment, and profit (Bashyal, Bachman, & Baumann, 2011). The motivations underlying the corporate sustainability concept include competitive advantage, profitability, increasing stakeholder pressure, legal requirements, reputation concerns, environmental performance and internal organization improvements

(Dunphy et al., 2003). Today, implementing sustainable practices, remaining innovative, and being socially responsible are not enough for companies to retain market share. They also need to communicate their efforts to their audiences effectively. Companies are becoming creative and finding artful ways to communicate sustainability related information to their target audiences (Flórez, 2007).

Many companies in the plastic-packaging industry are trying to reach their stakeholders better through their websites. Almost all of them have a separate page on their website for communicating their sustainability efforts. Although companies in other industries use analytical reports, environmental impact statements, informative essays and articles, brochures, newsletters to communicate sustainability-related information, the plastic-packaging industry tends to communicate sustainability-related information through websites (Sheehan & Morgan, 2009, p.17).

2.4 CONCLUSION

This literature review suggests that technical marketing communication is an important area of the discipline of technical communication, it demonstrates how some technical communication scholars have applied classical rhetorical theory to understand and analyze communication problems, and it identifies sustainability communication as an interdisciplinary subject.

3. EXPLANATION OF METHODS AND THEORY

This study analyzes the marketing materials used by ten companies to communicate sustainability. More specifically, this study focuses on the application of topics of invention and artificial proofs by either unidentified or identified authors acting on behalf of their companies to communicate sustainability-related information effectively to their target audiences. This section focuses on the explanation of the methods and theories I used for this study.

3.1 THE PROCESS

The objective of this thesis is to study how businesses in the plastic-packaging industry define sustainability and how they communicate sustainable practices to their target audiences and to offer a heuristic or aid for doing so. To conduct the study, I selected ten companies (see Table 1) in the plastic-packaging industry, using the convenience sampling and purposeful sampling methods.

I used rhetorical analysis to analyze these companies' definitions of the term sustainability. Then I analyzed the arguments or appeals in the various documents used by the ten companies to communicate sustainability concepts or their sustainable practices to their target audience.

For the first part of the study, I checked to see whether these companies define the term sustainability on their websites or just provide other information without formally defining the term. I collected the available definitions and analyzed them. For the second part of the study, I reviewed documents/texts which the ten companies used to

communicate sustainability or sustainable practices to their target audiences. I retrospectively analyzed the authors' possible use of the topics of invention and their use of artificial proofs in communications with their stakeholders on their websites. On the basis of this analysis, I developed an invention heuristic to help communicators compose sustainability-related corporate messages. In the following section, I explain each of the methods I have used in greater detail.

3.1.1 Sampling Methods. I used a convenience sampling method to choose the companies for this study. Convenience sampling is a process of selecting the participants based on their availability and accessibility (Koerber & McMichael, 2008). Convenience sampling is not an ideal sampling method; however, in many situations the method provides an acceptable sample and researchers use this method because it is efficient (Koerber & McMichael, 2008, p. 463). As Murphy (2002) said, a convenience sample is a sample that is “readily accessible” and is easy to contact or gather (p. 99). I used the search string “plastic-packaging companies” in Google to search for companies. The Google search returned about fifteen convenience samples for this study.

Then I used purposeful sampling to identify the ten final companies for rhetorical analysis. Purposeful sampling is a sampling method in which a researcher selects the participants or subjects with special qualities (Koerber, 2008, p. 464). To arrive at the purposeful sample, I went through the Google returns until I found ten companies with sustainability information on their websites. To be selected for this project, a company's website had to contain at least a separate page about sustainability. This was important because not all companies in the plastic-packaging industry address sustainability issues on their websites. Most of the companies that do not address sustainability on the

websites do it through other marketing materials, and some companies do not address sustainability at all. Therefore, I chose the companies that have at least a separate web page for sustainability and have made their sustainability information readily available on the web for their target audience.

More than ten companies with sustainability information on their websites were available; however, I chose only ten companies because of the time availability for this project. I could have chosen fewer than ten companies, but doing so would not have yielded enough documents for analysis. The documents of ten companies comprised a suitable sample size for this study.

3.1.2 Rhetorical Analysis. Rhetorical analysis is one of three different approaches to textual analysis: rhetorical, discourse, and genre (Berkenkotter, 2002). Textual analysis is a qualitative research method that includes “a systematic observation for analyzing content, linguistic form and its function, genre and text organization, rhetoric, and the role of texts within an organization’s communicative systems” (Berkenkotter, 2002, p. 48). The three approaches to textual analysis “share a common concern with understanding the relationships between text and context” (Berkenkotter, 2002, p. 48). Rhetorical analysis, however, is the study of the strategies used by an author to make arguments and is often concerned with the “argumentative and persuasive” character of a text (Berkenkotter, 2002, pp. 48- 49).

Rhetorical analysis, according to Burton (2007), begins with “the appropriate choice of a given model, and such a selection would have been made with an eye both to the content and especially to the style of the author.” For this study I focused on the

companies' implementation of rhetorical concepts such as invention strategies and persuasive appeals (ethos, pathos, and logos). I analyzed the arguments the author is making and the persuasive appeal/s the author is using to convince audiences. I considered both the "overall communicative purpose" of each document as well as the "contribution of its constituent parts" to achieve the major goal (Zachry, 2009, p. 69).

The rhetorical analysis I conducted for this research followed the sequence of activities as listed by Zachry (2009):

1. Identifying the text for analysis,
2. Categorizing the texts according to purpose and type,
3. Identifying constituent parts of texts, and
4. Interpreting and discussing one or more configurations of the parts and/or whole (p. 70).

I completed Zachry's steps 1 and 2 simultaneously by purposefully looking for a certain type and purpose of text on the websites: persuasive texts about sustainability. By text, I mean a document communicating sustainability-related information. Then I attempted to identify constituent parts of each persuasive text: emotional appeals, rational appeals, and ethical appeals. Then I attempted to determine the template (common or special topics) that the communicator might have used to construct each rational appeal.

3.1.3 Selected Companies. The companies I selected are listed in Table 3.1. All of these companies provide plastic-packaging solutions to other industrial customers. Hence, their primary audiences are industrial customers, other businesses, government,

and environmentalists, and a secondary audience is the general public. Table 3.1 provides the web link to the sustainability page on each company's website.

Table 3.1 Company names with website

Company	Website
Amcor Rigid Plastics	http://www.amcor.com/about_us/Sustainability/122136954.html
Berry Plastics Corp.	http://www.berryplastics.com/catalog/content/corporate/responsibility
Graham Packaging Co.	http://www.grahampackaging.com/#graham_packaging_sustainability.cfm
Klockner Pentaplast Group	http://www.kpfilms.com/en/about/sustainability.asp
Plastic Packaging Inc.	http://www.ppi-hky.com/sustainability.html
PRENT Thermoforming	http://www.prent.com/sustainability/
Polynova Industries	http://www.polynova.com/sustainability.html
RPC Group	http://www.rpc-group.com/sustainability/
Sonoco	http://www.sonoco.com/sustainability.aspx
Winpak Ltd	http://www.winpak.com/en/company/1-1-7.htm

3.2 CLASSICAL RHETORICAL THEORY

Rhetoric is the art that deals with the use of communication to inform, persuade, motivate, and convince audiences. The discourse can be either spoken or written, and an audience can be either an individual or a group of people. Aristotle defined rhetoric as the system or process of discovering the available means of persuasion for a given situation (as cited in Corbett & Connors, 1999, p. 16). And in this sense, the choice of the means of persuasion such as ethos, pathos, and logos is the essence of rhetoric. Classical rhetoric was primarily associated with persuasive discourse – i.e., communication that persuades an audience to think or act in a certain way. Aristotle considered rhetoric to be “an offshoot” or “a counterpart” of logic, and the speaker might employ logic to persuade the audience, but logic was only one among many “available means of persuasion” (as cited in Corbett & Connors, 1999, p. 16).

According to Crowley and Hawhee (2004), ancient rhetoricians divided their art into five canons: invention, arrangement, style, memory, and delivery (p. 27). These canons provide a basis of analyzing and criticizing any form of discourse: written, spoken, or visual.

Classical rhetorical theories can be used as a tool to create marketing materials as well as a tool to analyze those materials. For this study, I used theories related to the classical canon of invention as a basis for analyzing the sustainability-related information of ten companies. Specifically, I used the concept of persuasive appeals—ethos, logos and pathos—to analyze the strategies used by the technical marketing communicators of the ten companies. Also, I used the concept of topics of invention to determine how the communicators might have generated their rational appeals.

The following section explains each of the five canons. It is important to understand the concept of each of these canons in order to understand the focus of this thesis and to distinguish the canon of invention from the other four canons. In fact, an explanation of the canons is necessary for an understanding of the classical rhetorical tradition and the theoretical context in which the topics of invention and artificial proofs are embedded.

3.2.1 Invention. Invention strategies are used by rhetors to find arguments. Rhetors use an ethical appeal (ethos), a rational appeal (logos), and an emotion appeal (pathos) in a discourse to persuade audiences. In a rhetorical situation, invention is concerned with finding “something to say” (Burton, 2007). Invention is connected to the rhetorical appeal of logos and is concerned with what an author would say rather than how it might be said. Invention is necessary in developing arguments that are persuasive in a given context. Aristotle, in fact, defined rhetoric primarily as invention, “discovering the best available means of persuasion” (as cited in Burton, 2007).

Communicators use both common topics and special topics to persuade and influence the audience. Some categories of common topics are definition, division, and comparison, and three categories of special topics are judicial, deliberative, and ceremonial. According to Aristotle, there are two kinds of arguments or means of persuasion available to the speaker: non-artistic means of persuasion and artistic means of persuasion or “proofs” (as cited in Corbett & Connors, 1999, p. 18). In this study, I analyzed what the communicators said in order to understand the kinds and sources of their persuasive appeals. I analyzed the application of invention strategies—i.e., the use of ethos, logos, and pathos and the use of common and special topics—to communicate

sustainability-related information. The ten companies studied mostly uses ethos and logos, and some of the companies do not use pathos to invoke certain emotions such as anger, fear, loyalty, and sympathy. The companies mostly used common topics such as definition, division, comparison, and relationships and applied special topics to little extent.

3.2.2 Arrangement. Arrangement is concerned with two primary processes: the first is selection of the arguments and the second is arrangement of selected arguments in an order that is persuasive and clear to the target audience. According to Crowley and Hawhee (2004), “in ancient times arrangement was referred solely to the order of an oration but now it includes all considerations of the ordering of [any] discourse” (p. 293).

Aristotle pointed out that there are only two essential parts of an oration—“the statement of a case” and “the proof”—but in practice orators added two more parts—“an introduction” and “a conclusion” (as cited in Corbett & Connors, 1999, p. 20). When divided into smaller sections, there are six parts of a discourse: exordium, narration, partition, confirmation, refutation, and peroration. The exordium is the introduction of a discourse; the narration is a statement of fact, for example, what has happened; the partition outlines what will follow; the confirmation is the main body of a discourse, which provides logical reasoning in support of a proposition; the refutation section answers counterarguments, real or potential; and the peroration summarizes a discourse (Burton, 2007). In the exordium, a rhetor employs ethical appeals to establish credibility; in the other parts—i.e., narration, partition, confirmation, and refutation—the rhetor mainly employs logical arguments; and in the peroration, the rhetor ends the discourse by employing emotional appeals (Burton, 2007).

3.2.3 Style. Style is concerned with the effective and creative presentation of ideas. Invention focuses on what information is presented, whereas style focuses on how the information is presented. According to Burton (2007) “from a rhetorical perspective style is not incidental, superficial, or supplementary: style names how ideas are embodied in language and customized to communicative contexts.” The style of any discourse can be analyzed by observing the ways in which the authors chose their words and expressed their ideas. The level of style has been divided into three broad categories: high or grand, middle, and low on the basis of usage of ornaments. Grand style uses heavy ornament and lacks plain language, the middle style does not use plain language but is more plain than the grand style, and the plain style employs ordinary pros and simple exposition of the facts (Crowley & Hawhee, 2004). Choosing the level of style generally depends on the subject matter, the audience, and the occasion. Different styles are appropriate for different occasions; the grand style is more appropriate for ceremonial functions like weddings, funerals, and inaugurations while the middle style is appropriate for almost any discourse that will be published. And the plain style is appropriate when clarity is the most important thing for a rhetor.

3.2.4 Memory. This canon is concerned with memorization of a completed discourse, a series of prompts, and arguments. Typically memory has to do with retention of information, but it also has to do with arguments that have been used in the particular situation before. The canon may not be as important in the age of print and electronic literacy, but it was a very important canon in ancient times (Crowley & Hawhee, 2004, p. 380). In ancient times, memory had to do with much more than just memorization. Memory was one of the most important qualities of a good speaker. It was important for

an effective speaker to memorize a vast amount of information and to be able to use that information appropriately and effectively on a specific occasion in front of specific audiences (Burton, 2007). As I mentioned in my literature review (Chapter 2 of this thesis), scholars have suggested that technical communicators might find new uses for the classical canon of memory (see, for example, McNair, 1991, and Whittemore, 2008).

3.2.5 Delivery. Delivery, the fifth canon of rhetoric, is concerned with the appropriate use of the voice, gestures, and appearance during a discourse. In simple words, it is concerned with the effective way of saying things—not with the choice of words, but with the use of the voice and body. To be good at it, one needs to practice delivering and analyzing the delivery of others rather than listening to theoretical discussions (Corbett & Connors, 1999). Effective delivery depends on body language, voice, hand gestures, pauses, and appearance as these factors contribute to the act of persuasion. Communicators can use appropriate body language, hand gestures, and tone of voice to achieve the desired emotion in the audience. Communicators should be able to tailor delivery according to the rhetorical situation. For example, to explain something, a slow and patient speech may be appropriate, but for debating an aggressive tone may work better.

As with memory, the importance of delivery was neglected after the invention of printing although (as mentioned in my literature review) there have been attempts to discuss document design and other aspects of communication in terms of rhetorical delivery (e.g., Connors, 1993; Dragga, 1993).

3.3 RHETORICAL APPROACHES USED

This study is focused on the first canon of rhetoric—i.e., invention. To study the strategies used by technical marketing communicators for communicating sustainability-related information, I retrospectively analyzed their likely use of the common and special topics to invent arguments.

3.3.1 Topics. Classical rhetoricians built a topical system to categorize arguments, and they referred to these categories as topics or metaphorical "places" where arguments can be found (Corbett & Connors, 1999, p. 85). There are two divisions of topics: common topics and special topics. Common topics are used to develop general arguments that usually apply to different civic occasions whereas special topics are more specific and suitable for a specific rhetorical occasion. For this study, I identified the topics used by the companies to generate their persuasive arguments.

3.3.1.1 Common topics. The common topics of invention have been classified into the following categories: definition, comparison, relationship, circumstance, and testimony. Under each of these headings, there is one or more common topics, which are outlined in Table 3.2 below.

Definition is a category in which one identifies something to be a part of larger group and compares it with other members of the group (Burton, 2007). Genus/species is a topic that falls under the category of definition. The category of division includes topics that help to ensure the organization of an argument (Corbett & Connors, 1999). The two topics that fall under division are whole/parts and subject/adjuncts. The topic of whole/parts helps by describing the parts that make up a whole, and the topic of

subject/adjuncts helps by distinguishing what is essential (i.e., the subject) and what is a result or associate of a subject (i.e., the adjunct) (Burton, 2007). The category of comparison is concerned with comparing things to understand the similarity, differences, superiority, etc. (Corbett & Connors, 1999, p. 92). The topics of similarity/difference and degree fall under the category of comparison. The topic of similarity/difference identifies how two things compare and contrast, and the topic of degree concerns the amount "more" and "less" (Burton, 2007). The category of relationship considers the relationship between two things. The topics of cause/effect, antecedent/consequence, contraries, and contradictions fall under the category of relationship. Cause/effect is a topic of invention that provides an answer to the question "why" of something, and each effect has a cause, and each cause contributes to an effect (Corbett & Connors, 1999). The topic of antecedent/consequence considers the events and consequences that occur as a result of some action. The difference between cause/effect and antecedent/consequence is that "what follows in the case of antecedent/consequence may not be caused by what preceded it, but will naturally flow from those earlier conditions" (Burton, 2007). In the topic of contraries, one considers opposites and incompatible things of the same kind, and that makes the topic of contraries different from the topic of similarity/difference (Corbett & Connors, 1999, p. 105). The topic of contradictions, however, deals with denial and is useful when the truth of one situation, an event, or an occurrence proves the other wrong. The topic of past fact/future fact and possible/impossible are topics that fall under the category of circumstances. Past/future fact is a topic of invention in which one analyzes the patterns of events in the past and applies those patterns to anticipate the future. In the topic of possible/impossible, one explains something to be either possible or impossible.

In the topic of authorities, one enhances credibility by citing experts and in the topic of witness one calls upon someone who has experienced an event or situation (Burton, 2007). The topic of authority and witness fall under the category of testimony.

Table 3.2 Outline of common topics

Categories	Topics
Definition	Genus/Species
Division	Whole/Parts; Subject/Adjuncts
Comparison	Similarity/Difference; Degree
Relationship	Cause/Effect; Antecedent/Consequence; Contraries; Contradictions
Circumstances	Possible/Impossible; Past Fact/Future Fact
Testimony	Authorities; Witness; Maxims; Rumors; Oaths; Documents; Law; Precedent; The Supernatural

3.3.1.2 Special topics. Some of the companies studied apply special topics—hence, it is important to explain the concept of special topics and distinguish it from common topics. There are three civic occasions—deliberative, judicial and ceremonial—when rhetoricians use special topics (Corbett & Connors, 1999). Table 3.3 below displays the attributes of these three branches of oratory. Deliberative oratory, which is also known as political or legislative oratory, is concerned with the future. In deliberative

oratory, rhetors use exhortation and dissuasion to influence the audience. Its subjects often include wars, taxes, alliances, community projects, public policy, politics, laws, etc. (Dill, 2011). Special topics of invention associated with deliberative discourse are the advantageous or disadvantageous and the expedient or inexpedient. All of the appeals in this type of discourse, according to Corbett and Connors (1999), “can be reduced to the following two heads: the worthy and the advantageous” (p. 121). Since deliberative oratory is concerned with legislative bodies, it concerns the good and the unworthy and the advantageous and the disadvantageous with respect to public or a society (Burton, 1999).

Judicial oratory, the form of oratory that received the most attention in ancient times, is concerned with right and wrong (Corbett & Connors, 1999, p. 123). It is also concerned with the past rather than the future or present. Rhetors use accusation and defense to persuade audiences in this form of oratory. Special topics of invention associated with judicial oratory (which is also called legal or forensic oratory) are justice and injustice, and the subjects include crime, legal actions, contracts, behaviors, etc. (Dill, 2011). However, it is important to determine the status of a case to develop special topics of judicial discourse (Burton, 2007; Corbett & Connors, 1999). It is important to ascertain the issue or the thesis of what is being discussed. To do so, three general questions are answered: “whether a thing is—*an sit*, what it is—*quid sit*, and of what kind it is—*quale sit*” (Corbett & Connors, 1999, p. 124). After answering these questions, the rhetor is able to determine the status of a case and develop special topics to either defend or prosecute.

Epideictic oratory, also known as demonstrative or ceremonial oratory, is often concerned with the present. In this form of oratory, rhetors either praise or blame someone or something. Examples are funeral oratory, encouragement speeches in crisis, celebrations, performance evaluations, and letters of recommendations. The special topics of invention associated with epideictic discourse are honor and dishonor.

Table 3.3 Attributes of the three types of oratory

	Deliberative	Judicial	Epideictic
Means	Exhortation and dissuasion	Accusation and defense	Praise and blame
Special topics	The expedient or inexpedient, the advantageous or disadvantageous	Justice and injustice	Honor and dishonor
Time Concern	The future	Usually the past	Often the present
Subjects	Wars, taxes, alliances, community projects, public policy, laws, etc.	Crime, legal actions, contracts, behavior	Various: funeral oratory, encouragement in crisis, celebrations, performance evaluations, letters of recommendation, etc.

This study requires an understanding of the distinction between the prospective use of the theory to persuade an audience and retrospective use of the theory to analyze

and evaluate persuasive discourse. Audiences engage in retrospective analysis when they are deciding whether they are going to be persuaded by a rhetor's appeals. Likewise, a rhetorical critic may use retrospective analysis to determine how (or whether) an argument works. Similarly, to use special topics as a method of analyzing texts, analysts must “imaginatively reinvent the argument to find the sources of persuasion” (Miller and Selzer, 1995, 314). The analysts must understand the goals and objectives of the rhetor. According to Miller and Selzer (1995), “if topics operate in invention prospectively, as conceptual places where a rhetor can find sources for arguments, they operate in analysis retrospectively, as places where audiences can find the sources of the persuasiveness of those arguments” (p. 315).

3.3.2 Persuasive Appeals. According to Aristotle, we as communicators persuade our audiences by three means: logos, ethos, and pathos (Burton, 2007). Logos is an appeal through reason, pathos through emotion, and ethos through one's character. These three appeals work together in combination for persuading audiences. Whether to use these appeals separately (if indeed that is ever entirely possible) or to combine them depends on the thesis of a discourse, the current situation, and the audiences (Corbett & Connors, 1999). Application of ethos, pathos, and logos provides a basis for analyzing texts and their persuasive objectives. I categorized the texts in my sample on the basis of communicators' use of persuasive appeals.

Classical rhetoricians do express the need for all three modes of appeal. However, a rhetor must be careful with the use of persuasive appeals as their use often depends on audiences. A rhetor should be able to appeal emotionally in a way that suits the rhetorical situation. Understanding a target audience, especially their knowledge and background, is

very important when choosing appropriate appeals to persuade audiences (Longo, 2000), and it is very important to align readers' perspectives with the communicator's so that the appeals are effective (Todd, 1998).

3.3.2.1 Logos. Logos, often called the rational appeal, is concerned with the application of materials and methods of proof that appeal to a person's reasoning. This persuasive appeal is the most preferred appeal because it applies facts and logic to persuade an audience. However, facts alone do not constitute logos, but logos is an argument that is based on factual information. A rhetor combines facts and other topics of invention and develops a rational appeal or argument that persuades an audience.

As pointed out by Corbett and Connors (1999), “wherever formal deductive or inductive logic is an available means of persuasion communicators should make use of it” (p. 33). Technical communicators use evidence and deductive reasoning to persuade and convince their audiences. Aristotle developed four logical reasoning methods—scientific demonstration; dialectic; rhetoric; and false or contentious reasoning—which help technical communicators to make logically appealing arguments in complex situations (cited in Crowley & Hawhee, 2004, p. 159). In all of these methods, a rhetor develops “premises” and combines them together to reach conclusions (Crowley & Hawhee, 2004, p. 159). Conclusions cannot be true even if one of these premises is false (Crowley & Hawhee, 2004). According to Aristotle, in scientific demonstrations, arguments are based on truth; in dialectical reasoning, arguers are not certain about the truth; in rhetorical reasoning, arguments are based on the beliefs accepted by most members of a community; and in false reasoning, arguments are based on beliefs that are widely accepted in a society (as cited in Crowley & Hawhee, 2004, p. 159).

3.3.2.2 Ethos. Ethos, the ethical appeal, uses the character of the speaker or writer to persuade. According to Aristotle, “the ethical appeal is exerted when the speech itself impresses the audience that the speaker is a person of sound sense, high moral character, and benevolence” (as cited in Corbett & Connors, 1999, p. 72). Achieving a positive impression in the eyes of audiences makes it easier for communicators to convince their audiences. But how communicators establish a positive reputation is an important and interesting question, and it depends on the type of communicative discourse one is involved in. If the objective is to show a communicator’s knowledge in the field, the argument must show that the communicator has an adequate knowledge about the subject and therefore is capable of viewing a situation in a correct manner. If the purpose of a discourse is to reflect a rhetor’s moral character, then the discourse must highlight “an abhorrence of unscrupulous tactics and specious reasoning” (Corbett & Connors, 1999, 72). If the purpose of a discourse is to show that the rhetor is trying to do something good for the audience, then the discourse must display a rhetor’s intention of helping the audience (Corbett & Connors, 1999, p. 72).

3.3.2.3 Pathos. Pathos, the third means of persuasion, uses emotional appeals to persuade the audience. In a discourse, audiences can be influenced by the use of emotional appeals. According to Aristotle, rhetors must understand three things to understand how audiences react emotionally to a speech: first, the state of mind of people who may be angry, joyful, or indignant; second, who can arouse these emotions in audiences; and third, the reasons why audiences become emotional (as cited in Crowley & Hawhee, 2004). Assumptions, understandings, beliefs, values, attitudes, biases, prejudices, behaviors, and social norms are all related to pathos. Different audiences may

bring different emotional states of mind to a rhetorical situation, and it is the job of the communicator to figure out whether any given audience's state of mind is in his/he favor. If not, then he/she needs to change the audience's state of mind. The workings of the pathos may be psychologically complex, for example, when a rhetor appeals to an audience's culture or an individual's sense of belonging.

3.4 CONCLUSION

In this chapter, I explained the methods and theories I have used to locate, select, and analyze sustainability-related communication materials of ten plastic-packaging companies. I used the convenience sampling method and then a purposeful sampling method to select the texts for analysis and classical rhetorical theory to analyze the sample texts. In the next chapter, I will present the results of my analysis.

4. RESULTS

In this chapter, I will analyze documents of each of the ten companies as available on their websites. First, I will describe any sustainability-related information available on these websites. Second, I will quote the definition of sustainability as it appears on the websites of these companies. Third, I will identify and analyze selected persuasive appeals employed by each company. Finally, I will topically analyze selected arguments in the documents, in each case trying to identify the common or special topic that might have given rise to the argument.

4.1 RHETORICAL SITUATION

A rhetorical situation is a special context for a special rhetorical event. A rhetorical situation consists of several elements: the issue for discussion, the audience for discussion, and their relationship to the issue as well as an orator or communicator or rhetor, his/her reputation, and his/her relation to the issue (Crowley & Hawhee, 2004, p. 22).

4.1.1 Subject/Issue. The subject or the issue is an important element of a rhetorical situation. Each issue creates a unique rhetorical situation for a discourse and without it there is no rhetorical situation.

The main subject of the sustainability pages on these websites is similar: to communicate their sustainability efforts to the target audience. However, some companies focus more on communicating their sustainable innovations while others try to give a message that they are addressing sustainability in some way. No matter what the

focus is on, the main issue is sustainability. The need for these companies to communicate their sustainability created a special rhetorical situation.

4.1.2 Purpose. The major purpose of each company's website is to persuade the audience to take action in favor of the company. Although some companies also try to inform and educate the audience about sustainability, sustainable practices, and current developments in the area, most of them are only trying to convince and persuade the audience to do business with them.

4.1.3 Readers. The audiences for these websites are the company's stakeholders. Stakeholders could be customers, consumers, employees, shareholders, government, competitors, and environmentalists or any other person or entity that has an interest in the company and that is impacted by the decisions of the company in some way or other. However, the primary readers from the multiple audiences are the customers, consumers, employees, government, and environmentalists. These companies published the information on their websites mainly to persuade these audiences because they are the principal action takers. The information on these websites is rhetorically targeted to persuade these primary audiences to take positive action on behalf of the company. The positive action could be the purchase of the companies' products and materials, approval for environmental certifications, ranking as a highly sustainable company on the competitive lists, etc.

4.2 DEFINITIONS

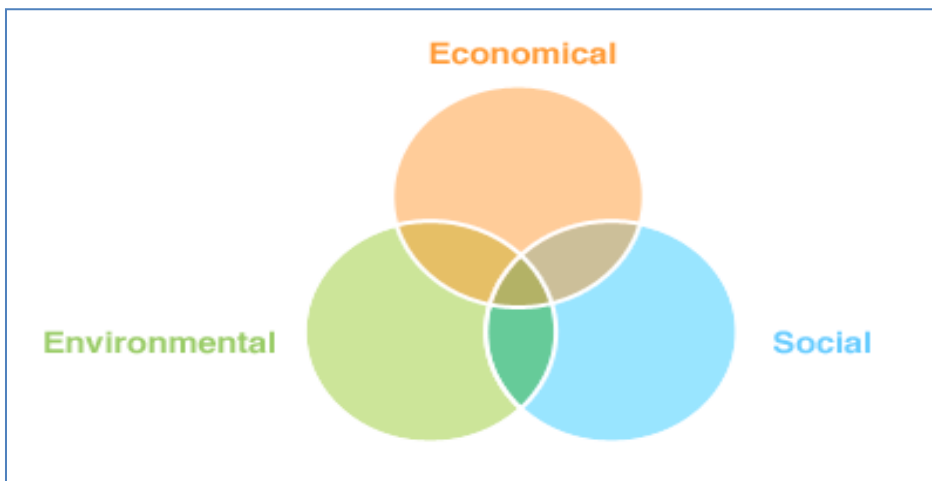
One of the objectives of this study was to determine whether the companies define the term sustainability explicitly on their website, and if they do, whether the

definitions are similar. The following section reviews the definitions of sustainability as available on the websites of the ten companies studied. Although definition is a topic of invention by which arguments can be created, my purpose in this section is not to analyze arguments, but merely to identify the definitions.

4.2.1 Amcor Rigid Plastics. Amcor Rigid Plastics does not exactly define the term sustainability. However, a section named “Message from Managing Director” starts with the following statement: “We have an opportunity to play a pivotal role in sustainability; to provide innovative and responsible packaging solutions that protect the many resources invested in products and reduce waste throughout the supply chain” (Amcor Limited, 2012a). This is an attempt to explain what sustainability means to the company. According to this statement, being sustainable is providing “innovative and responsible” packaging solutions that “protect the resources” and “reduce waste” throughout the supply chain (Amcor Limited, 2012a).

4.2.2 Berry Plastics Corporation. According to the company, “Sustainability is about creating goods and services without damaging the ability of future generations to provide for them. It's about being responsible stewards of our business, our people and our environment. Sustainability touches every core of our business from sourcing to manufacturing to shipping” (Berry Plastics Corporation, 2012). The company seemed to agree with the generally accepted definition of sustainability: creating goods and services without impacting the ability of the future generations’ ability. The company also included a diagram of the famous three legs of sustainability – economics, environment, and social—on its website, as shown in Figure 4.1 (Berry Plastics Corporation, 2012).

Figure 4.1 Three legs of sustainability as shown in Berry Plastics Corporation



4.2.3 Graham Packaging Company. The “Overview” page on the website of Graham Packaging Company begins with the following statement:

“For over 20 years, we have integrated sustainable practices into our operations. We have incorporated significant use of post consumer resin into many of our products, reduced the amount of material we use through light-weighting, reduced energy consumption and greenhouse gas (GHG) emissions, conserved water, oil and trees, and heavily supported recycling programs through our Graham Recycling Center and through various trade associations.”

(Graham Packaging Company, 2011a).

This is an attempt to define the phrase sustainable practices by listing examples of those practices. In the first sentence, the company makes a claim that it has incorporated sustainable practices into its operations. In the second sentence, it supports that claim with specifics.

4.2.4. Klockner Pentaplast Group. Klockner Pentaplast Group does not include a specific definition of sustainability on its website; however, from the information available on the website, a definition can be derived. The company has the following statement on its website: “Our platform addresses all three components of sustainability – environmental protection, social responsibility, and economic development” (Klockner Pentaplast, 2012). This company, like Berry Plastics Corp., is invoking the famous three legs of sustainability. The company also defines each of these components. Based on this information, I deduce that the company’s definition of sustainability is “protecting and improving the environment throughout our global operations, ensuring safety, people development, and giving back to the communities” (Klockner Pentaplast, 2012).

4.2.5 Plastic Packaging Inc. Plastic Packaging Inc. does not attempt to define the term sustainability at all (Appendix 5). There are no statements on the website that would allow a definition to be inferred. The company seems to be a follower rather than a leader in the area because the company provided information about its efforts to be informed rather than its efforts to be innovative.

4.2.6 PRENT Thermoforming. PRENT Thermoforming does not attempt to define sustainability but rather cited activities the company has been involved in (Appendix 6). The company seems to be more interested in implementing sustainability-related activities than in defining what sustainability is.

4.2.7 Polynova Industries. Polynova Industries uses the sustainability page on its website to advertise the company’s products rather than to explain what sustainability means to them. The company begins the sustainability page with a heading

“Biodegradable and environmentally friendly plastic packaging – Sustainability” (Polynova Industries, 2012). This is the only instance in which the company attempts to explain what sustainability is. According to this statement, sustainability means creating biodegradable and environmentally friendly plastic packaging solutions.

4.2.8 RPC Group. Although the term sustainability has been used as the title of a page on its website (Appendix 8), the company does not define the word sustainability explicitly. However, the company provides information about its environmental efforts.

4.2.9 Sonoco. The company does not attempt to define what sustainability is; rather it starts with a citation of its sustainability goals: “Sonoco's sustainability goals are being realized by focusing on continuous improvement in operating performance, maintaining an ongoing commitment to social responsibility and shrinking the environmental footprint of the Company” (Sonoco, 2012a). As per this statement, continuous improvement, commitment to social responsibility, and shrinking environmental footprint will aid the company to become sustainable.

4.2.10 Wipak Ltd. The company does not explicitly define the term sustainability, but it can be inferred from other available information. In the very first paragraph of the homepage of the sustainability section, the company states that “Wipak has established the following sustainability objectives: (i) manufacture packaging that meets the intended function and performance criteria, (ii) manufacture packaging that maximizes use of recycled and/or renewable energy sources and materials, (iii) manufacture packaging that is sourced, produced and transported to maximize

sustainability” (Winpak, 2012). Therefore, according to this statement, sustainability for this company means maximizing the use of recycled and renewable energy sources.

4.3 ARTIFICIAL PROOFS

Out of ten companies, only few use all three means of persuasion. Two companies (Klockner Pentaplast Group and Sonoco) use logos occasionally, while the remaining eight use it frequently. Almost every company uses ethos heavily while none of the companies use pathos heavily to evoke emotions such as anger, fear, loyalty, and sympathy. However, these companies use other forms of emotional appeals such as appeals to assumptions, understandings, beliefs, values, attitudes, biases, prejudices, behaviors, and social norms. Surprisingly, six companies (Klockner Pentaplast Group, PRENT Thermoforming, Polynova Industries, RPC Group, Sonoco, and Winpak Ltd.) do not use pathos at all to evoke emotions such as anger, fear, loyalty, and sympathy.

All of the companies use rational appeals to persuade their audiences. However, Sonoco is the only company that begins a text with logos. Out of ten companies, eight (Amcor Rigid Plastics, RPC Group, Plastics Packaging Inc., Polynova Industries, and PRENT Thermoforming) use logos heavily.

In the following section, I will identify and analyze these companies’ use of persuasive appeals. My aim is to identify the pattern of usage of each of these appeals by these companies; however, I usually give only a few examples each of ethos, pathos, and logos (if applicable).

4.3.1 Amcor Rigid Plastics. The sustainability page of Amcor Rigid Plastics has seven links to other pages (Appendix 1):

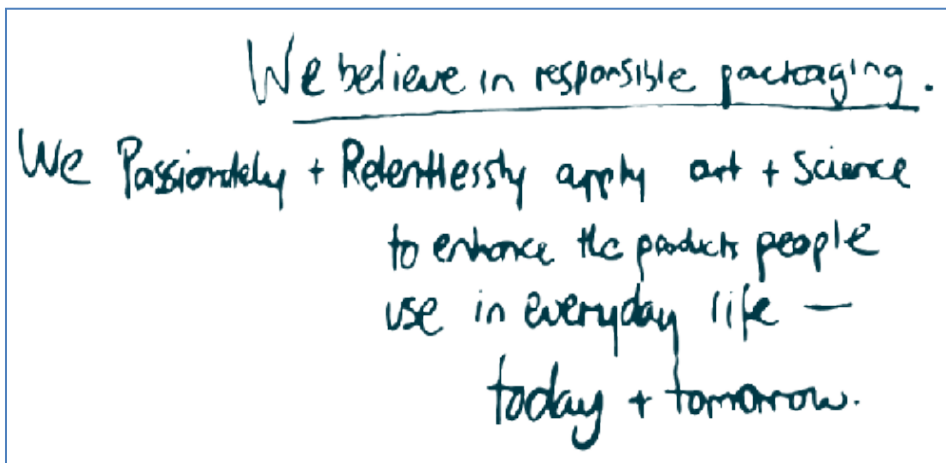
- 2011 sustainability report
- Our approach to sustainability
- Packaging sustainability
- How we are doing
- Annual sustainability reports
- Australian national packaging covenant reports
- Australian energy efficiency opportunity reports. (Amcor Limited, 2012b)

The stakeholders of the company, as listed on the sustainability section (Our Approach to Sustainability- Stakeholder Engagement) of the website, are investors and suppliers of capital, co-workers, customers and suppliers, industry bodies, governments, the media, and the communities in which they operate (Amcor Limited, 2012c). Amcor Rigid Plastics uses all three appeals to persuade the audience of its sustainability pages. Ethos and logos are the most used appeals.

4.3.1.1 Ethos. On the website, under “Our approach to Sustainability,” Amcor Rigid Plastics has a little note as shown in Figure 4.2 (Amcor Limited, 2012c). Here, the company applies ethos to influence the audience. The phrase “We believe in responsible packaging” is used to project an image that the audience will respect and admire. (Amcor Limited, 2012c). Instead of starting with what the company is doing, the company has chosen to start with what it believes in to show the company’s values to its audience. Then the company mentions what it does, which, in this case, is “apply art and science to enhance the products people use in everyday life” (Amcor Limited, 2012c). The company presented this information in the form of a handwritten message to distinguish and

emphasize the information in order to grab audience's attention and perhaps to elicit an affective response.

Figure 4. 2 Designed note on the website of Amcor Rigid Plastics (Amcor Limited, 2012c)



Another example of ethos is “Our values are the foundation of who we are and how we behave” (Amcor Limited, 2012c), in which the company emphasizes its values in relation to its actions in order to gain the audience’s respect. This statement is another example of ethos: “Being sustainable is not just about living our core values. We are accountable to a broad range of stakeholders, and to gain their support and confidence we must be responsive to their interests. Our stakeholders are those who have a direct relationship to, or are impacted by, our business” (Amcor Limited, 2012c). In this entire phrase, the company is trying to ethically appeal to the audience by projecting the image of a caring and responsive company.

4.3.1.2 Pathos. There are several instances where this company uses pathos to persuade the audience, but there are only few instances in which the company uses

emotional appeals to evoke emotions such as anger, fear, loyalty, and sympathy. For example, in the sentence “Our future success relies on finding better ways to serve our customers in emerging, high-growth markets” (Amcor Limited, 2012a), the company is trying to evoke loyalty in the audience by saying the company is dedicated to better serve the customers and the company is aware that it cannot succeed without valuing its customers.

4.3.1.3 Logos. There are several instances in which the company uses logos. In fact, logos is the most used appeal in the entire website. The information provided on the website is mostly fact based and the company uses these facts to create logos, e.g., the passage:

“At Amcor, we have the expertise and tools to systematically evaluate packaging sustainability from a total life cycle perspective, in order to recommend the optimal packaging solution for any given purpose. Our life cycle assessment (LCA) and sustainability tool, ASSET, has been deployed across Amcor and we are working with our customers to ensure that they understand all the considerations and have the data to make informed decisions about packaging sustainability”

(Amcor Limited, 2012d)

At a first glance, it seems like the company is trying to set a positive image (ethos) for the company. But in the passage, the company is trying to create rational appeals by using the facts why the company is capable of being an expert in the area of sustainability. The company is telling the audience that it is capable of creating

sustainable packaging solutions because (i) it has the expertise, (ii) it has tools e.g., LCA and ASSET, (iii) it helps customer understand considerations, and (iv) it has the data to make informed decisions. By sharing this information with the audience, the company is logically persuading the audience to do business with the company.

In the sentence “The Amcor Way outlines five business competencies to drive performance at Amcor: Safety; Customer and Market Focus; Talent; Capital Discipline and Low Cost” (Amcor Limited, 2012c), the company uses rational appeals. The company is giving a message that the company is driven and directed by emphasizing that business competencies drive performance. From this sentence, the audience gets a message that the company tries to achieve these important competencies by focusing its activities in correct direction.

4.3.2 Berry Plastics Corporation. Berry Plastics Corporation has a separate page on its website for sustainability (Appendix 2). The page has three main sections “Sustainability,” “Areas of Focus,” and “Our Environmental Associations” (Berry Plastics Corporation, 2012). The company seems to provide very limited information on its website. Customers, employees, and collaborators are the major audiences of its website (Berry Plastic Corporation, 2012). This company relies heavily on ethos to persuade these audiences. It also uses pathos and logos in a few instances.

4.3.2.1 Ethos. The company begins the sustainability page with the sentence “With global manufacturing facilities, Berry Plastics has the ability and responsibility to positively influence the communities and environments in which we operate and serve” (Berry Plastic corporation, 2012). In this sentence, the company is emphasizing its ability

to influence the communities. The company is also informing the audience about its responsibility, which helps the company project an image of an able and responsible company that the audience will admire. This may encourage the audience to choose this company for products and materials. In the passage “Sustainability cannot be tackled alone - it is only by collaboration that we can make progress towards a more sustainable future. We are making strides in building lasting relationships that will allow us to increase our ability to create change” (Berry Plastics Corporation, 2012), the company is saying that collaboration makes the company more powerful to address sustainable issues. This gives a message that company is not alone and is working to form a group to initiate sustainability efforts. The audience will think that the company is capable and credible enough to protect environment. The following sentences are other instances of ethical appeals:

Climate change is a relevant and important issue to our business. We acknowledge that we can be part of the solution through reduction of our carbon emissions. To this end, we will first begin to measure our impact, and then focus on reduction of it.

We are minimizing waste in our manufacturing plants and are also conjuring new ways to put our waste to use. We use the EPA's waste hierarchy of reduce, reuse, and recycle to guide us in our waste management decisions.

In the above sentences, the company is projecting an image of a concerned company that cares about the environmental impacts and has both interest and capability to minimize those impacts.

4.3.2.2 Pathos. There are several instances where the company uses pathos to persuade the audience, but there are only a few instances in which pathos has been applied to evoke emotions such as anger, fear, loyalty, and sympathy. At the very beginning of the sustainability section the company explains what sustainability is. According to the company, sustainability is “About creating goods and services without damaging the ability of future generations to provide for themselves” (Berry Plastics corporation, 2012). In this sentence, the company tries to evoke sympathy (for future generations) and loyalty (for the company) in the audience.

4.3.2.3 Logos. The company uses logos in a few instances to influence the audience logically. The sentence “By focusing on reduction of our energy use and alternative sources of energy, we are striving to reduce our energy footprint” (Berry Plastics Corporation, 2012) is an example of logical reasoning. The company used the fact that it has been focusing on reduction of energy use and alternative sources of energy to create an argument that the company is dedicated to reducing its energy footprint to minimize environmental impact. The sentence “Our engineers and designers tirelessly research and collaborate to devise better products that lessen our environmental, social and economical impact” (Berry Plastics Corporation, 2012), is another example in which the company makes a rational appeal. In this sentence, the company argues that the company’s products are better and have less environmental, social, and economic impact. To do so, the company uses the fact that its engineers and designers research and collaborate, resulting in the production of environmentally friendly products.

4.3.3 Graham Packaging Co. Graham Packaging Co. has seven different pages in the sustainability section of its website:

- Overview
- Mission and objectives
- Research
- Reduce
- Redesign, and
- On-site technology (Graham Packaging Company, 2011a) (Appendix 3)

Given the amount of information on the website about sustainability, readers can easily predict that the company is actively working for sustainable innovations. Graham Packaging Co. uses all three appeals to persuade its audience, but relies more heavily on ethos and logos than pathos.

4.3.3.1 Ethos. The company used ethos heavily to persuade the audience. The company used the word committed several times to convince the audience. For example, in the sentence: “Graham Packaging is committed to protecting the environment and reducing not only our carbon footprint but the carbon footprints of our clients as well” (Graham Packaging Company, 2011a), the company uses the word committed to project a positive image of a company that is concerned about protecting the environment. Similarly, in the sentences “Sustainability is a key consideration when developing new technologies. We continue to look for new light-weighting solutions that will reduce the amount of resources used without sacrificing the integrity of our containers” (Graham Packaging Company, 2011b), the company may be using the term integrity to suggest to the audience that the company has integrity for not wanting to sacrifice the quality of its products to achieve the worthy goal of sustainability.

4.3.3.2 Pathos. The company uses pathos in a few instances to persuade the audience. In the sentence “As we move forward, we continue to implement new sustainability initiatives in an effort to protect our environment” (Graham Packaging Company, 2011b), the company uses the phrase *our environment* to evoke sympathy and loyalty. The term *our* refers not just to the company but the audience as well. The company is trying to make the audience identify with the company and see that its interests are the same as the company’s interests. Similarly, the sentence “We firmly believe in being responsible stewards of the natural resources we employ and conserving our world for future generations” (Graham Packaging Company, 2011a) evokes both sympathy and loyalty in an audience. By saying “our future generations,” the company is trying to stir the audience’s loyalty towards the shared goal of being sustainable and sympathy towards the future generations.

4.3.3.3 Logos. On the website, the information under the "Redesign" page relies heavily on logos (Graham Packaging Company, 2011c). The company lists factors it considers to improve sustainability of a new design—i.e., light-weighting, more efficient shapes, and recycled content—and explained the benefits of these factors logically. For example, light-weighting helps improve sustainability by reduction in the amount of resin, produce lighter weight containers, increase cube efficiencies, decrease fuel usage, reduce transportation costs, reduce greenhouse gas emissions (Graham Packaging Company, 2011c). The company has developed an argument that it is doing the activities to ensure sustainability by focusing on light-weight production. To create this argument, the company has used several facts: a light weight reduces the amount of resin used, ensures increased cube efficiencies, etc.

Under the "Recycle" page, the following statement contains another example of a rational appeal:

“At Graham, we place a strong emphasis on the benefits of recycling and the positive impact it has on the environment. We utilize over 100 million pounds of recycled material called Post Consumer Resin (PCR) per year in the production of our plastic automotive and laundry product containers. Fifty million pounds of the PCR we use comes from our subsidiary Graham Recycling Center in York, Pennsylvania. Graham Recycling Center is one of the largest suppliers of bottle-grade recycled plastics in the world”

(Graham Packaging Company, 2011d).

In the above passage, the company has made a claim that it places a strong emphasis on the benefits of packaging. To support this claim, it uses facts: the utilization of over 100 million pounds of recycled material, availability of recycling center, etc.

4.3.4 Klockner Pentaplast Group. Klockner Pentaplast Group has a small separate section about sustainability under the “About Us” tab in its website as you can see in Appendix 4 (Klockner Pentaplast, 2012). The company uses ethos heavily and logos at times to persuade the audience. However, the company does not use pathos to evoke emotions such as anger, fear, loyalty, and sympathy.

4.3.4.1 Ethos. The company uses ethos in sentences such as “We are doing our part to promote sustainable business practices and protect and improve the environment throughout our global operations” (Klockner Pentaplast, 2012), “Safety, people development, and giving back to the communities in which we operate are integral parts

of our sustainability culture” (Klockner Pentaplast, 2012), and “In striving to be the number one film producer worldwide, we foster sustainable business practices that create value for our customers” (Klockner Peltaplast, 2012). In these sentences, the company portrays itself as one that promotes sustainability, protects the environment, values safety and people development, gives back to communities, and creates value for customers.

The company uses plenty of statements like “Sustainability is critical to our business” (Klockner Pentaplast, 2012). By saying sustainability is a critical to its business, the company is trying to show the audience how much the company values sustainability.

In the statement “Sustainability is one of the key pillars on which we build our success” (Klockner Pentaplast, 2012), the company is suggesting that it measures success in terms of sustainability. In the sentence “We believe it is our obligation to drive sustainability practices and principles in the markets in which we participate” (Klockner Pentaplast, 2012), the company identifies and embraces sustainability as an obligation.

4.3.4.2 Logos. The company uses logos in a few instances. Here is an example “Sustainability is critical to our business. We are an active player in important sustainability forums and non-governmental organizations around the globe to help advance the discussion and awareness of sustainable packaging” (Klockner Pentaplast, 2012). By telling the audience about the company’s participation in forums and organizations, the company is saying that it is trying to ensure sustainability because these forums and governments are concerned about sustainability and continuously discuss ways to implement sustainable practices.

4.3.5 Plastic Packaging Inc. Plastic Packaging Inc. has separate pages for sustainability on its website (Appendix 5). The website has two links to PDF files. The heading of the page is “Sustainability Program – A Leader in Protecting the Environment and Recycling” (Plastic Packaging Inc, 2012). This heading is followed by several subheadings as follows:

- Education
- Biodegradability
- Renewability
- Recyclability
- Minimization
- Product development and trials
- Internal programs

The company relies heavily on ethos, logos, and pathos to persuade its audience. However, there are only about two instances on the entire page where the company uses pathos to evoke emotions such as anger, fear, loyalty, and sympathy.

4.3.5.1 Ethos. The company uses ethos heavily to communicate with its audience. It attempts to convey a positive image of itself by repeatedly emphasizing its commitments to protect the environment. In the following sentence, the company uses ethical appeals: “Plastic Packaging takes an active role and commitment in being an innovator in evaluating the use of sustainable materials and doing our part in recycling what we use” (Plastic Packaging Inc., 2012). By saying the company takes an active role to ensure sustainability, the company is trying to project an image of a concerned and

dedicated company. Creating this image can persuade the audience to support and trust the company and its efforts. Similarly, in the sentence “Plastic Packaging also received SGP (Sustainable Green Packaging) Certification in 2011” (Plastic Packaging Inc., 2012), the company mentions its achievement to enhance its credibility. In the sentence “PPI has a working knowledge of developing regulatory biodegradability guidelines and the available methods, additives and other components that may be utilized to achieve compliance” (Plastic Packaging Inc., 2012), the company emphasizes its knowledge and expertise to convince the audience that it can achieve compliance.

4.3.5.2 Pathos. This company does not use emotional appeals to evoke emotions such as sympathy and loyalty in the written text, but the company does create pathos with the images on its web page. The image of a forest and a plant in a hand are intentionally used to stir the audience’s emotions. This appeal is achieved by “means of vivid description or enargeia” (Crowley & Hawhee, 2008, p. 34). The company uses the photo of the forest to show the implicit threat of environmental harm, which makes the audience fear the loss of such serene natural settings. The photo of the hand holding a plant may play to a desire to nurture a living thing.

4.3.5.3 Logos. There are some instances where the company uses logos to persuade the audience. In the sentence “Our teams work together and with our customers and suppliers in an ongoing effort to continuously improve existing product performance and develop new product designs that satisfy specific packaging needs while minimizing their impact on sustainability and environmental issues” (Plastic Packaging Inc., 2012), the company makes a claim that its products satisfy specific packaging needs while minimizing environmental impacts. To support this claim, the company uses the fact that

its teams work with customers and suppliers to improve product performance. By mentioning this, the company is trying to say that it also teams up with suppliers and customers to produce sustainable products. The company uses a sentence like “A solvent recovery distillation unit allows PPI to recapture and reuse 70% of the petroleum-based solvents that are a component of waste inks” (Plastic Packaging Inc., 2012) to make a claim that the company is doing its best to minimize environmental impacts, and to support this claim the company used number, i.e., 70% which is a significant positive number. By saying the company reuses 70% of the petroleum-based solvents, the company is trying to persuade its audience by providing examples of its good performance.

4.3.6 PRENT Thermoforming. PRENT Thermoforming has separate pages about sustainability on its website (Appendix 6). When clicking the sustainability tab on the company’s home page, the audience has three different options in the form of links: “Helping Customers Meet Their Goals,” “Prent’s Environmental Industry Leadership,” and “Initiatives to Reduce, Reuse, and Recycle” (Prent Corporation, 2012a).

On these pages, the company relies heavily on logos and partially on ethos to persuade the audience. There is no instance when the company uses pathos to evoke emotions such as anger, fear, loyalty, and sympathy.

4.3.6.1 Ethos. The company uses ethos to appeal to its audience in several instances. The sentence “Few companies have been more conscious of their environmental stewardship role than Prent” (Prent Corporation, 2012b) is a clear example of an ethical appeal through the use of term stewardship. Another example of the

company's use of ethos is this sentence: "Prent is committed to the practice of 'Reduce—Reuse—Recycle'" (Prent Corporation, 2012c). The term committed gives the message that this company cares about sustainability, and the alliteration emphasizes the means of achieving sustainability. Also, the company cites various awards that it has won to prove that the company has really been doing a lot in the area of sustainability. The awards listed are Annual Green Ribbon Award for pollution prevention, Wisconsin Governor's New Product Award, Business Recycling Leadership Award, and Wisconsin Business Friends of the Environment Award for its waste reduction efforts and employee recycling education (Prent Corporation, 2012b). By listing these awards, the company gives persuasive testimony of its achievements.

4.3.6.2 Logos. The "Initiatives to Reduce-Reuse-Recycle" page in the sustainability section of the website uses logos to persuade the audience (Prent Corporation, 2012c). The company made claims and backed them up with logical information. For example, according to the company "Our focus is on adopting and innovating: energy efficient operations, natural resource conservation, recycling and solid waste reduction" (Prent Corporation, 2012c). The company explains the reasons for adopting each of these activities. For example, the company is adopting and innovating energy-efficient operations to "save resources, computer-monitored environmental heating, air conditioning, and air exchange systems efficiently control the use of precious natural resources, in addition to controlling energy efficient lighting throughout all Prent facilities" (Prent Corporation, 2012c). Here, the claim is that it is important to adopt and innovate energy-efficient operations, and the company supports this claim by providing facts, e.g., to save resources, to save precious natural resources. Similarly, the company

creates an argument that the company is adopting and innovating energy-efficient operations, which is very important to ensure sustainability.

4.3.7 Polynova Industries. Polynova Industries has a separate page for sustainability on its website (Appendix 7), but very limited text about sustainability (Polynova Industries Inc., 2010). However, the company says that it will provide more information about its sustainable products upon request.

The company uses ethos and logos to persuade the audience. It does not use emotional appeals to evoke emotions such as anger, fear, loyalty, and sympathy at all.

4.3.7.1 Ethos. The sentence, “Preserving our environment is our responsibility as a corporate citizen, but in addition, it is also a business duty for us” (Polynove Industries, 2010) is an example of an ethical appeal. Here, the company uses the term responsibility to project a responsible image of the company. Another example of an ethical appeal is in the sentence “Polynova has pioneered in North America the use of bio-degradable additives in our film” (Polynova Industries, 2010). Here, the use of term pioneered paints the company a pioneer – i.e., innovator, leader – in the audience’s eyes.

4.3.7.2 Logos. The company uses logos in several instances. One example is “In addition to bio-degradable we are producing film with 100% starch resin and also hybrid starch/poly resin that provide our customers with further options to increase the sustainability of their packaging material” (Polynova Industries, 2010). Here, the claim is that the company is making significant improvements, and the facts that support this claim, for example, are production of film with 100% starch resin and production of hybrid starch/poly resin. The fact that the company produced film with 100% starch resin

is a great example of the company's improvements, and the company uses this fact to persuade its audience.

4.3.8 RPC Group. The company has a separate section for sustainability on its website. The page has four different links:

- Environmental policy statement
- Code of business ethics
- Anti-bribery policy
- Health and safety (RPC Group, 2012a)

The sustainability pages of RPC Group have little text, as you can see in Appendix 8. The company uses ethos and logos to persuade the audience. It relies heavily on ethos and does not use pathos to evoke emotions such as anger, fear, loyalty, and sympathy at all.

4.3.8.1 Ethos. The following sentences are examples of ethical appeals:

- RPC is committed to developing and supplying products that help its customers meet their environmental objectives and the demands of their customers and of regulators (RPC Group, 2012a).
- We also acknowledge our responsibilities as a manufacturing concern to continue to reduce the environmental impact of our factories and manufacturing processes (RPC Group, 2012a).
- RPC is committed to complying with all current legislative requirements (RPC Group, 2012b).

- RPC is committed to improve resource efficiency including the minimization of waste, through re-usable & recycled materials both internally and externally (RPC Group, 2012b).

In all of the above sentences, the company applies ethical appeals to persuade the audience. The company uses terms such as committed and responsibility to project an image of a concerned and dedicated company, which the audience might then respect and value.

4.3.8.2 Logos. The company uses logos in a very few instances. One example of logos is in the following sentence: “Working with our customers, the major retailers, and government, recycling and research organisations we aim to achieve even more and continue to improve the environmental performance of both our packs and the products that use them ” (RPC Group, 2012a). Here, the company makes a claim that it has improved in environmental performance and supports the claim with facts that the improvement was possible because the company worked with customers, retailers, government, and recycling and research organizations. The company uses facts to create an argument that the company has improved in environmental performance; therefore, the audience should do business with the company.

4.3.9 Sonoco. Sonoco has a separate section for sustainability on its website. The page includes visuals and links to other pages. The sustainability section of the website includes the following links (Appendix 9):

- Corporate Sustainability Council
- Environmental Stewardship

- Economic Performance
- Community Overview (Sonoco, 2012a)

The company uses ethos and logos to persuade its audience and does not overtly attempt to evoke emotions such as anger, fear, loyalty, and sympathy at all.

4.3.9.1 Ethos. The company uses ethos heavily to persuade the audience. For example, in the sentence “Sonoco will be the packaging industry leader in creating, maintaining and enhancing a sustainable future that benefits all of its stakeholders” (Sonoco, 2012a), the company is projecting a positive image by using word leader. Similarly, in the sentence “Sonoco has a strong record in the area of corporate sustainability” (Sonoco, 2012a), again the company is trying to convince the audience that the company has achieved enough in the area of sustainability in the past; therefore, the audience should trust and support the company.

4.3.9.2 Logos. The company uses logos in some instances. One example is the sentence “Sonoco's sustainability goals are being realized by focusing on continuous improvement in operating performance, maintaining an ongoing commitment to social responsibility and shrinking the environmental footprint of the Company” (Sonoco, 2012a), where the company makes a claim that the company’s goals are being realized and provides the facts that support the claim, e.g., focusing on continuous improvement, maintaining an ongoing commitment to social responsibility. Again in this sentence “Establishing 2008 as the baseline year, Sonoco has committed to reducing normalized GHG emissions by 15% from our global manufacturing facilities by 2014” (Sonoco, 2012a), the company makes a claim that the company is committed to reduce GHG

emissions by 15%. By showing this concern, the company is trying to persuade its audience.

4.3.10 Wipak Ltd. Wipak Ltd. has a single page for sustainability on its website (Appendix 10). The company basically lists its objectives and goals on this page. The company uses ethos and logos to persuade its audience. The company does not use pathos to evoke emotions such as anger, fear, loyalty, and sympathy.

4.3.10.1 Ethos. The company use ethos in several instances. For example, in the sentence “Wipak is committed to being a responsible corporate citizen” (Wipak, 2012), the terms committed and responsible are used to persuade the audience that the company is trying its best to be a sustainable company. Similarly, in the sentence “Wipak embraces the principle of sustainable development and continuously strives to manufacture packaging that is sustainable throughout its life cycle” (Wipak, 2012), the company is making an argument that the company is dedicated towards sustainable development. Portraying this image will help the company to gain its audiences’ support.

4.3.10.2 Logos. The company uses logos in the following passage:

“Minimizing the use of source materials by:

- Down-gauging material thickness through improvement of material properties
- Designing packaging that optimizes material usage
- Recycling plastic in the manufacturing process
- Investing in new equipment that provides tighter process control and less scrap generation” (Wipak, 2012).

The company is making a claim that it will minimize its use of source materials and supporting that claim by providing the ways to minimize the use of source materials: down-gauging material thickness, designing packaging that optimizes material usage etc. By knowing the means of achievement, the audience is more likely to believe that it can be done. The company uses logos similarly in several other passages.

4.4 TOPICAL ANALYSIS

The following section presents the results of a topical analysis of selected arguments used by each of the ten companies in alphabetical order. Specifically, the section discusses the common and special topics that these companies might have used to generate their arguments. It also provides explanations of those arguments.

4.4.1 Amcor Rigid Plastics. In the sustainability pages on its website, Amcor Rigid Plastics uses several common topics of invention. For example, the company uses the topic of division: whole/part by listing its sustainable efforts individually. For example, on its “How Are We Doing” page (Appendix 2), the company explains that they are “Implementing environmental management systems and continuously improving environmental performance at Amcor sites” (Amcor Limited, 2012e), “Regularly setting and working towards our EnviroAction targets” (Amcor Limited, 2012e), and “Launching new five-year EnviroAction reduction targets for greenhouse gas emissions, water use and waste to landfill” (Amcor Limited, 2012e). By providing this information as small parts, the company is trying convince the audience that as a whole they are doing a lot to be a sustainable company.

The company also uses the topic of relationship: cause/effect in several arguments. In the sentence “Sustainability management is most effective when it is integrated with business processes and organizational management systems” (Amcor Limited, 2012c), the cause is the integration of business process and organizational management systems and its effect is the most effective sustainability management. Similarly, in the sentence “Aligning our approach to sustainability with The Amcor Way will help position Amcor to realize opportunities for sustainable business growth and to outperform our stakeholders’ expectations” (Amcor Limited, 2012c), the cause is aligning its approach to sustainability with The Amcor Way and the effect is the realization of opportunities for sustainable business growth.

The company uses the topic of comparison: degree to persuade the audience. In the sentence “For the legacy Amcor sites, our GHG intensity continued the downward trend, finishing 4.5% below our FY2005/06 baseline” (Amcor Limited, 2012f), the company is giving its audience a basis of comparison by showing the decrease in greenhouse emissions to prove the company is improving. Similarly, in the sentence “In FY2010/11, Amcor achieved record earnings performance, with profit after tax up 39%* despite a challenging operating environment” (Amcor Limited, 2012a), the company uses numerical figures to show the audience that the company has performed very well even in a complex operating environment.

The company uses testimony: authority to enhance its credibility. The company mentions that “Amcor was awarded three Awards by the EAFA: Product Preservation category for the packaging of the Roche Accu-Chek Mobile product, a blood glucose

monitoring system” (Amcor Limited, 2012g). By citing the awards it earned, the company is arguing that it has been recognized authoritatively for its good performance.

4.4.2 Berry Plastics Corporation. The Berry Plastics Corporation uses several common topics of invention in the sustainability pages of its website. Specifically, it uses definition, division, comparison, and relationship to persuade its audience. It also uses what may be called a special topic of sustainability discourse.

The text on the website says, “By focusing on reduction of our energy use and alternative sources of energy, we are striving to reduce our energy footprint” (Berry Plastics Corporation, 2012). This is an example of relationship: cause/effect. Here, the cause is reduction of energy use and use of alternative sources of energy and the effect is reduction in the energy footprint. This information gives audience an idea about the company’s goals and how the company will attain that goal. In the sentence “Berry Plastics is a leading supplier of packaging, so we know the importance of packaging - protection of the products” (Berry Plastics Corporation, 2012), the company applies the topic of relationship: antecedent/consequence, where being a leading supplier is the antecedent of a consequent (i.e., understanding the importance of packaging). Similarly, in the sentence “With global manufacturing facilities, Berry Plastics has the ability and responsibility to positively influence the communities and environments in which we operate and serve” (Berry Plastics Corporation, 2012), the availability of manufacturing facilities is the antecedent of the consequent (i.e., its ability to positively influence the communities and environments). In the sentence “Because sustainability touches every aspect of our business, we prioritized our activities by focusing on the following areas to have the greatest impact” (Berry Plastics Corporation, 2012), the company uses

relationship: cause/effect where the cause is the fact that sustainability touches every aspect of its business and the effect is they prioritize activities by focusing on the areas of greatest impacts. The company is trying to say that sustainability impacts its business and because of that the company prioritizes its activities to ensure sustainability.

The company also uses topic of relationship: contraries. In the sentence: “Sustainability cannot be tackled alone - it is only by collaboration that we can make progress towards a more sustainable future” (Berry Plastics Corporation, 2012), the company has used relationship: contraries in the first half and deliberative: the good in the second half. By saying sustainability cannot be tackled alone, the company is establishing a case for collaboration indirectly. And, by saying it is only by collaboration that the company can make progress towards a more sustainable future, the company is saying a sustainable future is a good thing for the society.

The company also uses comparison: degree, a topic of invention that invites one to look at issues of more or less. The sentence “Our goal: Reduce electricity, natural gas, and water use per pound of plastic processed” (Berry Plastics Corporation, 2012) contain an argument that seems to have originated from the topic of comparison: degree. By using the term reduction, the company is providing a basis for comparing its future efforts with its past or present efforts. The usage of the word minimize in the passage “We are minimizing waste in our manufacturing plants and are also conjuring new ways to put our waste to use. We use the EPA's waste hierarchy of reduce, reuse, and recycle to guide us in our waste management decisions” (Berry Plastics Corporation, 2012) is another example of argument by comparison: degree. Another example is the sentence “Our Goal: Reduce waste through source reduction and increased recycling” (Berry

Plastic Corporation, 2012), in which the words reduction and increase give a basis of comparison for the audience. By seeing the word reduce, the audience will understand that the company is doing better than before in waste management. Similarly, when the audience sees the word increase, he/she will think the company is improving in recycling.

By showing the membership with the following associations, the company is using the topic of testimony: authorities. Showing the affiliations with such reputable organizations as Sustainable Packaging Coalition, Wal-Mart Sustainable Value Network., Rigid Plastics Packaging Group of the American Chemistry Council, Consumer Specialty Products Association (CSPA), and Product Care and Climate Leaders (Berry Plastics Incorporation, 2012) helps the company to set a positive impression in the eyes of its audience.

In the sentence “Our engineers and designers tirelessly research and collaborate to devise better products that lessen our environmental, social and economical impact” (Berry Plastics Corporation, 2012), the company uses the special topic of the famous three legs of sustainability—i.e., environment, society, and economy—to generate an argument.

4.4.3 Graham Packaging Co. Graham Packaging Co. seems to have used the topics of circumstances: past fact/future fact, comparison: degree, relationship: cause/effect, and testimony: authority to invent arguments to convince the audience of its sustainability pages. In the sentence “For over 20 years, we have integrated sustainable practices into our operations” (Graham Packaging Company, 2011a), the company applies the topic of circumstances: past fact/future fact by using numerical data as facts to

show that the company has been in the industry for a long time. When the audience reads this sentence, they will notice the fact that company has been in the industry for a long times, implicitly suggesting that the company is experienced.

In the passage “We have incorporated significant use of post consumer resin into many of our products, have reduced the amount of material we use through light weighting, reduced energy consumption and greenhouse gas (GHG) emissions, conserved water, oil and trees, and heavily supported recycling programs through our Graham Recycling Center and through various trade associations” (Graham Packaging Company, 2011a), the company uses the topic of comparison: degree. By using the word reduced, the company provides a basis of comparison for the audience and gives a message that the company is doing better than before. Also, in the sentence, the company has used the topic of division: whole/parts. The company presents a list of activities as parts of the bigger whole, i.e., sustainable efforts in general. In the sentence “At Graham, sustainability is a high level initiative that's built into our business systems for optimal performance and growth” (Graham Packaging Company, 2011a), the reference to a high-level initiative is another example of argument by comparison: degree. The phrase high-level provides a basis of comparison and gives a message that the company’s initiatives are significant and high-level.

The sentences “A 26 oz. PET pasta jar uses 2.5 times less GHG to produce than its glass equivalent” and “A #10 can made of high density polyethelene (HDPE) uses 6 times less greenhouse gas (GHG) to produce than its steel equivalent” (Graham Packaging Company, 2011e) are other examples of comparison: degree. In these sentences, the use of the term less gives a message to the audience that less is better than

more. It also provides a message that the production performance of the company is improving. Similarly, in the sentence “We will achieve this mission by reducing our energy consumption and our greenhouse gas emissions” (Graham Packaging Company, 2011e), the company uses comparison by degree. The term reduce conveys the message that less energy consumption is better than more.

Another topic of invention used by the company to communicate with its audience is relationship: cause/effect. In the sentence “As we continue to look at our operations and test new ideas, we discover new ways to minimize the impact of our production on the environment” (Graham Packaging Company, 2011f), looking at operation and testing new ideas are the causes of the discovery of new ways to minimize the impact (effect). Also, in this sentence, the topic of comparison: degree is evident in the term minimize. In the sentence “Our innovations have resulted in millions of pounds of saved CO₂e, hundreds of thousands of saved trees, and thousands of saved barrels of oil each year” (Graham Packaging Company, 2011f), the company uses relationship: cause/effect, where the cause is the company’s innovation and the effects are the saving of oil, trees, and CO₂e each year. Another example of the topic of relationship: cause/effect is in the sentence “Recycling enables us to save vast amounts of energy and natural resources, to divert hundreds of millions of pounds of plastic from landfills and to substantially reduce greenhouse gas (GHG) emissions” (Graham Packaging Company, 2011d). In this case, the cause is recycling and the effects are saved energy, reduction in greenhouse gas, etc. Also, the topic of division: whole/part can be seen at work in the same sentence. Saving energy and natural resources, diverting plastic from landfills, and

reducing greenhouse gas are divided into small parts and are the result of recycling (whole).

The company also uses the topic of testimony: authority to create an argument. By saying it is an Energy Star Partner (Graham Packaging Company, 2011a), the company is giving a message to the audience that the company is doing a lot to be sustainable because the partnership would not have been possible if the company was not practicing sustainability effectively.

4.4.4 Klockner Pentaplast Group. Klockner Pentaplast Group uses several common topics for invention of arguments to communicate sustainability related information (Klockner Pentaplast, 2012). It also uses a special topic in one instance. The company uses topic of relationship: cause/effect in several of its sentences. For example, in the sentence “To produce film products which enhance quality of life and are protective of our earth's resources” (Klockner Pentaplast, 2012), the cause is the creation of film products and its effects are enhance in quality of life and protection of earth’s resources. Another example of the topic of relationship: cause/effect is the sentence “Sourcing materials responsibly and applying the best available techniques and practices to minimize depletion of resources and optimize process efficiency” (Klockner Pentaplast, 2012). Here, the cause is sourcing materials responsibly and applying the best available techniques and the effect is minimization of depletion of resources and optimization of process efficiency. Similarly, in the sentence “Employing responsible management practices to ensure emissions, wastewater, and volumes of waste material remain as low as possible” (Klockner Pentaplast, 2012), the cause is employment of responsible management practices and the effect is low emissions, wastewater, and waste.

Again in the sentence “Educating the value chain on the myths and facts about sustainable packaging to enable our customers to make informed sustainable packaging choices” (Klockner Pentaplast, 2012), the company applies the topic of cause/effect. By developing arguments through topic of relationship: cause/effect, the company is trying to show the audience that its sustainability initiatives and actions (causes) result in something positive (effects), i.e., improvement in quality of life, protection of earth’s resources, minimization of depletion of resources, optimization of process efficiency, and minimization of emissions, wastewater, and waste. This as a result may convince the audience that company is dedicated in ensuring sustainability.

Another frequently used common topic is comparison: degree. In the sentence “Reducing the layer thicknesses of our films where possible to minimize raw material usage and help our customers to reduce packaging volume” (Klockner Pentaplast, 2012), the company provides a basis of comparison to its audience by using the words reducing and minimize. Another instance in which the comparison: degree is used is in the sentence “Implementing energy reduction projects to evaluate electricity reduction options” (Klockner Pentaplast, 2012), in which again the word reduction gives a basis of comparison between good and bad and in these cases less is good. In the same sentence, the company applies the topic of relationship: antecedent/consequence. This sentence implies that an evaluation of the electricity reduction option will follow the implementation of energy reduction projects.

The company also uses the topic of testimony: authority to set a positive image of the company by using the implicit testimony of other organizations with which it is affiliated. For example, the sentence “Partnering with Packaging 2.0 LLC to offer

SmartCycle® films made with various guaranteed levels of post-consumer recycled plastic bottle content” (Klockner Pentaplast, 2012) gives an impression to the audience that the company is affiliated with a reputable company, thereby enhancing the credibility of the company. Similarly, Klockner invokes the authority of other partners such as Sustainable Packaging Coalition, Institute of Packaging Professionals (IoPP), Sustainability Technical Committee, European Plastics Converter Association, and Support of Vinyl2010 Initiative (Klockner Pentaplast, 2012).

In the sentence “Sustainability is one of the key pillars on which we build our success” (Klockner Pentaplast, 2012), the company uses topic of definition. By saying so, the company is trying to say that sustainability is a key pillar on which the company’s success depends; in other words, sustainability is extremely important to the company. In the sentence “Our platform addresses all three components of sustainability – environmental protection, social responsibility, and economic development” (Klockner Pentaplast, 2012), the company uses the topic of division: whole/parts. Environmental protection, social responsibility, and economic development are the parts of sustainability, i.e., parts of the whole. Using the topic of division, the company has helped the audience understand the meaning of sustainability better. Similarly, in the sentence “Safety, people development, and giving back to the communities in which we operate are integral parts of our sustainability culture” (Klockner Pentaplast, 2012), the company again uses the topic of division: whole/parts. The whole is sustainability culture and its parts are safety, people development, and giving back to the communities. In the sentence “In striving to be the number one film producer worldwide, we foster sustainable business practices that create value for our customers” (Klockner Pentaplast,

2012), the company uses the topic of relationship: antecedent/ consequence. Fostering sustainable practices that create value for customers will lead the company to be the number one film producer. Statements like this help the audience to understand the goal of the company and the company's efforts to attain that goal.

In the sentence "Our platform addresses all three components of sustainability – environmental protection, social responsibility, and economic development" (Klockner Pentaplast, 2012), the company uses the special topics of the three legs of sustainability—i.e., environmental, social, and economic—to construct an argument that will persuade the audience. These famous legs of sustainability seem to constitute a special topic of invention in discourse about sustainability.

4.4.5 Plastic Packaging Inc. The company has very limited texts on its sustainability section (Plastic Packaging Inc, 2012). It uses the topic of testimony: authority to raise an argument that the company is credible by mentioning the awards the company has received. The sentence "Plastic Packaging won the 8th Annual Flexographic Technical Associations Environmental Excellence Award for PPI's Biodegradable program in 2008" (Plastic Packaging Inc, 2012) is an example of an argument raised by testimony: authority. Citing the awards received proves that the company is actively participating in sustainability initiatives that enhance the reputation of the company. Similarly, the company also mentions its SGP (Sustainable Green Packaging) Certification because receiving this certification is an honor, and the company does highlight it on the website (Plastic Packaging Inc, 2012).

Another common topic of invention used is relationship: cause/effect. In the sentence “Plastic Packaging Inc’s sales, production and technical staff regularly attend trade shows which helps them stay informed regarding new developments in sustainable materials and issues” (Plastic Packaging Inc, 2012), the cause is attending trade shows and conferences and the effect is employees being informed. Communicating this to the audience gives a positive impression about the company. The audience is aware that the company is up to date in the area of sustainability innovations and development, which is important to implementing sustainable practices.

On the top of the web page, the company mentions that “PPI’s efforts and emphases concerning sustainability include: education, biodegradability, renewable, recyclable, down gauging, product development, and internal programs” (Plastic Packaging Inc, 2012). Here, the company has cited its efforts and emphases as small chunks or parts of an overall sustainability program (whole).

4.4.6 PRENT Thermoforming. On its sustainability-related web pages, Prent Thermoforming uses several topics of invention to develop arguments. The company uses the topic of circumstance: past fact/ future fact to persuade the audience by saying, “For the past 20 years, Prent’s commitment to the environment has included an all-out effort to reduce our corporate carbon footprint and help our customers meet their sustainability and environmental objectives” (Prent Corporation, 2012a). Here, the company has used the (past) fact that it has been in the industry for a long time to convince the audience that the company is here to stay. Also, the company is saying that the company has done good things to survive for twenty years.

The company also uses the topic of relationship: cause/effect to make arguments in which one considers the cause of an effect. In the sentence “We are committed to the development and pre-qualification of new materials and processes to support customer needs” (Prent Corporation, 2012d), the cause is development and pre-qualification of new materials and processes and the effect of this action is customer need support. Similarly, in the sentence “We use Prent Returnable Containers to enhance product protection and improve freight efficiencies by eliminating wood skids and related corrugate packing materials” (Prent Corporation, 2012d), the cause is elimination of wood skids and related corrugate packing materials and the effect is enhance product protection and improve freight efficiencies. Another example of the use of cause/effect is the sentence “We design, build and operate thermoforming equipment, which optimizes efficiencies wherever possible” (Prent Corporation, 2012c). The cause here is building and operating thermoforming equipment and the effect is optimized efficiencies. Yet another example is when the company says “We utilize motion sensor lighting and flat-screen computer monitors to save on electricity” (Prent Corporation, 2012c). Here, the cause is utilization of motion sensor lighting and the effect is saving on electricity. In all of these sentences, the company is talking about the company’s sustainable efforts: development and pre-qualification of new materials and processes, elimination of wood skids and related corrugate packing materials, building and operating thermoforming equipment, and utilization of motion sensor lighting as well as the positive effects of these sustainable efforts. By doing this, the company is informing the audience that the company is taking substantial initiatives to ensure sustainability.

The company uses the topic of comparison: degree in several instances. The statements “99.99% of plastic entering our facilities worldwide leaves as either finished goods or recycled plastic sold back to suppliers or processors” (Prent Corporation, 2012c) and “97% of all paper, wood and miscellaneous manufacturing outputs are reused or recycled” (Prent Corporation, 2012c) achieve their persuasive effects by degree: 99.99 % and 97% are huge amounts. And, according to these same sentences, only 0.01% of plastic is wasted and only 3% of all paper, wood and other items are wasted, which are seemingly very small amounts, and in this case less is good. The company also uses the topic of comparison: differences to persuade the audience. By saying “Few companies have been more conscious of their environmental stewardship role than Prent. And, we have been recognized numerous times for our early and strong commitment to the environment” (Prent Corporation, 2012b), the company is saying it is different from other companies because the company is more conscious about the environmental concerns, and also the company has been recognized for its strong commitment to the environment. Statements like this one help the company to distinguish itself from competitors.

The company uses the topic of testimony: authority to raise an argument that the company is credible by mentioning the certifications and awards the company has received. For example, in the sentences “Prent Malaysia is ISO 14001 certified for environmental management systems,” and “Prent packaging and packaging processes are RoHS compliant and contain no lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers” (Prent Corporation, 2012d), the company has used the authority of ISO and RoHS as testimony. In the sentence “Prent President and CEO Joseph Pregont served as the first chairman of the

Wisconsin Governor’s Council on Recycling, an industry group advising the Wisconsin Legislature” (Prent Corporation, 2012b), the company makes an argument that the company’s president and CEO is an authority because of his chairmanship of an important advisory council. These are all examples where the company uses the authorities of others and shows the company’s association with them. By citing all of the awards earned—e.g., Annual Green Ribbon Award (for pollution prevention, commitment to the environment, innovative waste reduction and leadership in increasing environmental awareness), Wisconsin Governor’s New Product Award (for NEWsPAC, a patented cellulose alternative to foam packing peanuts), Business Recycling Leadership Award at the Wisconsin Manufacturer of the Year Ceremony (for its recycling and environmental leadership), and Wisconsin Business Friends of the Environment Award (for waste reduction efforts and employee recycling education) (Prent Corporation, 2012b)—the company is trying to give a positive impression.

4.4.7 Polynova Industries. The company uses the topic of relationship: antecedent/consequence and the topic of comparison: degree to invent arguments. In the sentence “Innovation and advanced technology has helped us begin production of barrier and laminate plastic film based packaging that can literally replace all tin can food packaging” (Polynova Industries Inc., 2010), the company uses the topic of relationship: antecedent/ consequence. In this sentence, innovation and advanced technology are the antecedent and the production of barrier and laminate plastic film based packaging is the consequence. Another example is the sentence “Through our advanced technology, we are able offer green solutions to significantly lower the carbon footprint of traditional packaging solutions in many ways” (Polynova Industries Inc., 2010), where the

antecedent is advanced technology and the consequence is to be able to offer green solutions to significantly lower the carbon footprint. Similarly, in the sentence “The advancement in plastic packaging technology allows the manufacturing of plastic packaging that has the same qualities as cans” (Polynova Industries Inc., 2010), the antecedent is advancement in plastic packaging technology and the consequence is manufacturing of plastic packaging that has same qualities as cans. By the application of the topic of relationship: antecedent/consequence, the company is trying to convince the audience of the potential for something to happen or exist.

The company also uses the topic of comparison: degree to develop arguments. For example, in the sentence “With our co-extrusion capability, we can add up to 50% recycled resin in the middle layer of our co-ex line and use virgin resin for the outside layers” (Polynova Industries Inc., 2010), the company is using numbers to provide basis of comparison to the audience. In this sentence the comparison by degree is embedded in another antecedent/consequence argument, for example, co-extrusion capability is antecedent and being able to add up recycled resin and using virgin resin for outside layers are the consequences. In the sentence “Polynova has pioneered in North America the use of bio-degradable additives in our film. This allows total degradation of the plastic film after 3-4 years. Up to 30% of our customers for the retail handle bags have requested this feature” (Polynova Industries Inc., 2010), the company provides numbers for the audience to compare and derive meaning from the sentence. For example, degradation after 3-4 years means that the company is engaged in a challenging project which requires 3-4 years. And the use of 30% customers gives a meaning that (i) the company is concerned about customers demand, and (ii) a significant percentage of the

customer demand this feature. In the sentence “In addition to bio-degradable we are producing film with 100% starch resin and also hybrid starch/poly resin that provide our customers with further options to increase the sustainability of their packaging material” (Polynova Industries Inc., 2010), the use of 100% resins means something positive and complete, and in this case the more the better.

The company also uses a special topic of deliberative: the good. In the sentence "Preserving our environment is our responsibility as a corporate citizen, but in addition, it is also a business duty for us" (Polynova Industries Inc., 2010), the company is saying that it is preserving the environment not merely to make money as a business, but also for the good of mankind in the company's role as a corporate citizen. This argument persuades and convinces the audience that the company cares more about the environment than its own financial benefits.

Surprisingly, this company does not cite any experts or any coalition or partnership with any other organizations.

4.4.8 RPC Group. The company uses the topic of testimony: authority in a few instances. For example, in the sentence “The organization is committed to the introduction of accredited Environmental Management Systems, such as ISO 14001, at all factory sites” (PRC Group, 2012b), the company uses the credibility of ISO standards to show that they are concerned about the sustainability practices because they are willing to submit to external standards.

In addition to the topic of testimony: authority, the company uses the topic of relationship: cause/effect. In the sentence “The Environmental Policy can only be

effectively implemented with the support and efforts of every member of staff” (RPC Group, 2012b), the cause is the efforts of every member of the staff and the effect is the implementation of the company’s environmental policy. Another example is the sentence “Through its internal communications program RPC keeps all employees informed of environmental matters and initiatives, encouraging active involvement at all levels” (RPC Group, 2012b), where the cause is an internal communication program and the effect is keeping employees informed about environmental matters and initiatives. By saying this, the company is emphasizing the fact that RPC’s internal communication program keeps employees informed, which means even the employees are knowledgeable about sustainability issues at RPC. This argument encourages the audience to do business with the company. Similarly, in the sentence “Procedures have been established to contain and minimise [sic] the effects of any significant environmental incident” (RPC Group, 2012b), the cause is the procedure and the effect is containment and minimization of any significant environmental incident. Another example where the company has uses the topic of relationship: cause/effect is the sentence “Through a program of energy conservation measures, RPC seeks to minimize the overall direct and indirect impact from its use of energy including energy recovery” (RPC Group, 2012b). In this sentence, the cause is program of energy conservation measures and the effect is minimized direct and indirect impact from use of energy. In all of these sentences, the argument that is being made is that the company has the mechanisms (or causes) in place to achieve its sustainability objectives. The audience may be persuaded that the company has the means to do what it says it is doing or is going to do.

4.4.9 Sonoco. Sonoco used several topics of invention for arguments on its sustainability page (Appendix 9). For example, the company uses the topic of comparison: degree by saying “Establishing 2008 as the baseline year, Sonoco has committed to reducing normalized GHG emissions by 15% from our global manufacturing facilities by 2014” (Sonoco, 2012a). Because of the specificity of this argument – i.e., 15% reduction in 6 years—the audience will think that the company is not just saying it will reduce emissions but that it has strict goals that can be represented in numbers. Another example of the use of the topic of comparison is “Reducing Sonoco's overall environmental footprint” and “reducing the carbon emissions related to the products we manufacture and services we provide” (Sonoco, 2012a), where the word reducing implies a before-and-after comparison. Similarly, in one of the pages, the company said it is shrinking its environmental footprint by “Reducing wastes going to landfills,” “Reducing energy consumption,” “Reducing greenhouse gas emissions,” “Reducing hazardous air emissions,” and “Reducing water usage” (Sonoco, 2012b). Here, the company has repeated the terms reducing to persuade the audience that the company is working hard to be a sustainable company and is thoroughly committed to reduction.

The company also highlights the awards received and its coalition with other organizations to gain credibility. Sentences like “Sonoco named to Corporate Responsibility magazine's 100 Best Corporate Citizens list for 2011” (Sonoco, 2012a) and “ Listed in Newsweek magazine's ‘Green Rankings’ top 500 largest publicly traded U.S. companies for the third consecutive year” (Sonoco, 2012a) are some examples of

argument by testimony: authority. The external validation used in these sentences strengthens the persuasive case the company is trying to make.

The company also uses the topic of relationship: cause/effect but only in a very few instances. For example, the sentence “To meet the sustainability goal Sonoco needs to reduce energy and carbon emissions through targeted investments and initiatives” (Sonoco, 2012a), the cause is reduction in energy and carbon emissions and the effect is achieving sustainability goal. By applying cause/effect, the company has helped the audience understand why the reduction in energy and carbon emissions is important. This may convince the audience of the importance of company’s efforts.

The company also uses the special topic of deliberative: the good. In the sentence "Sonoco recognizes its responsibility to address the challenges of climate change" (Sonoco, 2012a), the company is trying to give a message that the good of all people on our planet is threatened by climate change, and the company understands and acknowledges its responsibility to something beyond its bottom line. This argument may persuade the audience to trust and support the company by doing business with it.

In the sentence “Sonoco's sustainability goals are being realized by focusing on continuous improvement in operating performance, maintaining an ongoing commitment to social responsibility and shrinking the environmental footprint of the Company” (Sonoco, 2012a), the company uses the special topic of the three legs of sustainability to create an argument.

4.4.10 Winpak Ltd. The company uses the topic of comparison: degree in the following sentences: “Minimizing the use of source materials” (Winpak Ltd, n.d),

“Minimizing package end-use product waste” (Winpak Ltd, n.d), “Minimizing the use of secondary packaging” (Winpak Ltd, n.d), “Reducing transportation impact” (Winpak Ltd, n.d), and “Reducing facility emissions” (Winpak Ltd, n.d). All of these sentences provide the audience some basis of comparison. For example, by using the terms reducing and minimizing, the company has given the audience a message that something good has happened because, in all of these cases, less is better.

In the passage “Minimizing the use of source materials by:

- Down-gauging material thickness through improvement of material properties
- Designing packaging that optimizes material usage
- Recycling plastic in the manufacturing process
- Investing in new equipment that provides tighter process control and less scrap generation” (Winpak Ltd., 2012)

the company uses the topic of division: subjects/adjuncts. The company lists these activities—down-gauging, designing, recycling, and investing—as the adjuncts of the subject minimizing. The company helps the audience understand the message better by providing the divisions. Similarly, the same passage also includes several cause/effect relationships. Each one of the listed activities is a cause that achieves the effect of minimizing the use of source materials.

5. CONCLUSION: AN INVENTION HEURISTIC FOR SUSTAINABILITY-RELATED COMMUNICATION

A major objective of this study is to point out effective ways to apply classical rhetorical strategies to communicate sustainability-related information. Rhetoric can be used to both generate and analyze discourse. For this thesis, I have rhetorically analyzed the sustainability sections of the websites of ten companies and developed an invention heuristic that could be used by technical marketing communicators to communicate sustainability-related information in any industry.

One of the objectives of this study was to determine whether these companies explicitly define the term sustainability. Among the ten companies, only one (Berry Plastics) explicitly defines the term sustainability. Three companies (Plastic Packaging Inc., PRENT thermoforming, and RPC Group) do not attempt to explain what sustainability is, and the remaining six provide information from which the meaning could be inferred. The companies should try to define sustainability before communicating any other information related to it. Sustainability is a broad term, and it will be helpful to the audience to see a company's definition first.

On the basis of my analysis, I am able to elucidate and critique companies' invention strategies and techniques of persuasion by using classical rhetorical concepts of the artificial proofs and the topics of invention. Although I have no evidence that the authors of the company's websites were familiar with classical rhetorical theory, my study indicates that strategies based on classical rhetorical theory could be used advantageously by technical marketing communicators to construct persuasive discourse

about sustainability. The companies used common topics frequently to develop their arguments while special topics were rarely used. The most used categories of common topics were relationship, comparison, and testimony while topics of definition and division were used occasionally.

Surprisingly, companies do not seem to be using the topic of circumstance very often. The topic of circumstances has two categories: the possible and impossible and past fact/future fact. The possible and impossible is a topic of invention in which a rhetor describes something as possible or impossible to encourage or discourage audiences to do something (Burton, 2007). The past fact/ future fact is the topic of invention in which rhetor uses past and future facts to convince the audience (Burton, 2007). The technical marketing communicators should use the topic of circumstances more often because they are suitable for the topic of sustainability. The companies should have used circumstances: the past fact, for example, to explain how the earth has been impacted over the years and future fact to better explain the consequences of environmental impact. Similarly, the topic of possible and impossible can be used to persuade the audience. For example, a statement like “Although it may not be possible to stop other businesses, we try our best to minimize environmental impact on our part” can help companies to differentiate themselves from their competitors.

The companies do not use the topic of relationship: contraries very much. The companies might have used this topic of invention to establish a case for sustainability indirectly by discrediting negative environmental impacts. For example, the companies could have used a statement such as “sustainability is necessary because negative environmental impacts are harmful.” Similarly, the companies might have used the topic

of division: subjects/adjuncts more than they actually did, for example, in a statement such as, “To be sustainable, we recycle, reduce, and reuse.” By providing the subject along with its adjuncts, the companies can make an argument that recycling, reusing, and reducing are important characteristics of sustainability.

The technical marketing communicators use ethos, pathos, and logos to persuade their audiences. Most of the companies studied seem to be interested in proving themselves to be responsible corporate citizens in that they care about the environment and their products are sustainable—hence, persuading audience to buy their products or take actions on the companies’ favor. By applying ethos heavily, the companies are attempting to set a positive image. Although the companies use pathos, out of the ten companies studied, none of them use pathos heavily to evoke emotions such as fear, sympathy, loyalty, and anger. Four companies (Amcor, Berry Plastics Corp., Graham Packaging Co., and Plastics Packaging Inc.) use pathos occasionally to evoke these emotions, and most surprisingly, the remaining six companies do not use pathos in that way at all. Six companies including Amcor Rigid Plastics, Graham Packaging Co., RPC Group, Plastics Packaging Inc., Polynova Industries, and PRENT Thermoforming use logos heavily. Sonoco and Berry Plastics Corp use the rational appeal in only a few instances.

The companies might benefit by using pathos to evoke emotions such as anger, fear, sympathy, and loyalty because these emotions are appropriate for the topic of sustainability. Sustainability is related to human, earth, nature, etc., and thus by using these emotions, companies can persuade the audiences in a productive way. For example, the company can mention the fact that some companies do not care about the

environment and future generations, hence evoking anger in the audience. Also, the companies can talk about the polluted earth we are going to leave for the next generation, evoking sympathy in the audience. Appeals to these emotions may be more effective than vaguer appeals to assumptions, values, beliefs, attitudes, and prejudice.

Technical communication scholars and researchers have contradicting opinions on the applicability of classical rhetorical theories to modern technical communication. A few scholars think the classical rhetorical theories are not very applicable to modern technical communication (e.g., Hagge, 1996 and Moore, 1997), while many others think these theories are still applicable. It is undeniable that the context, modes of information, and their forms have changed due to technological advancements. But every discourse still has a rhetor, an audience, and a purpose. Technical marketing communication is primarily persuasive discourse. Although rhetorical situations are different, the rhetorical strategies are still applicable.

The use of artificial proofs and topics of invention depends on the rhetorical situation. A strategy that works in one rhetorical situation may not be useful in other rhetorical situations. Therefore, technical marketing communicators should make educated rhetorical decisions after analyzing a rhetorical situation. Both the rhetor's purpose and audience must be carefully considered, as mentioned by Coppola (1997): "a communication model should be applied with its interactive variables of

- 'stakeholder knowledge' - how much do they know about the environmental topic?
- 'attitude' – are they interested in sustainability?, and

- ‘desired behavior’ - what is the intended outcome of the discourse?’ (p. 20)

Among the ten companies, some of the companies did not follow this advice. They used abbreviations and technical terms in several arguments without any additional information, and some of the audiences—for example, environmentalists and government—may not understand this jargon.

Heuristic means “an aid to discovery” (Crowley & Hawhee, 2008, p. 13), and an invention heuristic is an aid to discovery of arguments. An invention heuristic might be a systematic procedure or simply a checklist that helps writers to generate the ideas for their communications. Invention heuristics are used by teachers of basic composition and technical writing courses to assist students at the pre-writing stages, but they are also valuable to experienced communicators. For example, in her book *From Black Codes to Recodification: Removing the Veil from Regulatory Writing*, Williams (2010) presented a rulemaking heuristic that she developed on the basis of a critical discourse analysis of historical regulations and a contextual inquiry into contemporary public policy writing. This heuristic was intended for use by policy writers interested in writing government regulations (Williams, 2010, p. 85).

In the following part of this chapter, I present an invention heuristic that may help technical marketing communicators to communicate sustainability-related information effectively to their audiences. This heuristic contains suggested strategies based on my evaluation of the strategies used by the technical marketing communicators of ten plastic-packaging companies to communicate sustainability-related information. This heuristic is

not only an attempt to summarize what is being done currently but also to suggest how it might be done in a more effective way and what else might be done.

Invention Heuristic

1. Technical marketing communicators who are engaged in communicating sustainability-related and any other environmental information should clearly define key terms such as sustainability and sustainable developments. They should understand the terms first and explicitly explain them to their audiences before providing any other information.
2. Technical marketing communicators should identify audiences' interest in sustainability. For example, if its customers are unaware of the importance of addressing sustainability, a company's efforts will not make any sense to the audiences. In other words, the company's efforts will not be valued by the target audiences. Hence, communicators should first define what sustainability is; explain the benefits and importance of sustainability; and then list the company's sustainable practices.
3. Technical marketing communicators should explain the abbreviations (e.g., CR, GHG) and technical terms (e.g., Capital Discipline, EnviroAction) used for the purpose of developing arguments if they are targeting a variety of stakeholders from partners to environmental activists. These two audiences do not have the same expertise in the field; therefore, technical marketing communicators may need to avoid using abbreviations or at least define them when they first use them.
4. When and if appropriate, technical marketing communicators should provide more information regarding the organizations they are members of. Most of the

companies studied provided a sentence about their partnerships with reputed environmental organizations. It is good that they are citing authorities and experts (testimony) to build their own credibility, but the audiences may not be aware of those organizations. The communicators may need to give more information about the associations if they benefit from advertising them.

5. Technical marketing communicators should consider using circumstance: possible/impossible and past fact/future fact to generate arguments for the purpose of persuasion. The companies studied do not utilize these topics of invention as much as perhaps they should.
6. Some of the companies construct arguments out of the three legs of sustainability. In fact, the three legs of sustainability—i.e., economic, social, and environmental—seem to be a special topic of invention in the sustainability-related discourse of the plastic-packaging companies.. Those companies should continue to turn to this special topic as a source of arguments, and other companies should probably follow suit.
7. Technical marketing communicators should use the special deliberative topics of the good/ the unworthy and the advantageous/ the disadvantageous more often to explain impacts of environmental issues more effectively. They can argue, for example, that a particular practice is advantageous to a nation that wishes to be competitive in a global market or good for society and the planet. The companies studied do not use these topics as much as might be expected.
8. Technical marketing communicators will probably continue to rely heavily on arguments based on relationship: cause/effect and antecedent/consequence and

comparison: similarity/difference and degree because they are appropriate for this topic.

9. Technical marketing communicators may need to make more use of relationship: contraries, the topic of invention in which “one considers opposite or incompatible things that are of the same kind” (Burton, 2007). By using contraries, a technical marketing communicator can establish a company’s case for sustainability indirectly.
10. Technical marketing communicators should consider using the topic of division: subject/adjuncts more often. Using this topic of invention might help the technical marketing communicator, for example, to argue that a company has a well-developed sustainability plan and is engaged in multiple, substantial sustainable practices.
11. Technical marketing communicators should continue to rely heavily on ethical and rational appeals, but they might also benefit by making better use of certain types of pathetic appeals to emotionally persuade their audiences. They stir audiences’ emotions by invoking assumptions, understandings, beliefs, values, attitudes, biases, and social norms, but they make relatively few appeals to sympathy, fear, loyalty, anger, etc. Since sustainability and environment are related to human welfare, the earth, and nature, which are all connected to human emotions, the communicators might have greater persuasive success by appealing to audiences through their emotions.

Sustainability has become a very popular issue today and it has impacted almost every industry. Companies need to persuade audiences of their concern about

sustainability and commitment to sustainable development. By using classical rhetorical strategies to communicate sustainability-related information, technical marketing communicators might be even more persuasive than they are at present. The heuristic offered in this thesis can be used as an invention aid by technical marketing communicators who are trying to communicate a company's sustainability-related information effectively to a target audience.

APPENDIX
SCREENSHOTS OF SUSTAINABILITY PAGES

1. Amcor Rigid Plastics: Sustainability Page

The screenshot shows the Amcor website's sustainability page. At the top, there is a navigation bar with the Amcor logo and a search bar. Below this is a secondary navigation menu with links for Markets, Packaging, Sustainability, Careers, Investors, and About Us. The main content area features a large blue banner with the text "Sustainability at Amcor" and an image of fresh produce in plastic packaging. To the right of the banner is a list of links: 2011 Sustainability Report, Our approach to sustainability, Packaging sustainability, How we are doing, Annual sustainability reports, Australian National Packaging Covenant Reports, and Australian Energy Efficiency Opportunity Reports. Below the banner are three blue boxes: "Access our 2011 Sustainability Report", "Packaging sustainability learn the facts", and "Amcor sets new environmental targets". At the bottom, there is a grid of links for various business units: Flexibles Europe & Americas, Flexibles Asia Pacific, Australasia & Packaging Distribution, Rigid Plastics, and Investors.

2. Berry Plastics Corporation

http://www.berryplastics.com/catalog/content/corporate/responsibility

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How we are doing Sustainability - Berry Plastics Cor...

BERRY
PLASTICS
CORPORATION
AND SUBSIDIARIES
LEADERSHIP BY DESIGN

Home Products Corporate Services Contact

Home > Corporate > Sustainability

Sustainability

With global manufacturing facilities, Berry Plastics has the ability and responsibility to positively influence the communities and environments in which we operate and serve. At Berry Plastics, sustainability is about creating goods and services without damaging the ability of future generations to provide for themselves.

It's about being responsible stewards of our business, our people and our environment. Sustainability touches every core of our business from sourcing to manufacturing to shipping.

Three legs of sustainability - environmental, social & economical.

Economical

Environmental

Social

Areas of Focus

Because sustainability touches every aspect of our business, we prioritized our activities by focusing on the following areas to have the greatest impact:

Energy - By focusing on reduction of our energy use and alternative sources of energy, we are striving to reduce our energy footprint.

Our Goal: Reduce electricity, natural gas, and water use by 5% per pound of plastic processed

Emissions - Climate change is a relevant and important issue to our business. We acknowledge that we can be part of the solution through reduction of our carbon emissions. To this end, we will first begin to measure our impact, and then focus on reduction of it.

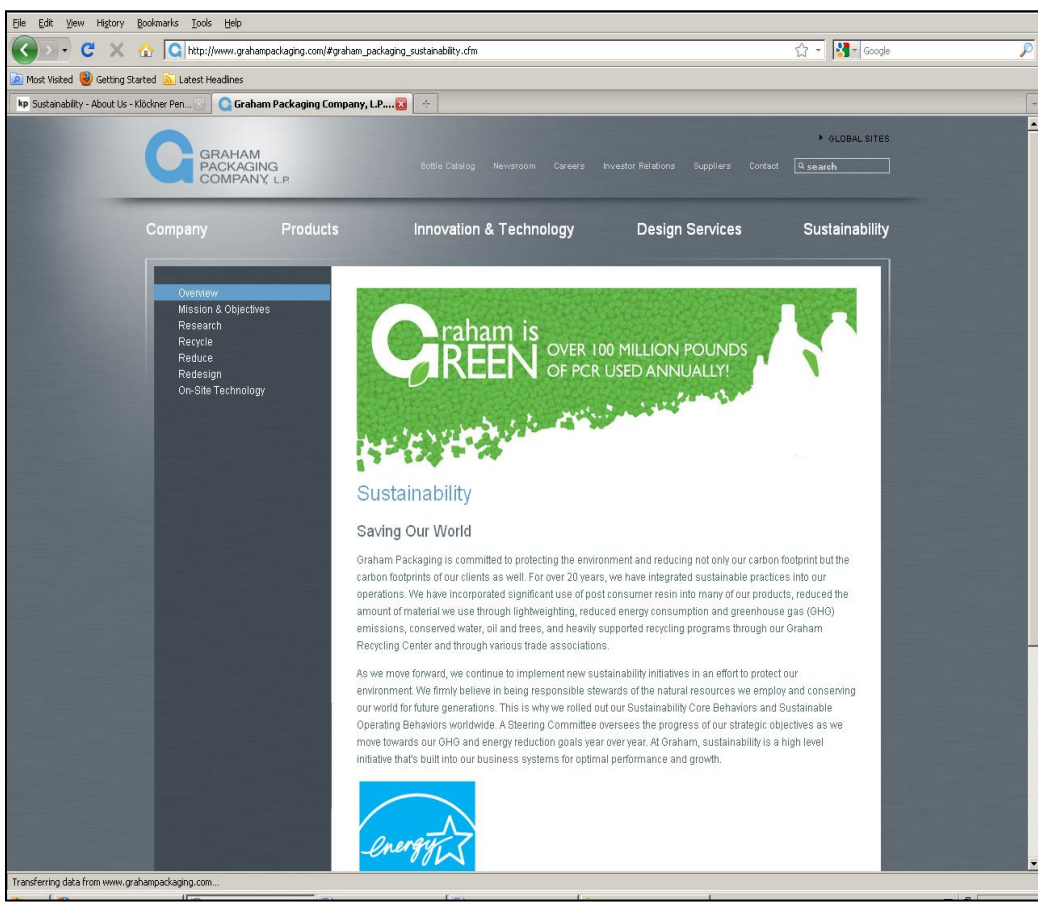
Our Goal: Establish corporation GHG emissions

Waste - We are minimizing waste in our manufacturing plants and are also conjuring new ways to put our waste to use. We use the EPA's waste hierarchy of reduce, reuse, and recycle to guide us in our waste management decisions.

Our Goal: Reduce waste through source reduction and increased recycling.

Materials - At the heart of every product and package is materials. Our engineers and designers

3. Graham Packaging Co.



4. Klockner Pentaplast Group

The screenshot shows the 'Sustainability - About Us - Klockner Pentaplast' page. The browser window title is 'Sustainability - About Us - Klockner Pentaplast - Mozilla Firefox'. The address bar shows the URL 'http://www.kpfilms.com/en/about/sustainability.asp'. The website header includes the Klockner Pentaplast logo, navigation links for CUSTOMERS, PRESS, SUPPLIERS, and a LANGUAGE dropdown. A secondary navigation bar contains links for ABOUT US, KP ADVANTAGE, PRODUCTS & SOLUTIONS, NEWS, CONTACT US, and a SEARCH THIS SITE button.

The main content area features a large blue banner with the text 'DEDICATED TO RESPONSIBLE SOLUTIONS'. Below the banner, the breadcrumb trail reads 'HOME / ABOUT US - SUSTAINABILITY'. The page is organized into several columns:

- ABOUT US TOPICS:** A vertical list of links including Vision, Fact Sheet, Our Products, Company History, Company Locations, Sales Offices, Plants, Sustainability, Community Relations, Corporate Governance, Management, Suppliers, and Careers.
- DOWNLOADABLES:** A section for 'kp overview brochure' with 'Certifications' and two 'Get' buttons.
- SUSTAINABILITY:** The central content area. It starts with a definition of sustainability as a key pillar. It includes a 'Click here to learn about the ways kp can help you meet your sustainability goals' button. A 'JOIN US AT ICMA CARD EXPO' button is also present. The text is divided into:
 - Environmental Protection:** A section describing the company's commitment to sustainable business practices and environmental protection. It lists several bullet points:
 - Sourcing materials responsibly and applying the best available techniques and practices to minimize depletion of resources and optimize process efficiency.
 - Employing responsible management practices to ensure emissions, wastewater, and volumes of waste material remain as low as possible.
 - Using available life cycle data and other relevant studies to show how various alternative resins compare on key sustainability criteria.
 - Educating the value chain on the myths and facts about sustainable packaging to enable our customers to make informed sustainable packaging choices.
 - Reducing the layer thickness of our films where possible to minimize raw material usage and help our customers to reduce packaging volume.
 - Instilling closed-loop systems with customers to take back their industrial waste for recycling into new film products.
 - Implementing energy reduction projects to evaluate electricity reduction options.
 - Investing in plastic recycling infrastructure to maximize use of recyclable materials.
 - Partnering with Packaging 2.0 LLC to offer SmartCycle® films made with various guaranteed levels of post-consumer recycled plastic bottle content.
 - Promoting post-consumer recycling through our bottle recycling operation that converts recycled beverage bottles into new film products.
 - Installing auxiliary power units (APUs) on kp owned truck fleet to minimize energy consumption and reduce CO₂ emissions.
 - Optimizing logistics, load size, and location to minimize CO₂ emissions.
 - Social Responsibility:** A section header at the bottom of the main content area.
- RIGHT-SIDE SIDEBAR:** Contains several promotional and utility elements:
 - JOIN US AT ICMA CARD EXPO:** A red button.
 - LATEST NEWS:** A section with three news items, each with a 'Learn More' link:
 - 'kp breaks ground for new Chinese production facility...'
 - 'Russian service center announced for decorative surfaces...'
 - 'Pentacard® dual interface / contactless readable card film solution...'
 - TOOLS:** A section with utility buttons: 'BOOKMARK THIS', 'EMAIL THIS', and 'PRINT THIS'.
 - ASK kp:** A button with a red question mark icon.

5. Plastic Packaging Inc.

Sustainability Program - A leader in protecting the environment and recycling - Mozilla Firefox

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http://www.ppi-hky.com/sustainability.html


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Sustainability Program - A leader in ...



“Packaging That Performs For You”

HOME MARKETS PRODUCTS CAPABILITIES SERVICES SUSTAINABILITY COMPANY NEWS CONTACT US



SUSTAINABILITY
Plastic Packaging's Focus

PPI's efforts and emphases concerning sustainability include:


- Education
- Biodegradability
- Renewable
- Recyclable
- Down Gauging
- Product Development
- Internal Programs

Sustainability Program – A leader in protecting the environment and recycling


Plastic Packaging takes an active role and commitment in being an innovator in evaluating the use of sustainable materials and doing our part in recycling what we use. As evidence of this commitment, Plastic Packaging won the 8th Annual Flexographic Technical Association's Environmental Excellence Award for PPI's Biodegradable program in 2008.

Plastic Packaging also received SGP (Sustainable Green Packaging) Certification in 2011 for its:

- Hickory plant ([download PDF](#))
- Forest City plant ([download PDF](#))



Renewability - The use of 'renewable' materials such as PLA, PHA and cellulose based films are evaluated when practical or when requested by PPI's customers.



PPI recycles its plastic waste

Product Development and Trials - PPI strives to work with existing and potential new customers to

Done

6. Prent Thermoforming

The screenshot shows a web browser window with the address bar displaying <http://www.prent.com/sustainability/>. The page features the Prent Thermoforming logo at the top left and a navigation menu with links for Home, About Us, Markets Served, Facilities, Our Process, Sustainability, News & Events, and Careers. A sidebar on the left is titled "Sustainability" and contains three menu items: "Helping Customers Meet Their Goals", "Prent's Environmental Industry Leadership", and "Initiatives to Reduce—Reuse—Recycle". The main content area includes a large image of green grass, a section titled "Long History of Green Initiatives" with a paragraph of text, and a bulleted list of three initiatives: "Helping Customers Meet Their Goals", "Prent's Environmental Industry Leadership", and "Initiatives to Reduce—Reuse—Recycle". The footer contains copyright information for 2012 Prent Corporation and contact details for their Janesville, WI location.

PRENT THERMOFORMING

Home · About Us · Markets Served · Facilities · Our Process · Sustainability · News & Events · Careers

Sustainability

- Helping Customers Meet Their Goals
- Prent's Environmental Industry Leadership
- Initiatives to Reduce—Reuse—Recycle

Long History of Green Initiatives

For the past 20 years, Prent's commitment to the environment has included an all-out effort to reduce our corporate carbon footprint and help our customers meet their sustainability and environmental objectives.

- [Helping Customers Meet Their Goals](#)
- [Prent's Environmental Industry Leadership](#)
- [Initiatives to Reduce—Reuse—Recycle](#)

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2225 Kennedy Rd. • P.O. Box 471 • Janesville, WI 53547-0471 • U.S.A. • TEL: 608.754.0276

7. Polynova Industries


Biodegradable and Environmentally Friendly Plastic Packaging | Poly Bags and Barrier Film | Sustainability - Mozilla Firefox

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http://www.polynova.com/sustainability.html

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Biodegradable and Environmentally...



**POLYNOVA
INDUSTRIES**


Request a quote»
Call: 604-448-0363
Toll Free: 800-844-0363


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Flexible Packaging

- [BARRIER POUCH BAG APPLICATIONS](#)
- [BARRIER POUCH TYPES](#)
- [PLASTIC HANDLE BAGS](#)
- [GENERAL APPLICATION BAGS](#)
- [PLASTIC MAILING BAGS](#)
- [REUSABLE PLASTIC BAGS](#)
- [BIODEGRADABLE PLASTIC BAGS](#)
- [SPECIALTY PRODUCTS](#)
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[HOME](#) » [SUSTAINABILITY](#)

Biodegradable and Environmentally Friendly Plastic Packaging - Sustainability

As a packaging supplier of leading consumer brand companies, we believe that the issue of sustainability is increasingly important. Preserving our environment is our responsibility as a corporate citizen, but in addition, it is also a business duty for us. Many of Polynova's customers are becoming progressively concerned with following green practices in their production as well as their packaging processes and methods.

We want to make sure that we supply the packaging solutions that meet the **most stringent sustainability standards**. Through our advanced technology, we are able offer green solutions to significantly lower the carbon footprint of traditional packaging solutions in many ways.

Call Polynova at **800-844-0363** or **604-448-0363** to discuss your sustainable flexible packaging requirements today!

Sustainable Packaging Solutions

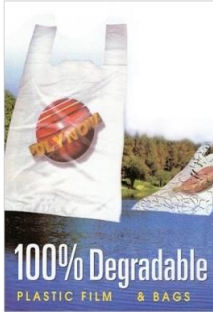
Plastic Pouch Bags for Food Packaging to Replace Tin Cans

Innovation and advanced technology has helped us begin production of **barrier and laminate plastic film based packaging that can literally replace all tin can food packaging**. The advancement in plastic packaging technology allows the manufacturing of plastic packaging that has the same qualities as cans. Our **food pouches** can be used for any application, whether it is frozen food, liquid or boilable food packaging.

In a simple approach, the carbon footprint of the given packaging material is linear to its weight. Plastic food packaging weighs anything from about one fifth to one tenth of the weight of the corresponding can food packaging, effecting a significant decrease in carbon footprint of the given product.

Better yet, **plastic packaging is easily recyclable** and there is no need to separate paper labelling from the main material, as high quality printing is borne by the plastic film itself.

[Contact us now](#) to learn more about our food pouches and barrier plastic film packaging solutions.



Done

8. RPC Group

RPC Group Sustainability - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.rpc-group.com/sustainability/

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RPC Group Sustainability

Home | About Us | Investor Relations | Products | RPC Sites | News | Sustainability | Enquiries

Location: Home | Sustainability

- Environmental Policy Statement
- Code of Business Ethics
- Anti-Bribery Policy
- Health And Safety

Links

- British Plastics Federation
www.bpf.co.uk
- Plastics in recycling
WRAP
www.recoup.org
- Plastics Recycling
www.plasticsconverters.eu
- EUPC
www.plasticsconverters.eu

Download

RPC Sustainability Policy Document - English

RPC Sustainability Policy Document - French

RPC Environmental News:

- JUGIT™ - The Success Continues Worldwide...
- Lightweight Solution is Tailored to Wipes...
- An Essential and Sustainable Pack...

Subscribe to RPC's Sustainability Matters e-bulletin for future environmental news

Name:*

Email:*

Type Verification Image:*

8216

Subscribe

rpc sustainability matters
A Sustainable Future

RPC is committed to developing and supplying products that help its customers meet their environmental objectives and the demands of their customers and of regulators.

We also acknowledge our responsibilities as a manufacturing concern to continue to reduce the environmental impact of our factories and manufacturing processes.

Our RPC Sustainability Matters programme provides regular updates on our latest initiatives in these areas as well as factual reliable information on the environmental impact and benefits of plastics packaging.

Rigid plastics packaging already makes a significant contribution to sustainability in the supply of both food and non-food products. Working with our customers, the major retailers, and government, recycling and research organisations we aim to achieve even more and continue to improve the environmental performance of both our packs and the products that use them.

For enquiries relating to sustainability, please contact us on:

RPC Group - Sustainability
Tel: +44 (0) 1933 416 523
E-Mail: sustainability@rpc-group.com

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Done

9. Sonoco

The screenshot shows a Mozilla Firefox browser window displaying the Sonoco Sustainability website. The browser's address bar shows the URL <http://www.sonoco.com/sustainability.aspx>. The website header includes the Sonoco logo on the left and navigation links for News, Locations, Media, Contact, Search, and Events on the right. Below the header is a secondary navigation menu with links for About, Products & Services, Investor Relations, Careers, and Sustainability. The main content area features a large banner with the text "Sustainability" and "Home / Sustainability". The banner is divided into two sections: "CORPORATE RESPONSIBILITY" on the left and "Dow Jones Sustainability Indexes Member 2011/12" on the right. The "CORPORATE RESPONSIBILITY" section includes a paragraph: "Sonoco's sustainability goals are being realized by focusing on continuous improvement in operating performance, maintaining an ongoing commitment to social responsibility and shrinking the environmental footprint of the Company." Below this text is a green button with a right-pointing arrow and the text "WATCH THE VIDEO CASE STUDY". The banner also features a large graphic of three overlapping circles in purple, blue, and green, with a globe-like pattern. At the bottom of the page, there are two columns of text: "Sonoco will be the packaging industry leader in creating, maintaining and enhancing a sustainable" and "Corporate Sustainability Council". The second column includes the text "Sonoco has a strong record in the area of corporate sustainability, reflecting the". A small footer at the bottom left reads "Transferring data from www.sonoco.com..."

10. Wipak Company

The screenshot shows a Mozilla Firefox browser window displaying the Wipak Company website. The address bar shows the URL <http://www.wipak.com/en/company/1-1-7.htm>. The website has a green and white color scheme. The main navigation menu includes Home, Company, Markets, Products, Technology, Careers, News, and Contact Us. The page title is 'Company'. The 'Company Profile' section is active, showing a sidebar with links to various company pages and a main content area titled 'Contributing to a Sustainable Future'.

WIPAK

Home Company Markets Products Technology Careers News Contact Us

Company

Company Profile

Company

Company Profile

[Disclosure Controls and Procedures](#)

[Code of Business Conduct](#)

[Company Structure](#)

[History](#)

[Quality Commitment](#)

[Partners in Packaging](#)

[Sustainability](#)

[Customer Service](#)

Contributing to a Sustainable Future

Wipak is committed to being a responsible corporate citizen. As part of that mandate, Wipak embraces the principle of sustainable development and continuously strives to manufacture packaging that is sustainable throughout its life cycle. Consequently, Wipak has established the following sustainability objectives:

- Manufacture packaging that meets the intended function and performance criteria
- Manufacture packaging that maximizes use of recycled and/or renewable energy sources and materials.
- Manufacture packaging that is sourced, produced and transported to maximize sustainability.

In support of these objectives, Wipak carries out a multitude of activities including:

- Minimizing the use of source materials by:
 - Down-gauging material thickness through improvement of material properties
 - Designing packaging that optimizes material usage
 - Recycling plastic in the manufacturing process
 - Investing in new equipment that provides tighter process control and less scrap generation
- Minimizing package end-use product waste by:
 - Manufacturing barrier materials that extend product shelf life
 - Manufacturing portion-controlled packaging that minimizes product waste at the consumer
- Recycling waste from manufacturing processes by:
 - Sending excess plastic waste for recycling and use in other products
 - Recycling corrugated cardboard materials
- Minimizing the use of secondary packaging by:
 - Sorting and reusing or recycling pallets
 - Establishing pallet return programs
 - Using corrugated cardboard with recycled content
 - Designing corrugated cardboard structures for health

Done

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