

TRENDS IN CORPORATE AND SOCIAL ATTITUDES TOWARD THE  
TREATMENT OF PUBLIC RESOURCES, EXTERNALITIES AND  
THE ENVIRONMENT

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A

Dissertation

Presented to the

Graduate Faculty of the

Marshall Goldsmith School of Management

Alliant International University

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In Partial Fulfillment of  
the Requirement for the Degree of  
Doctor of Business Administration

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by

Pornpimol Limprayoon

San Diego, 2009

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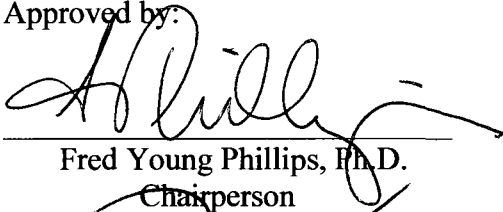
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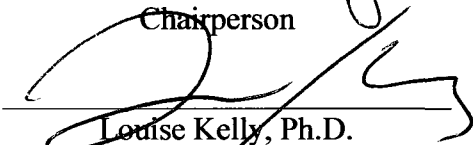
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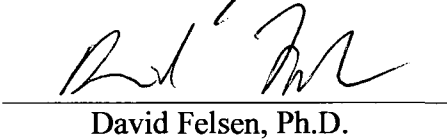
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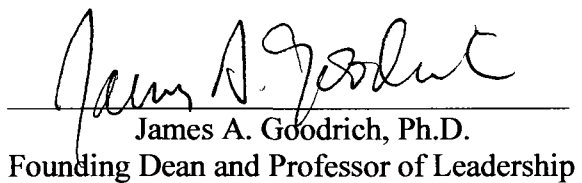
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Founding Dean and Professor of Leadership

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## CHAPTER I

### INTRODUCTION

This study investigates the attitudes of consumers and corporate executives toward corporate treatment of public resources, externalities and the environment. Corporations have significant power to maximize profits by utilizing common resources, which often results in their depletion or other environmental problems. The objective of this study is to establish an attitudinal typology that will help monitor this aspect of the business-government-society relationship as it exists today and use this typology to clarify trends and issues in this relationship that may help improve management decision-making and policy development. It is believed that attitudes and responses to environmental appeals are a function of an individuals' belief that they can influence the outcome of such problems. Therefore, another goal of this research is to develop a better understanding of these issues to help those whose job it is to create general environmental awareness and to encourage behavioural decisions to promote more sustainable development. This chapter presents the general background of the problem, a brief history of the growth of corporations in the United States, the emergence of a recognition of the important of externalities, contemporary environmental issues, growth of corporate power, models of environmental and natural resources, a statement of the problem and the expected contributions of this study to academia and the practice of management.

## General Background of the Problem

The corporation as an institution began a little more than 400 years ago and has risen from relative obscurity to become the world's dominant economic institution (Bakan, 2004; Grossman & Adams, 2007). As early as 1564 several companies were formed as joint-stock companies that operated both in England and the America. Some early companies were established to supply water and other commodities to England. By the 1670's the first corporation in the North America, Hudson's Bay Company (Hbc), was established by Prince Rupert, cousin of King Charles II of France and it has operated continuously since then. Throughout the late seventeenth and early eighteenth centuries many companies were formed; however, many failed because of corruption and scandal. For example, in the 1710's, the South Sea Company was formed in the Spanish colonies of South America; but it collapsed in 1720. In post revolutionary America, the number of corporations grew tenfold, from 33 to 328 between 1781 and 1790 (Brown, 1996).

Corporations influence every aspect of our life including what is produced, how we work, what we eat, drink and even breathe. Our behavior is also strongly influenced by the culture, iconography, ideology, and advertising expenditures of large and powerful corporations. They also dominate development of government policy.

“Corporations now sometimes dictate the decisions of their supposed overseers in government and control domains of society once firmly embedded within the public sphere and the same applies to the government sector” (Bakan, 2004). The actions of corporations affect labor, the environment, our culture, and almost every aspect of American life. Governmental regulations that support and protect the corporations

affect the commons and human life as well. Some corporations have caused immeasurable negative impacts on the environment for example, the Exxon Valdez oil spill. As corporations become more powerful, the problems associated with their dominance grew as well. The environmental impacts from their operation are felt around the world.

“Corporate activities and governmental policies affect our lives in different ways and each allows citizens different kinds of recourse, which are the ballot, complaint hotlines, “shopping elsewhere,” boycotts, etc., to express satisfaction or dissatisfaction with their actions” (Phillips and Limprayoon, 2007). When market power is concentrated in a few large corporations, or when the U.S. firms or government do business with overseas corporations, citizens have fewer options. Both cases have obviously happened with many large corporations today, including Walt-Mart, General Motors, Ford, Exxon Mobil, General Electric and many others.

In democracies like the United States consumers or voters theoretically have the power to address these problems. However companies and corporate executives wield great economic power and use it to influence legislators and others through lobbyists, political action committees (PACs), advertising, and other activities. This research, therefore, focuses on the attitudes and motivations of corporate managers, as well as ordinary citizens, who respond to the effects of their actions.

If the government and business boundaries had been static in recent years, this research would be of much less importance. However, with the election of a Democratic Congress in 2006 and a Democratic President in 2008 there is the potential for change in voters’ and politician’s attitudes on this matter. Thus, part of the proposed

research is to explore how the government and business boundaries have been moving along different lines of interest, and how this movement is likely to influence the sensibilities of certain segments of the population. The dimension of movement examined here is the corporate treatment of “the commons” – or those resources that belong not to the corporations, but to the government and the general society.

One of the primary concerns of this research is the attitudes people hold to external costs or externalities. “An externality is a benefit or cost that affects someone who is not directly involved in the production or consumption of a good or service” (Hubbard & O’Brien, 2007). When the action of a corporation affects the commons or the public welfare in a negative way, it is often referred to as *negative externality*; but these effects are not always negative, there can also be positive externalities. An example of a positive externality is that some corporations implicitly recognize their interconnection to society by making providing support with donations or support for non-profit organizations. For example, in 2002 Wal-Mart donated a total of more than \$200 million to thousands of charitable organizations. Exxon-Mobile helped create the Save the Tiger Fund in recognition of one of their logo and advertising icons, which has collected about \$9 million since 1995, to fund conservation projects around the world. General Motors developed a cooperative effort with Detroit-area schools to help curb youth violence. In the late 1990s, annual contributions by American companies and their foundations amounted to over \$8 billion. Another example of a positive externality is the knowledge spillover from high-technology businesses that benefit universities, communities and even other companies.

While these positive externalities are generally accounted for, the more serious problem of externalities that create costs is less well studied or appreciated. A classic example of a negative externality is the emission of pollutants by industries into water or air, which directly affect and can even harm people virtually around the world. Air, water, noise and internet pollution affect the common resources, the lives of people and future generations, and their property. There are many other kinds of external costs, including traffic congestion, space congestion, and taking of public property or funds for private use. In these situations, people are affected even though they neither use nor sell the corporation's products and are not parties to the transaction.

#### Corporations and Environmental Issues

The problem of externalities is widespread and has gained increasing attention in recent years. This in turn has helped stimulate the growing field of environmental and resource economics.

According to the annual *State of the World* series, produced by the World Watch Institute, the main environmental problems facing us today include over-consumption of public resources, pollution, and population growth (Schultz, et al., 2005). Over-consumption\_of public resources includes such issues as oil use, deforestation, species extinction, exhaustion of fisheries, and the depletion of freshwater supplies. Pollution problems include global warming and greenhouse gases, loss of the ozone layer, acid rain, polluted water, and chemical exposure from manufacturing and agriculture.

James Hansen, a NASA scientist, believes the world has “long passed the ‘dangerous level’ for greenhouse gases in the atmosphere and needs to get back to 1988

levels.” Hansen states that the “Earth’s atmosphere can only stay this loaded with carbon dioxide for a couple more decades without changes such as mass extinction, ecosystem collapse and dramatic sea level rises.” He concludes that “This is our last chance” (Hansen, 2008). This latest warning for our planet could encourage corporations and citizens to re-think and respond positively to address this serious situation before it becomes too late.

While it is the responsibility of all corporations to maximize profit, some corporations do this while ignoring the interests of the general public and society. Some corporations go further by denying any responsibility to protect and preserve our common resources. Management decisions made solely on the basis of their potential contribution to corporate profitability naturally limit the range of social, political, and economic issues relevant to the corporate-society relationship. A mere sixty years ago, the relationship between business and a healthy environment was of little or no concern because our natural resources seemed to be unlimited.

However, by the middle of the modern industrial era, ninety-seven percent of the old growth forests in North America had been devastated (Hawken, 1994). Critically needed groundwater resources around the country have been polluted and depleted. Each day farmers and ranchers use more than 20 billion gallons of groundwater from the Ogallala Aquifer, a freshwater reservoir that lies beneath the Great Plains. Since water use greatly exceeds the replenishment by rainfall, it is expected to run dry within thirty to forty years. In addition, more than 25 billion tons of fertile topsoil are lost every year in the U.S. (Hawken, 1994).



These critical losses are occurring as the world population increases by 90 million people per year. At the same time, in order to survive in the increasingly competitive freely competitive global market economy, businesses feel increased pressure to reduce costs and utilize the common resources as much as possible and to avoid responsibility for external costs. As a result many scientists and environmentalists believe that the earth's entire ecosystem is disintegrating. The land, water and air have been transformed from life-supporting systems into repositories for waste. Hence, it may be that current business practices, which have resulted in vast improvements in quality of goods and the quality of life the world over are inadvertently destroying our planet in the process (Hawken, 1994).

Why do some corporations ignore environmental issues and deliberately or unintentionally create externalities? No one knows, and that is one reason this research project was developed. This crucial problem has not been well addressed by research. There are several factors that may make them ignore the issues—economic pressure, freedom from liability, ignorance, and their business philosophy. Korten (1995) notes that global economic output expanded from \$3.8 trillion in 1950 to \$18.9 trillion in 1992. During the same period, world trade rose from total exports of \$308 billion to \$3,554 billion—an 11.5-fold increase. This enormous growth in the economy and trade has put increased pressure on businesses to utilize more and more of the common resources which in turn has resulted in more deliberately or unintentionally environmental and social costs transferred to others.

In 1952, General Motors CEO Charles Wilson made the now famous statement that “What is good for General Motors is good for the country.” During the past two

decades, large corporations have been very effective in getting more and benefits that were “good for them.” They successfully lobbied government to obtain more liberalized trade and investment policies that provided them new freedom to pursue profits internationally. They also persuaded the government to take a more hands-off approach to corporate monopolies, claiming that mega-mergers are needed for firms to be competitive in global markets (Anderson & Cavanagh, 2000). And they limited environmental review and regulations that were beginning to address some of their environmental and social impacts.

As a result of the increase in the volume of production and trade, externalities have increased and the environment has become more polluted and more depleted. Many believe that these impacts have caused significant climate changes and that we have entered a period of global warming. The fact that the temperature of the earth has been increasing yearly and that icebergs in the Antarctica are melting at an alarming rate lends credence to this argument. Scientists around the world agree that the earth’s climate is changing due to human activities that release greenhouse gases into the atmosphere (IPCC, 2007). If left unaddressed, this situation will cause more severe weather, increased flooding, disease and habitat destruction, all of which will have devastating impacts on society.

#### What is a corporation?

There are several ways to view and define a corporation. A corporation is “a thing that can endure beyond the natural lives of its members and that has incorporators who may sue and be sued as a unit and who are able to consign part of their property to

the corporation for ventures of limited liability” (Donaldson, 1982). Drutman and Cray (1961) believe the corporation is all about creating wealth, “The Corporation is one of many ways to conduct business and organize money and property. It is a legal form, an abstraction that gives incorporators certain rights and privileges they would not normally enjoy on their own. The corporation form of business organization essentially allows a bunch of investors to pool their capital together into one shared enterprise—the corporation—in exchange for ownership shares.” One of the most important factors in formation of a corporation is a limitation of liability. The people who work for the corporation are protected to a large extent from accepting liability for the actions of the corporation. This influences their treatment of externalities.

Just 150 years ago the business corporation was a relatively insignificant institution. Today however, the modern business corporation is the dominant institution of American society as reported in *The Economist* (2000) magazine:

As an aggregate, corporations wield awesome economic clout, and the 500 largest U.S. companies constitute at least three-quarters of the American economy. But the dominant role of corporations in our society extends well beyond that. Not only do they produce almost all of the goods and services we buy, but also they and their ethos permeate everything from politics and communications to athletics and religion. And their influence is growing relentlessly around the world—even if the reach of multinational corporations and the negative consequences of globalization are sometimes exaggerated (p.149).

## The Birth of the Corporation

Corporations were originally set up to serve the public (Beatty, 2001). In 1776, during the colonial period when the colonists wrote the Declaration of Independence and severed their ties with Great Britain, there were only a few powerful corporations in colonial America. Most of the corporations that survived the revolution were non-profit institutions such as Dartmouth College. There were no private banks and only four federal banks which later became incorporated by state charters. Beginning in the late 1700's and continuing into the 1800's other corporations began to be chartered by the states. At that time corporate charters were artificial creations of their owners and the state legislatures and not considered persons. The corporations were regulated and taxed and could sue and be sued. They were subject to all of the laws and restrictions in their charters and their charters could be revoked by the state legislature if the corporation violated any of their terms. During the period 1819 to 1886, business people attempted to use the federal government to get their corporations out from under the control of the states and their citizens. They wanted more power and freedom to operate and wanted to remove some of the constraints that had historically been placed on them by the states.

The end of the Civil war and the beginning of the Industrial Revolution brought a period of enormous growth for corporations. The United States was experiencing massive economic growth and with its "manifest destiny" expanded geographically to the Pacific Ocean. The economy was booming both in farm production and international trade. Large businesses grew into corporations and began to dominate our economic life. As they got bigger they also increased their influence on American politicians, courts,

lawyers, and the culture. In 1868, when the 14<sup>th</sup> Amendment to the United States constitution became law, corporations used section 1 of the amendment to become legally defined as a person. The corporations wanted this change to have the same constitutional rights as individual people as well as to be freed from certain legislative and judicial constraints. Once the corporation was declared a person, the states that chartered them would then be constrained by the 14<sup>th</sup> Amendment from exercising power over them. The corporations convinced the courts in several states to declare them “persons” and to be treated as “persons” under the 14<sup>th</sup> Amendment. Section 1 states that:

All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

In 1886, based upon a series of court cases, the judge in *Santa Clara County* decided corporations enjoyed personhood by having qualities that confer distinct individuality. Even though there were many states that disagreed, corporations have been defined as a corporate personhood ever since.

The declaration of corporate personhood raised many questions in people’s minds. One question was: “Is corporate personhood bad for our society?” Today, the answer is yes according to William Meyer: “Corporate personhood changes the relationship between people and corporations, between corporations and the

government, and even between government and the people” (Meyer, 2001). In fact, the notion of corporate personhood ranked equally in people’s minds to the limited liability that corporations possessed. The effect of this change was viewed quite differently, than the loss of liberty or income for citizens, or the destruction of the environment or the corruption of the government (Dahl, 1973; Grossman & Adams, 1993; Meyer, 2001).

Chartered corporations are subject to the will of the people with government acting as an intermediary. But inequality of power and resources makes it much easier for corporations to influence or determine policy. The wealthiest business people use chartered corporations to gain benefit, influence government, and often use the government as intermediary to impose their will upon the citizens. Corporations use their corporate lawyers and paid lobbyists to influence legislators and government regulators to minimize the effects of new regulations or laws.

Corporations have created many toxic waste sites in the U.S., some knowingly and others by accident. In the past, there was a lack of knowledge concerning the dangers of toxins and pollutants that were dumped into the environment by large industries. Toxins were dumped into the air, the waterways and into the ground without concern for costs or risks. The Environmental Protection Agency (EPA) now has the responsibility to see that the toxic waste sites created by large industries are cleaned up, but many hundreds remain untreated and others are still being created. Some industries continue to dump toxic wastes into the environment because of regulations that allow them to pollute up to a certain level with or without small fines and others use their political power to pass the costs of cleanup to society and future generations.

Robert A. Dahl (1973) was an early critic of the growing power of corporations. He argued that, “Every large corporation should be thought of as a social enterprise, that is, an entity whose existence and decisions can be justified only insofar as they serve public or social purposes.” In addition, “Every large corporation should be thought of as a political system, that is, an entity whose leaders exercise great power, influence, and control over other human beings.” One reason that Dahl believed the corporations had acquired too much power is because American citizens allow them to do so by granting them certain rights, powers and privileges.

#### The Rise in Corporate Power

The reason for the remarkable rise of corporate power is their enormous economic power. As Anderson and Cavanagh (2000) note, if we look at the 100 largest economies in the world, 51 are corporations and only 49 are countries (comparing corporate sales and country GDPs). In 1999, General Motors was bigger than Denmark; Daimler Chrysler was bigger than Poland; Royal Dutch/Shell was bigger than Venezuela; IBM was bigger than Singapore; and Sony was bigger than Pakistan (Anderson & Cavanagh, 2000). Moreover, the 1999 sales of each of the top five corporations (General Motors, Wal-Mart, Exxon Mobil, Ford Motor, and Daimler Chrysler) were bigger than the GDP's of 182 countries.

This rise in corporate power has enabled corporations to change the world. Sometimes corporations do not appreciate their power and the impact it may have on society. But the cumulative power of businesses results in a massive force for producing change. In the nineteenth century the American Fur Company helped open the way for

the economic development of the Midwestern and Western United States. The company and the men it employed played a major role in the development of the young United States.

In the 1880's Standard Oil Company produced 90% of the nation's refined oil (Beatty, 2001). Its illuminating oil changed the way people lived and improved their quality of life. Before the availability of an affordable illuminant, people had to go to bed as soon as it became dark because they could not afford expensive candles, whale or fish oil. Standard Oil also became one of the main market powers as they moved into transportation and pipelines, and refining as the first integrated oil company.

Attitudes are changing in the public perception of corporations. A Business Week/Harris Poll in September 2000 showed that between 72 and 82 percent of Americans agreed that "Business has gained too much power over too many aspects of American life." In addition, between 74 and 82 percent of those polled agreed that big companies have too much influence over "government policy, politicians, and policy-makers in Washington."

#### What is Corporate Power?

"Power is the force or strength to act" ... and it is broadly defined as "the capacity to bring about change" (Steiner & Steiner, 2003). Basically, power ranges from coercion at one extreme to weak influence at the other. Power normally is used in creating or preventing change. People or institutions use power from many sources, such as wealth, knowledge, law, arms, social status, public opinion, and position. Adam



Smith (1723-1790) believed that by applying market forces business power could be formed to benefit society (Korten, 1995).

Business power is the authority behind business actions that can change the world. Its authority is given by the society to use in converting resources into producing goods and services. In return the corporations have the opportunity to make a return on their investment (profit). This agreement between business and society is called a *social contract*. The social contract legitimizes business power as a moral basis. Donaldson and Dunfee (1999) said “The power of giant corporations is legitimate when it is exercised in keeping with the agreed-upon contract.” The philosopher John Locke (1632-1704) wrote that “for governments the opposite of legitimacy is tyranny, identified as the exercise of power beyond right.” Corporations can violate the social contract by using their “power beyond right” to harm the public or act illegally (Locke, 1952).

There are many views of corporate power, but two important views include *dominance theory* and the *pluralist or stakeholder theory*. The *dominance theory*, suggests business controls the wealth and economy in the world and its power is not adequately checked and balanced for public good. Businesses exercise their power to alter the environment in self-focused ways that harm social welfare. They use their assets to create monopoly or oligopoly in markets in ways that reduce competition and harm consumers. In addition, businesses use financial campaigns to control politicians, hire lobbyists to manipulate political officials, employ corporate lawyers to minimize and avoid taxes, and use advertising campaigns to change consumers’ minds and shape opinion in their favour.

The *pluralist or stakeholder theory*, suggests that business power is applied in a society where other institutions such as markets, government, labor unions, advocacy groups and public opinion also have immense power (Steiner & Steiner, 2003; Shaw & Barry, 2004). . It is in many ways the polar opposite of the dominance theory. In this theory business power can be counterbalanced, controlled and subject to defeat. There are several boundaries that limit corporate managerial power including governments and laws, social interest groups, social values, markets and economic stakeholders.

### Models for Environmental and Natural Resources

From the time the American colonies became independent until the twenty-first century, the availability and use of environmental and natural resources have fluctuated widely. Beginning with the Colonial Period, America gradually developed a powerful society that seemed to have unlimited natural resources with few, if any, environmental problems. Old growth forests were cut and eliminated, rich agricultural lands were developed and exhausted; but few people noticed as there were always new places to go. By the early twentieth century, as the population grew and the frontier was closed, environmental problems (e.g. fisheries collapse, the severe drought of the thirties) began to have devastating effects on the populace including hunger and starvation.

In the 1960's Rachel Carson raised the alarm with her book—*Silent Spring*—about the risks of chemical contamination. In the 1970s more and more people began to express a fear that America had embarked on a path of self-destruction. A few ecologists, environmentalists and economists began to warn that natural resources were being depleted at an alarming rate and that environmental problems were getting worse

and were potentially irreversible (Ehrlich, et al 1970; Meadows et. al., 1972; Schumacher, 1973). They feared the combined effect would result in widespread ecological disruption with disastrous consequences for humanity. This concern expressed by both economists and environmentalists, has grown to a crescendo in the past few decades. Models can help illustrate the complex relationship between the economy and the environment.

The response to these challenges and expectations for the future can be viewed at the extremes as, the *basic pessimist model* and the *basic optimist model* (Tietenberg, 2000). The basic pessimist model is based on the study of Meadows, et al. in 1972. This model was updated and revised in 1992 under the title *Beyond the Limits* (Meadows, et. al.1992; see also Phillips, 1972, and Tietenberg, 2000). This study used a process of *system dynamics* developed by Professor Jay Forrester at MIT. It consisted of a large-scale computer model that was constructed to simulate future outcomes of the world economy. System dynamics uses *feedback loops* or a closed path that connects an action to its effect on the surrounding conditions which can influence further action to explain behaviour. The study reached three main conclusions. The first conclusion is that “within a time span of less than 100 years with no major change in the physical, economic, or social relationships that govern world development, society will run out of the nonrenewable resources on which the industrial base depends” (Meadows, et al., 1972; 1992; Tietenberg, 2000). When resources are depleted, the economic system will collapse causing massive unemployment, decreased food production and a decline in population as the death rate soars. The second conclusion of the study is that piecemeal approaches to solving the individual problems will not be successful. Under this

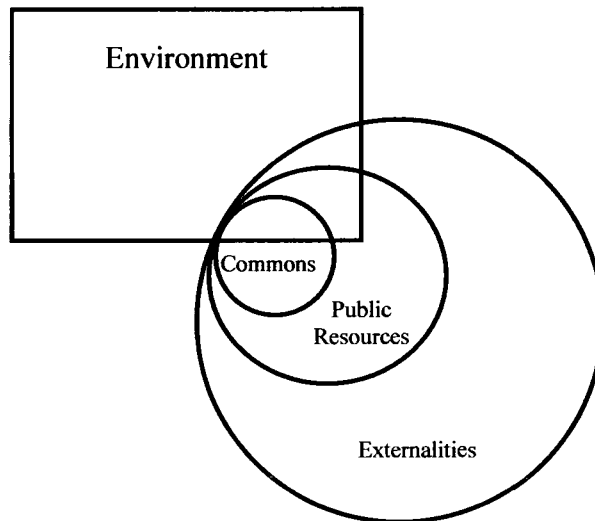
scenario the collapse still occurs, but this time it is caused by excessive pollution generated by industrialization. The third and final conclusion is that “the overshoot and collapse can be avoided by an immediate limit on population, pollution, and economic growth” (Meadows, et. al., 1972; 1992; Tietenberg, 2000).

The basic optimist model is diametrically opposite the basic pessimist model. One of the strongest advocates for this model was Julian Simon, a population economist. In his work *The Ultimate Resource* (Simon 1981, cited in Tietenberg, 2000) he rejects the overshoot and collapse scenario of the basic pessimist model in favour of a more optimistic vision (Tietenberg, 2000). Simon argues that even though land dedicated to agricultural use in the United States has been decreasing, production continues to rise and the overall amount of land used for agriculture and agricultural production is still increasing in some countries. He further claims that the natural resources have not become scarcer in real terms but that “apparent shortages are due more to (correctable!) problems with human behaviour than to any physical lack of availability.” Simon also believes that pollution levels have declined even as population and incomes have increased because pollution doesn’t necessarily result from economic activity but rather from choices society makes about how resources should be invested (Simon, 1981; Tietenberg, 2000)

These two models, basic pessimist and basic optimist, are presented to clarify and bracket the discussion by showing two opposing and extreme examples of opinion, ideology and scientific viewpoint.

## Differentiating the Environment, Commons, Public Resources and Externalities

The *Venn-type diagram* below may help explain the differentiation of the terms (natural) environment, the commons, public resources, and externalities as utilized in this paper.



*Figure 1. Clarification of the Differentiation of the Environment, the Commons, Public Resources, and Externalities.*

Examples will make the distinctions clear.

- The air we breathe is part of the **commons** and is a public resource.
- Groundwater may be used by everyone over a large area. Its overuse or pollution causes high externality costs to all users and damage is often impossible to repair.
- The vulnerability of disease causing bacteria to antibiotics is a public resource. Misuse of antibiotics can create “super bugs” that have lost this vulnerability. This is a serious externality with very high costs.
- The radio spectrum is also a **public resource** – but once the FCC licenses a frequency to a private company for its exclusive use, that part of the spectrum ceases

to be part of the commons for the duration of the license. It is, however, still a public resource.

- An action of one or more private parties may affect the private property of still another party, without affecting public resources. For example, I may build an upper story on my house, spoiling the view from your house. This is a private externality, not a public externality.
- There are also a wide range of externalities related to social cost. For example,
- If a company reduces or cuts health benefits and this leads an employee to be treated at an emergency room at public expense, this externality does not affect the quantity or quality of water, air, fauna or flora – but it does create a public cost.
- And if a company produces cigarettes this will directly influence health costs for decades, and many of the external costs for health care will be paid for by the public.

To answer the research question in a meaningful way, it is important to frame questionnaire items in terms of clear definitions. For this paper these are defined as follows:

Externalities – costs currently not counted, environmental and social

Common resources – unowned

Public resources – owned by the public, managed by the government “public goods” synonymously and interchangeably with “public resources.”

### Statement of the Problem

While many studies have investigated attitudes toward the environment in a range of groups, none has empirically examined current trends in attitudes toward the

use of public resources, the creation of externalities, and the environment. In addition, this author could not find any research that has been conducted that studied the attitude and behavior among different industries toward the commons and public resources nor any study of psychographic groups in the area of attitudes about the environment, externalities and public resources.

Environmental conditions worldwide have been in crisis for decades and concern about many environmental problems and the now widely recognized challenge of global climate change has been growing. It is very propitious time to investigate how citizens/consumers and the corporate managers/executives perceive these environmental and economic issues. In addition, this study will attempt to examine what kinds of attitudes allow or encourage some corporate groups (managers) to engage in antisocial corporate behaviour, such as creating negative externalities by passing costs to others. This research will also look at the kinds of attitudes that allow other people to tolerate this behaviour and how the relevant attitudes differ across population segments, including the difference between corporate manager/executives and other citizens/consumers. Finally, this research will compare the difference and establish trends in these attitudes from both population groups over the past five years.

### Summary

The purpose of this chapter was to present the research problem which deals with the attitudes of consumers and corporate executives toward corporate treatment of public resources, the commons, externalities and the environment. To better understand the complex relationship between the economy and the environment two models, the

basic pessimist model and the basic optimist model, were identified to illustrate the concept. In order to provide a better understanding of and to better differentiate between the terms (natural) environment, the commons, the public resources and externalities the Venn-type diagram was introduced. Finally, the expected contributions of this study to both the academic and practical management field were spelled out.



## CHAPTER 2

### REVIEW OF RELEVANT LITERATURE

This chapter deals with the literature relevant to the relationship between Business, Government and Society (BGS) and their consideration of externalities. The literature review then transitions into a discussion of the importance of the attitudes of corporate managers and society towards the environment and the utilization of common resources. Finally a discussion of the circumstances that influence corporations to either deliberately or unintentionally create externalities are emphasized in order to better understand the dynamics associated with those actions.

#### The Philosophical Basis of Business

The philosophy of business and economics creates the foundation for the formation and operation of a business enterprise. The philosophy of business can define the role business plays in society and the moral obligations that relate to it. If one looks back on more than 2000 years of philosophical inquiry into Western ethics, the primarily notions about right or wrong of businesses depend on this rich complex tradition. Business practitioners and theorists tend to accept the principles that are already established in the society, such as the pricing practice known as just price, established by the Christians and the view of economic decision making as rationality established during the period of Enlightenment.

In the 17<sup>th</sup> and 18<sup>th</sup> century, several thinkers including Locke, Hutcheson, and Smith created the intellectual foundation upon which modern business and capitalism were built. They agreed that the first basic principle of business practice and economic

theory is the notion of *free will*. They believed that business agents can be free in making decision, controlling destiny and engaging in a social contract. Now people can see businesses decide to use public resources as a manifestation of free will.

Adam Smith's doctrine (1776) suggested that there are two models of capitalism. On the one hand, capitalism can be a system where isolated individuals are pursuing their own self-interests. This model ignores the characteristics of human society, such as morality, religion, art and culture, which provide higher values than the individual and promote humanity above the animal condition of searching for satisfaction. On the other hand, he saw that the benefit of free trade often flowed devastatingly to the more economically advanced and political powerful party with devastating consequences. While free trade brings prosperity to the most advanced businesses, it imposes poverty on those who are not able to compete, aggravating periodic crises in which less advanced businesses, small local firms, were bankrupted. Masses of people were laid off and trade of the whole nation declined (Smith, 1776; 1910).

### Capitalism at the End of the 20<sup>th</sup> Century

Renewed belief in the free market came to be known as neoliberalism. Milton Friedman (1962) emphasized that "neoliberalism rests on the elementary proposition that both parties to an economic transaction benefit from it, provided the transaction is bilaterally voluntary and informed" (Friedman, 1962, p.55). Neoliberalism is described as "the ideology of the market and private interests as opposed to state intervention" and "represents a return to hegemony of finance capital" (Cambell, 2005; Dumenil & Levy, 2005). Neoliberalism is fundamentally a *new social order* in which the power and

income of the upper classes, i.e. the wealthiest persons, are re-established and enforced (Dumenil & Levy, 2005).

Neoliberalism flourished during the last two decades of the twentieth century under both Republican and Democrats and transformed capitalism. The U.S. economy has been the world's leading capitalistic economy. All manufacturing and small, medium, and large businesses are privately owned including most banks, insurance companies, transportation companies, and even the manufacturers of military hardware for the government.

This view of capitalism assumes that the main focus of corporations is to maximize profit for their shareholders (Friedman, 1970). By providing shareholders the greatest return on their investment, corporate managers maximize access to capital needed for the corporate operations and expansion. Friedman states that "the business of business is only business and the management has neither the right nor the qualifications to engage in activities to improve society. The society's general welfare is on the shoulders of the government." Corporations must obey the law and follow government regulations.

From the opposing view of capitalism, business purpose is to serve the interest of a group of stakeholders, including customers, employees, and even society as a whole. Most philosophers would agree that business activities must comport with legal and moral restrictions. John Renesch (2006), a prominent futurist, writes, "Corporations are human-made organisms, associations of human beings. To see this association as having one solitary purpose and responsibility, to grow only in economic terms, is such

an extreme view that implosions like what happened to Enron, WorldCom and other corporate collapses will become more and more commonplace.”

Many believe that corporations have a responsibility to help society solve some of its critical problems by allocating their resources to the solution of these problems. One definition of corporate social responsibility is that “a private corporation has responsibilities to the society that go beyond the production of goods and services at a profit” (Bucholtz, 1990, p. 5). This was first tested in court by Henry Ford, who won the case against shareholders who opposed his efforts to pay his workers more (Ostrander, 1919). Lea (2002) defined corporate social responsibility (CSR) as “businesses and other organizations going beyond the legal obligations to manage the impact they have on the environment and society.” “Socially responsible actions by a corporations are actions that, when judged by the society in the future, are seen to have been of maximum help in providing necessary amounts of desired goods and services at minimum financial costs, distributed as equitably as possible” (Farmer and Hogue, p.4)

#### Understanding the Relationship between the Business-Government-Society

It is important to understand the relationships between business, government and society (BGS) in depth so that people will understand how businesses are changing the “rules of the game” by modifying the roles they play in our society. If managers expect to succeed in meeting their businesses objectives they must be responsive to both the economic and the noneconomic environment of their business.

It is also important to gain an understanding of the ambiguities related to the interaction of business, government and society (BGS). Some people view the

interaction of BGS forces with mental models that guide them to reach varying conclusions about the issues central to this complex relationship. These models help to determine the scope of business power in society, the criteria used for managerial decisions, the extent of corporate social responsibility and the need for governmental policy. In addition, these models may assist the business managers in developing more socially responsible practices.

There are three basic models of the business, government, and society relationship. They are the free market model, the business and government dominant and the countervailing forces or stakeholder model.

#### The Free Market Model

The first assumption is that the business prefers to operate with only slight intervention from government, i.e. *laissez-faire*. In this model, business is the dominant force in BGS interaction and therefore it is a business-centered model. State intervention in the economy and society threaten human liberty, according to this assumption, and only the free market can produce economic efficiency and human freedom (Pfaff, 2006). Smith (1776), from *The Wealth of Nations*, believed that government intervention is not wanted and completely unnecessary. This model assumes a competitive marketplace and argues that individuals and businesses should have the freedom to pursue their own self-interests because they are motivated to create wealth and economic progress. This model assumes that individuals can freely invest in businesses and own property. Corporate managers are free to maximize their returns and profits by utilizing resources as much as possible. In theory, in a free and competitive market place, businesses will

produce the best products at the best price, and businesses will use the latest technologies and innovation and allocate resources for the sole purpose of optimizing their bottom line (Lehne, 2006). Finally, this model assumes that the BGS relationship it prescribes will provide maximum benefits to consumers and society as a whole. This is based upon the large number of producers and consumers present in a competitive market and the consumer's ability to stay informed about products and prices and make rational decisions.

This model is still very in play today and it has been argued that it is a key factor in the apparent success of the economy, particularly in the U.S. A glaring omission of this model however, is that the social responsibility of business is not addressed because businesses are focused primarily on their own self-interest and profits. This model suggests that it is the ethical duty and obligation of management to promote the interests of its shareholders even if this focus on the bottom line results in harmful externalities and depletion of resources. Many businesses however, have begun to adopt CSR policies to minimize any harmful externalities while still improving their efficiency and profitability (Steiner & Steiner, 2003; Lehne, 2006).

### The Business-Government Dominance Model

The dominance model offers another way to view and evaluate the business, government and society relationship. In this model, government is dominant in the BGS relationship. This government-centered model argues that powerful business and government interests dominate the great mass of people below them. According to Charles E. Lindblom's analysis (1977), "business has a privileged position that allows it

to translate its economic power into political domination in three ways.” First, in the U.S. as a democracy, businesses gain support from public opinion and transforms the popular symbols of liberty, democracy, and patriotism to their benefit. For example, businesses manipulate public opinion by referencing individual freedom and liberties to avoid consideration of troubling discussions or investigations of corporate welfare and abuse of corporate power. Second, corporations work hard to influence government decisions by getting involved in the political process through interest groups, lobbying, and campaign contributions. Third, businesses have more economic power than ever before and they use their power to influence political agencies directly (Lehne, 2006, Lindblom, 1977).

Steiner and Steiner (2003) suggest that the dominance system was highly active in the United States during the mid to late Nineteenth Century, when large corporations, such as Standard Oil, emerged and began buying politicians, exploiting workers, monopolizing markets, and creating income inequality. During this period large corporations rejected the model of free market capitalism in favour of the dominance model. As multi-national corporations have grown in size and power their dominance has once again increased to a comparable level.

### The Countervailing Forces or Stakeholder Model

The countervailing forces or stakeholder model suggests major elements of society influence the BGS relationship. In this model, a wide range of stakeholders are the dominant forces within BGS interactions. This society-centered model consists of multiple forces whose strength expands or diminishes depending on factors such as the

subject at issue, the power of competing interests, and especially the influence of leaders. This model of BGS has been observed particularly in the industrialized nations with democratic traditions (Lehne, 2006). Although none of the major elements dominate the policy process, under this concept, the government counts on the opinion of every element to develop a policy response that balances the various points of view as effectively as possible.

Stakeholders are all the people, organizations, and companies who receive benefits from or are impacted by corporate activities (reference?). Stakeholders may be primary stakeholders, with a direct and immediate impact on the firm, or secondary stakeholders, who wield less influence but nonetheless are affected by its operations. Primary stakeholders include stockholders or owners, regulators, customers, employees, communities, governments and possibly suppliers and creditors. Secondary stakeholders include environmentalists, human rights activities, the media, trade associations, universities and religious orders.

In the free market capitalism model the primary goal of the corporation is to benefit just one group, the investors. In contrast with the stakeholder model the corporation has to consider the welfare of all stakeholders. Donaldson and Preston (1995) are strong advocates of the stakeholder model and reject the shareholder-centric view of the market capitalism model. They state that “the most prominent alternative to stakeholder theory is morally untenable” (1995, p.88).

Freeman (1984) categorized stakeholders into three groups, based upon their interference with the company’s current and expected cash flow: key stakeholders, emerging stakeholders, and minor stakeholders. Charles Blattberg (2000) defines the



stakeholder concept which is called a 'patriotic' conception of the corporation as an alternative to that associated with stakeholder theory. He emphasizes that various stakeholders' interests should be compromised and balanced against each other through negotiation with each stakeholder.

The stakeholder perspective has led to emergence of the concept of corporate social responsibility (CSR). "If we really want to improve the conditions of American cities, we business people... have to take responsibility" said Tom Kline, a senior vice president at Pfizer (Bakan, 2004).

### Corporate Social Responsibility

Corporate social responsibility is a set of mechanisms for supporting corporate behaviors with the focus on society in reducing harmful externalities and promoting a sustainable corporate sector (Deakin & Hobbs, 2007). Also, CSR is the task a corporation has to perform to create wealth while at the same time avoiding harm and protecting, or enhancing society benefits (Harribey, 2006; Kinder, 2007).

Some companies choose to behave more responsibly in the absence of legal requirements (Gorpe, et al. 2002), for reasons that may be altruistic, ethical, or public-spirited. Some businesses have adopted the contemporary CSR movement—including the Body Shop, Marks & Spencer, Starbucks, Interface, and BP. Some have been motivated by a commitment to social or environmental goals, such as ICI, the UK chemical company (Kirkby, O'Keefe & Timberlake, 1995). Although many influences may shape corporate social actions, according to Stahl and Grigsby (1997), they can be categorized into the following four areas: governmental and regulatory influences;

ethical influences; societal influences and competitive influences. Some influences come from one or more of these areas. For example influences for reduction of harmful impacts on the environment come from communities, activists, governments, and customers (Farmer & Hogue, 1985; Stahl & Grigsby, 1997; Steiner & Steiner, 2003; Vogel, 2005).

CSR not only benefits society, it also means more customers, more sales, better employees and a better corporate image. The other view is that “it is the self interest of the business to accept a fair measure of responsibility for improving society because insensitivity to changing demands of the society sooner or later results in public pressure for governmental intervention and regulation to require business to do what it was reluctant or unable to do voluntarily” (Gorpe et al. 2002; Simon, 1981).

Some of today’s business leaders proclaim that their companies care as much about corporate social responsibility as they do about their profit and loss, for example Interface states that the company’s mission is “our promise to eliminate any negative impact our company may have on the environment by the year 2020” ([http://www.interfaceinc.com/goals/sustainability\\_overview.html](http://www.interfaceinc.com/goals/sustainability_overview.html)). Some businesses also believe they have responsibilities not only to their shareholders but also to a variety of “stakeholder” constituencies, including employees, residents of communities affected by their activities, and organizations supporting various social and environmental interests (Cowell, 1998; Ribstein, 2005; Conley, 2005; Vogel, 2005; Falck & Heblich, 2006; Richard, 2007). Beginning in the early 1990s, some businesses began to change their corporate behaviours by adopting more aggressive CSR policies. British Petroleum for example, along with other major firms in the United States and Europe,

proposed to significantly reduce their greenhouse gas emissions by 10% by 2010 based on their 1990 levels (Cowell, 1998). According to Vogel (2005), Home Depot, along with major retailers of wood products in the United States and Europe, stopped selling products harvested from endangered forests. Other major financial institutions, including Citibank, developed criteria for assessing the environmental impacts of their lending decisions on developing countries (Vogel, 2005). Some companies, like Intel Corporation, have been recognized as environmental leaders for a decade or more because of their innovative programs such as removing lead from its next generation of computer chips, improving their energy efficiency and reducing their greenhouse gas emissions from their semiconductor manufacturing. In addition, Intel funds the Intel Environmental Award through various universities to promote and improve the quality of the environment for the benefit of humans, other living things and the natural ecosystem (Manaster, 2004).

The increase in corporations adopting CSR can be predicted by measuring the trend of corporate investment in social responsibility. The types of investment include increasing corporate roles in society, taking social and environmental criteria seriously, and emphasizing the development of a more moral dimension in society. For example, in 2004 Mercer Investment Consulting conducted a survey of 195 investment managers worldwide and they predicted that the adoption of socially responsibility investment practice and strategies will become commonplace (Kinder, 2007). Their results also supported the study of Gorpe, et al. (2002) regarding how CEOs view CSR. The Mercer survey shows that 80% of the respondents predicted that active ownership—senior executives, investment managers—would be a mainstream practice within 5 years (89%

in 10 years). In addition, 37% of the investment managers predicted that the incorporation of social and/or environmental corporate performance indicators would become mainstream within 5 years (73% in 10 years) (Kinder, 2007; Kirkby, O'Keefe & Timberlake, 1995, McKinsey & Company, 1991).

Kinder's research (2004) determined that the investment in social responsibility has increased dramatically from 35 years ago and now exceeds a \$2.16 trillion a year.

Businesses view social responsibility from two perspectives, profitability and cost. In the business's view, a socially responsible action presents a problem primarily with its profitability and the distribution of its costs (Farmer & Hogue, 1985). That is, adopting socially responsible actions may cause decreased profitability and increased costs in the short term. This appears to conflict with the basic business principle where maximization of profit is the main focus (Farmer & Hogue, 1985; Miller, 1996; Falck & Heblich, 2006; Campbell, 2007). However, there are numerous books, articles, and reports published on CSR that show that firms that have become more socially responsible can become profitable (Blackburn, 2007; White, 1990).

Allen (2007) studied the link between the corporate socially responsible investing score and the cost of bank debt in Canada. Using multivariate analysis and propensity score matching, the research found that firms with the worst social responsibility scores pay higher loan spreads. However, firms with average or good socially responsible scores benefit little from increasing them further. The study also found that firms invest more on social responsibility when they face more environmental, social and governance pressure. Although CSR can improve a firms' financial performance, this study found no evidence that high levels of social

responsibility decrease a firm's risk. However, from the point of view of some firms, socially responsible investment is just an insurance policy to undertake before any concerns are identified (Allen, 2007).

Falck and Heblich (2006) propose that "CSR is regarded as voluntary corporate commitment to exceed the explicit and implicit obligations imposed on a company by society's expectations of conventional corporate behaviour." The authors believe that CSR is a system to promote social trends to improve society's basic order, which consists of commitment to both legal and social requirements. Companies must not only make a profit but they should make the world a better place to live at the same time. In the U.S. the interrelation between a company's social responsibility and its profitability has been of concern since at least 1970. The authors claim that the market rewards firms that exhibit corporate social activities and that CSR can be a significant factor in the business's success. They tout CSR as an efficient management strategy that can enhance the company's reputation. A good reputation helps a firm to attract, retain, and motivate quality employees, helps to increase the value of their brand image and helps establish the company's goodwill (Falck & Heblich, 2006).

Most CSR advocates emphasize that firms need to engage in CSR since it can help to maximize long term "profit" and reduces market failures (Baron, 2001; McWilliams and Siegel, 2001; Bagnoli and Watts, 2003; Vogel, 2005). Baron (2001) defines CSR as the "private provision of a public good." For example, Honda created its "hybrid version" to generate less pollution than its standard model. Consumers consider the hybrid car to be superior to the standard model and are willing to pay a premium

price for it because they view the social characteristic of less pollution as “valuable” to them (Baron, 2001).

Siegel and Vitaliano (2007) looked at the strategic use of CSR and how likely CSR is to be incorporated into a firm’s product differentiation strategy. They compared the level of CSR used in different product industries. They found that firms selling durable experience goods, (i.e. those goods that require a longer period to learn the product’s attributes like reliability) such as automobiles or software, are 15% more likely to be socially responsible than firms selling goods, such as clothing, furniture, or mattresses. CSR shows the high quality of their products and is viewed as an indicator of the firm’s honesty and reliability (Nelson, 1970; McWilliams and Siegel, 2001). However, Siegel and Vitaliano indicated their research had some limitations which made the results less robust than they could have been. First, the empirical analysis they used was based on a single cross section of data instead of utilizing something more useful like panel data. Second, there is the possibility that their econometric analysis is subject to omitted variables bias. This could have been avoided had they used an ordinary least squares estimate. Third, even though they eliminated conglomerate firms from their sample, many of the sample firms are diversified which introduced a certain amount of measurement error in their empirical analysis (Siegel and Vitaliano, 2007).

A poll conducted in the U.S. by Fleishman-Hillard in a National Consumer League Study in 2005 found that 47% of the respondents placed the highest value on corporate community involvement which consisted of contributing to the community through sponsorships, grants and employee volunteer programs. This survey shows that it’s important for companies to think of their community programs as core to their

businesses and an essential aspect of their marketing plans and branding. Many people in the U.S. and other countries who have experienced serious environmental catastrophes such as the Exxon Valdez oil spill, the Love Canal pollution, or the industrial disasters in Bhopal and Chernobyl or who have had to deal with major pollution problems caused by coal plants and manufacturing understand that damage to the environment and to communities results from corporations acting in a socially irresponsible manner.

Kampf (2007) analyzed the strategy of using the company's web site to communicate CSR to its public in two different business cultures, Maersk (Denmark) and Wal Mart (USA). His study revealed that the firm's culture is the framework for presenting their CSR and that the two different cultures and nationalities had completely different approaches and responses to their CSR's. Wal Mart, a U.S. corporation, presented its CSR to emphasize environmental issues in the community in order to communicate with its stakeholders. Maersk, the Danish corporation, presented its CSR as an effort to achieve the company's objectives. Levis (2006), Vogel (2005) and Matten and Moon (2008) agree with this study and confirmed that different business cultures and countries utilize different CSR strategies. Matten and Moon (2008) specifically investigated corporate social responsibility (CSR) through two research questions: "Why have U.S. corporations long made explicit their attachment to CSR, where as European business responsibility to society has tended to be more implicit?" The researchers found that there are remarkable differences between companies in each region. Citing Maignan and Ralston (2002), they note that 53% of U.S. businesses mention CSR explicitly on their company websites, but in Europe only 29% of French

and 25% of Dutch businesses do so. Matten and Moon explained that according to Whitley (1997), these differences can be explained by “the historically grown institutional frameworks that shape national business systems which included the political system, the financial system, the education and labor system, and the cultural system (Matten and Moon, 2008). However, Levis (2006) and Vogel’s (2005) research indicates that the new Asian business leaders believe CSR will enhance both the corporation’s profit and its contribution to the community.

Levis (2006) studied the adoption of corporate social responsibility codes by multinational companies (MNCs). He claims that managers in multinational corporations have no intrinsic incentive to adopt CSR codes to limit the corporate creation of externalities. However, in a competitive environment, MNCs’ managers prefer to adopt regulations issued by public authorities or the industry level rather than by the individual company itself. He states that “the regulations created by public authorities or at the industry level provide better safeguards than regulations by the individual company.” Therefore, as a result of corporate intent and an external pressure, MNCS are increasing the use of CSR codes, i.e. self-regulatory instruments that deal with the issue of their social, environmental and human rights externalities. (Levis, 2006)

Some corporate managers choose CSR codes based on corporate policies to enhance profits. According to Levis (2006) managers perceive CSR as a system to manage two sets of risks. First is the regulatory risk of Corporate Codes which act as an alternative CSR program to reduce or avoid the need for other forms of public regulation of corporate activity. Second is the social risk which emanates from public



pressure to force corporations to adopt CSR in their corporate strategy to avoid creating problems with the community. Social pressure can come from the use of media and boycotts by groups to achieve their goals. These groups know that increased social pressure ultimately results in greater economic costs to the company or increased regulations. Corporations typically respond to this kind of pressure by integrating the social demand based on how beneficial the CSR is to the firm.

In contrast, some corporations are increasingly adopting CSR because they view it as an internal behavioural process which will create and promote their corporate values and reputation as well as foster partnerships with other firms. The World Bank (2002) for example states that “Demand from business and civil society for a level playing field of social and environmental standards that allow the market to reward leaders was recently listed as the main driver of the public sector’s engagement in fostering CSR.”

Some corporate responsibility theorists argue that since the mid-20<sup>th</sup> century managers have been excessively responsible to shareholders who care only about profits. In fact, David Korten (1995) states that global competitive pressures are increasingly driving corporations to become even less socially responsible. However, Ribstein (2005) believes that profit-maximization is incompatible with broader social interests so that managers should be free to serve society in general rather than serve shareholders exclusively. He indicated that there are several reasons why managers who seek to maximize shareholders’ wealth may not act in society’s best interests and this sometimes results in the creation of externalities. First and foremost, managers dealing

with or affected by the firm often lack adequate information to make socially efficient decisions.

For example, prescribing physicians and their patients had insufficient information about the test results of Merck's Vioxx drug which resulted in as many as twenty-eight thousand deaths (Calfee, 2005). Second, the costs and benefits of the operations are the main factors managers utilize to make decisions. As an example, transporting oil via oil tankers from the seller to the buyer in a single wall hull tanker is the least costly method, but it imposes serious risks to the environment and fishermen along the way. Third, firms have significant market power and legal justifications so the benefits of socially responsible decisions may seem unnecessary. This may be due to such things as copyright protection, patents, trademarks, or other intellectual property rights that firms engage in. The effect of this market power influences firms to distribute and sell their products to small-high-end consumers. This distribution may be unjust if market-based pricing makes important products unavailable to the poor. Fourth, government regulations may not correct all of the market imperfections. Regulations are often co-created by groups who have a high degree of power with politicians and regulators and they are able to influence the regulations to maximize the benefits to their industries. Smaller groups, such as voters or general consumers who have lower organizational budgets, are not able to influence and lobby the regulators as well as the larger more powerful groups and therefore cannot receive the same benefits (Ribstein, 2005). Ribstein also states that the problems created by large corporations have impacted the social good. He further contends that government regulations have historically been designed just for smaller enterprises because it cannot deal with the

risks associated with affecting large corporations. Regulations dealing with health, safety and federal antitrust protection deal with some of the problems. However, corporations still continue to grow and become more powerful because there is little incentive to change the system since corporations contribute so much to our apparent national prosperity and political campaigns.

Richard (2007) investigated the link between corporate social responsibility (CSR) and a firm's competitive advantage. He measured the valuable and rare resources the firm acquired through CSR, its approach to stakeholder management influence and its ability to protect and enhance the value of these resources. One hundred and fifty eight firms (158) from multiple industries were studied. He found that firms who adopted CSR were able to positively influence stakeholder assessment and gain strong "reputation capital." He confirmed that the value of their reputation capital positively and significantly contributed to the firm's ability to achieve and promote operational efficiency as well as engender their products with superior performance differentiations over their competitors. Their corporate reputation definitely sustained a competitive advantage (Richard, 2007).

Campbell (2007), in an effort to discover "why would corporations behave in socially responsible ways," investigated the connection between corporate social responsibility and corporate financial performance. As a result of his study, he concluded that there are two conditions, *economic* and *institutional conditions*, which prompt firms to act in socially responsible ways. First, economic conditions, according to Campbell, are related to the financial health of both the corporation and the economy and the level of competition to which corporations encounter. Weak corporate financial

performance and poor or weak economies reduce the use of socially responsible policies or methods. However, the impact of the level of competition proved to be more complex. Moderate levels of competition were more likely to result in more socially responsible behaviour than high or low levels of competition. Second, the institutional condition is influenced heavily by the amount of state regulations and collective industrial self-regulation. The stronger the state regulations and industrial self-regulations are the more the corporation acts in socially responsible ways (Campbell, 2007).

### Theory of Externalities

The idea of externality was first discussed by Alfred Marshall (1890) and further explored by his student Arthur C. Pigou (1923), “This idea identified a systematic blemish on the proverbial invisible hand” (Papandreou, 1994). In the beginning Marshall called this idea an “external economy.” The concept attracted attention because it raised the controversial issue of governmental management of the economy. Sir John Clapham called Marshall’s idea an “empty box” which meant there was nothing inside the idea that matched the real world. Later, economists realized that this so called empty box or “externality” could be defined with a number of issues associated with real-world phenomena. These included social costs, marginal versus average costs in supply decisions, synergies among firms, pollution, congestion, envy, and rental economies. The main concept of externality is to provide a common term that facilitates an understanding of economic inefficiency and the many concepts associated with the malfunctioning of the market, inefficient use of public goods, non-convexity,

information deficiencies, missing markets, and poorly defined property rights, etc. The concept of externality helps to identify the fundamental causes of allocational inefficiency and perceive the role of governing authorities (Papandreou, 1994).

Given the importance of the theory of externality in economics and the effort put into characterizing externalities, the concept of externality still remains unclear and is not well understood in economics or policy development. In general an externality is an activity that takes place outside current market transactions. Some economists believe that the theory of externalities has contributed significantly to our understanding of resource misallocation with corresponding insights into developing policies for correcting such misallocations. Murty (2003) writes that “if all competitive markets equilibrate even though non-convexity, then the equilibrium will be *Pareto-optimal or Pareto Efficient* , which means the best that could be achieved without disadvantaging at least one group.” (Papandreou, 1994; Murty, 2003)

The terms externalities, market failure and non-convexity are closely associated with each other. “Externality is a subset of market failure.” (Arrow, 1970; Meade, 1973; Heller and Starrett, 1976; Bator, et. al, 1975; Murty, 2003) The term “market failure” means the particular case where transaction costs are so high that the existence of the market is no longer worthwhile (Arrow, 1970). In addition, non-convexity refers to the property of an economic model that represents technology, preferences, or constraints that are not mathematically convex. Because convexity is needed for measuring competitive equilibrium to make sure it is efficient and well-behaved, non-convexities may therefore imply market failure (Cornes and Sandler, 1996).

### *The Characteristics of Externalities*

According to Meade (1973) the externality or external economy (diseconomy) is “an event of which confers an appreciable benefit (inflicts an appreciable damage) on some person or persons who were not fully consenting parties in reaching the decision or decisions which led directly or indirectly to the event in question” (Cornes & Sandler, 1996, p.39). Meade’s concept has at least two notable features. First, his definition implies that whatever the framework is, it restricts the ability of individuals to take steps to encourage (discourage) actions of others that confer benefits (costs) to them (Meade, 1973). Pigou (1947) views the concept of externality in terms of government activity. He believes that externality is all about governmental policies such as fees and subsidies and suggests using fees and subsidies as another alternative to treat those externalities for which a cost can be assigned. The second notable feature of Meade’s definition is that it is an extremely broad concept which allows each externality situation to be defined differently based on the writer. For instance, Meade calls an action of a group of agents that change prices to affect a redistribution of income a “distributional externality.” However, another writer calls the discrepancy between different agents’ marginal valuations of commodities and the changes in outputs, which cause changes in the total real income of the receiver, a “real-income externality.” Examples of this include an employer’s exercise of authority in firing an employee, the determination of tax rates which affects firms and citizens and situations of monopolistic markets. However, Marshall and Pigou both state that increasing and/or decreasing costs in competitive industries can cause input prices for existing firms to rise or fall. These input price changes become externally imposed externalities on others.

Arrow (1970) views the definition of externality in yet another way. He limited externalities within the specific institutional framework of a “competitive market.” Utilizing the concept of the Pareto-efficient allocation, Arrow attempted to determine why externality recipients may be unable to allow actions that have a direct effect on them. His research guided him to formulate a model to represent the competitive equilibrium theory and fundamental theorem of welfare economics.

Heller and Starrett (1976) later challenged Arrow’s concept that “situations usually identified with ‘externality’ have a more fundamental explanation.” They proposed four essential explanations for market failures correlated with externalities. First, non-exclusiveness of commodities such as property rights that cannot be adequately defined or are unclearly defined such as fish in the ocean, parks or global warming gas emissions can lead to market failure or externalities. Second, non-convexities can cause an inefficient allocation of resources and a resultant market failure. Third, non-competitive behaviour can result in market failure. Fourth, market failure may result from imperfect or incomplete information that causes the inefficient allocation of resources (Heller & Starrett, 1976).

According to Key (1940), the economic logic utilized for resource allocation emphasizes a *laissez-faire* or individualistic perspective. Key stresses that, according to the Pareto optimum, the government should use resources to support activities that encourage society without discouraging any one individual. Bator (1958) segregated the kinds and causes of externalities into three polar types: (1) Ownership Externalities; (2) Technical Externalities; (3) Public Good Externalities.

Baumol and Oates (1975) claim that an externality is a subset of economic interaction and its characterization is divided into two conditions as follows:

Condition 1 An externality is present whenever some individual's (say A's) utility or production relationships include real (non-monetary) variables, whose values are chosen by others (person, corporations, government) without particular attention to the effects on A's welfare. (1975: 17).

Condition 2 The decision maker, whose activity affects others' utility levels or enters their production functions, does not receive (pay) compensation for this activity in an amount equal in value to the resulting (marginal) benefits or costs to others. (1975; 18)

Baumol and Oates (1975) further identified two possible types of "externalities": first, externalities are cases where property rights have not been clearly defined, or when property rights have been defined and inefficiency is present (Baumol & Oates, 1975; Tietenberg, 2000).

### *The Importance of Externalities*

Why is externality important to the economy? Considering the over-arching responsibility of the government, there are a variety of costly activities undertaken as a direct result of someone else's externalities. Governments allocate resources for those goods and services for which private sectors fail to or are unable to assign sufficient resources such as health, education, highways, and defense. Governments in most modern nations redistribute income, via fees and taxation, social security and in some



instances socialized medicine. The most important activities are aimed at the promotion of economic growth and the stabilization of income and employment.

Externalities are pervasive features of human society (Cornes & Sandler, 1996). The study of externalities, public goods and club goods – also known as collective goods e.g. cable television, golf courses, cinemas, etc. – helped to reveal the government's role in allocating resources and identify better ways of allocating resources and results in a better understanding of numerous phenomena that people find puzzling (Cornes & Sandler, 1989; 1996). It also provides insight into how the government can apply this theory and derive benefit from it. These studies can also be utilized to develop better tools to help determine corrective fees and taxes, provision levels, tolls or user fees, regulatory policies, and financing decisions. Some governmental tax policies are a direct result of the existence of externalities. For example, the State of Wyoming places a severance tax on mineral resources leaving its borders. The revenues generated by this tax are used to address the cost of the externalities related to mineral mining.

By carefully analyzing externalities we can enhance our understanding of governmental regulations, environmental economics and public finance (Cornes & Sandler, 1986; 1996; Bainbridge, 2009). The theory of externalities can signal the factors of economic redistribution particularly when the money is presented as a public good (Hochman & Rodgers, 1971). The growth of public investment in public goods and club goods is one factor used to stimulate economics. This theory can also assist the government in deciding what expenditure and revenue levels are required.

The externality theory can also explain the foundation in environmental economics of those economic activities that produce environmental side effects and are regularly ignored by the generator. Specifically, when an externality affects a third party, the entity responsible for the externality should, but often doesn't, allocate resources in response to those external costs or benefits. As an example, if residents near a chemical plant need hospital care or time off due to pollution related illnesses, the chemical plant does not bear those costs which results in a misallocation of resources.

When a corporation does not take into account all of the costs and benefits for the production, consumption and marketing of their goods or services it is called a market failure or externality. Riley (2006) illustrates market failures due to negative externalities. Figure 2 provides a way of illustrating the effects of negative externalities arising from the production on the private and social costs and the benefits to producers and consumers. The key is to understand the difference between private and social costs.

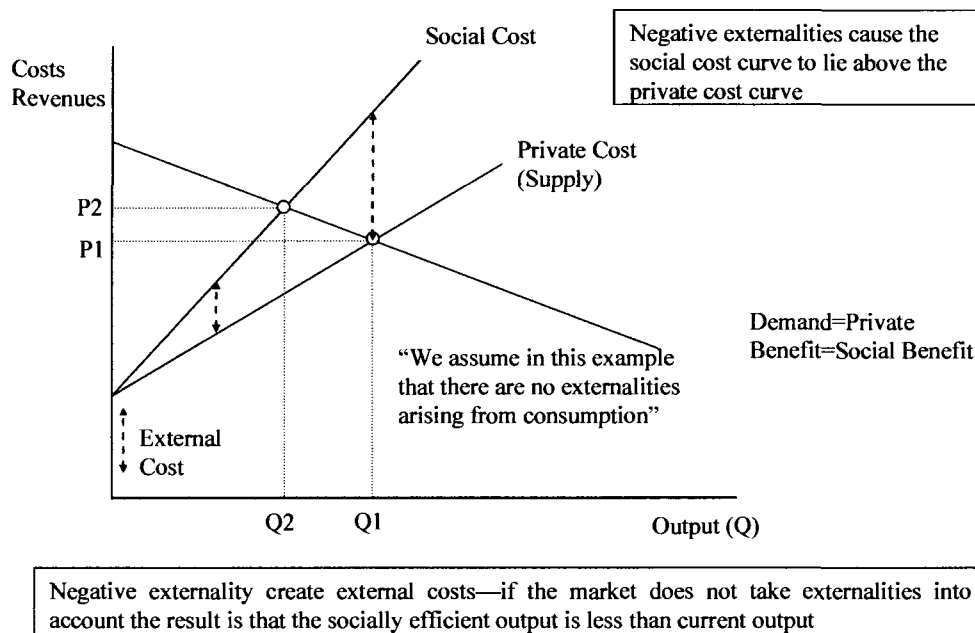


Figure 2: The Market Failure or Externality, Source: Geoff Riley, Eton College September 2006.

In the absence of externalities, the private costs of the supplier are the same as the costs for society. But if there are negative externalities, we must add the external costs to the firm’s supply curve to find the social cost curve. This is shown in the diagram above. If the market includes these external costs, then the equilibrium output will be Q2 and the price P2. From a social welfare viewpoint, we want less output from production activities that create an “economic-bad” such as pollution and other forms of environmental damage. A socially inefficient output would be Q1 with a lower price P1. At this price level, the external costs have not been taken into account. We have not eliminated the pollution (we cannot do this) – but at least the market has recognized them and priced them into the price of the product (Riley, 2006).

The external costs Riley uses in his model are in actuality only the “hard” costs. It is, of course impossible to obtain the *total* cost of some externalities. For example, take carbon emissions from cars. We could determine the cost based on the number of people hospitalized with respiratory disease; however, it is more difficult to estimate the cost for the loss of view, loss of sunlight and the contribution to catastrophic global warming.

From an economic point of view, externalities are created when the consumption or production of a good impacts people other than the consumers, producers, or users of those goods (Vatan & Bromley, 1997; Suranovic, 2001; Johnleemk, 2007). Although some firms or individuals may bear some form of this cost known as the “external cost,” they more often become side effects or externalities that are borne by third parties. There are a number of types of externalities including: producer on producer externalities; producer on consumer externalities; consumer on consumer externalities and consumer on producer externalities. There is considerable interest in externalities in the current literature. This heightened interest stems from two main factors: 1) there is a great deal of confusion about the nature and theory of externalities and 2) the convenient rationale on externalities can provide justification for intervention in private markets (Barnett & Yandle, 2005).

Suranovic (2001) divided the type of externalities into four groups. The first group includes the *positive production externalities* which occur when production creates a beneficial or positive impact on other products or production processes in other markets or producers in the economy. An example would include knowledge spillover. The second includes the *negative production externalities* which occur when production

has a negative effect in other markets in the economy. Examples of negative effects are pollution or other environmental problems. The third includes the *positive consumption externalities* which occur when consumption creates a beneficial effect to others in the economy. An example of this type would include the positive effect that a person's beautiful landscape and healthy lifestyle has on the surrounding neighbors and community. The fourth and final group includes the *negative consumption externalities* which occur when consumption creates a negative effect in other markets in the economy. Examples of this include someone's dangerous behaviour, such as a drunk driving which puts other drivers at increased risk and cigarette smokers that bother non-smokers and put them at increased risk (Suranovic, 2001).

Another type of externality that does not present the same kind of problems as pollution for example is called a *pecuniary externality*. Pecuniary externalities arise when the external effect is transmitted through higher prices (Tietenberg, 2000; Castellani & Zanfei, 2006). For example, a new business moves into an area and drives up rental costs. Meade (1952) defines yet another type of externality as a *technological externality*. This type occurs whenever the output of one firm depends not only on their own production but also on the output of another firm or firms which directly affects their production. Technological externalities can also be referred to as *knowledge spillovers*. These externalities happen with unpredictable consequences in conjunction with incomplete contracts where knowledge is transferred from multinational firms to local firms.

## Corporate Creation of Externalities

People may have heard this point of view expressed as “Corporations are more interested in profits than in the needs of people.” (Tietenberg, 2000, p. 62). The corporate use of common resources has occurred for a variety of individual and collective incentives. Goldman (1985), from his study of the “Economics of Environmental and Renewable Resources in Socialist Systems” states that “since environmental problems are thought to be caused by a divergence between individual incentives and collective incentives, it is not uncommon to hear that centrally planned economies avoid environmental problems.” However, studies of air and water pollution in the former Soviet Union and other Eastern European countries suggest that the environmental problems found in market economies occurred with equal or greater intensity in the Eastern block. Goldman goes on to “suggests that the centralized planning system creates different but no less potent, divergences between individual and collective incentives” (Tietenberg, 2000, pg. 63). For example, in most of these countries, waste was discharged untreated into the water without any attempt to clean it up. This practice occurred because managers were judged solely based on production and not on environmental sensitivity or health. The incentives emphasized economic growth over the environment and people.

“It is not surprising that in the process of taking too much we waste too much” (Hawken, 1994). Data shows that industries release chemicals into the air, discharge effluents into waterways and the ocean and inject toxins deep into the ground or into landfills. Americans use about 36 pounds of resources per person per week, which generate 2,000 pounds of waste. The world utilizes 4.1 billion pounds of pesticides a

year, all of which is classified as waste as soon as it is deployed because it remains in the environment. According to the EPA's Toxic Release Inventory, in 1986 the top fifty products created by the chemical industry led to the release of 539 billion pounds of toxins and hazardous substances into the environment. Unlike nature's waste, business wastes often have little or no value to any other species or organism and in fact may be fatal to them. Although the environment can absorb waste and transform much of it into harmless material over time, the earth has a limited capacity to process waste and produce renewable resources. In fact, the capacity of the earth to accept highly toxic waste is becoming more and more problematic.

Corporations can create externalities either deliberately or unintentionally and most are created by the larger corporations, although smaller firms may emit more per unit of production. For example, many of the large automobile corporations such as GM, Chrysler, Ford and even airlines businesses like Airbus and Jet Blue have outsourced production and maintenance and moved manufacturing offshore in order to take advantage of cheaper labor and minimal environmental laws. This has resulted in enormous externalities and costs which have to be borne by society. For example, according to Dorgan (2006), in the past four years (2002-2005) American workers have lost 3 million manufacturing jobs to low-labor wage (and low environmental protection) countries. Besides the enormous loss of jobs, the U.S. government has also lost approximately \$12 billion in income taxes over the last decade from outsourced manufacturing. In addition, in order to avoid paying U.S. taxes, some technology businesses, including Microsoft, are now transferring their "intellectual property" to other low-tax nations. Microsoft alone is estimated to be saving at least \$500 million a

year on their tax bill (Dorgan, 2006). Other examples include large corporations like Wal-Mart that have destroyed the traditional, small “mom and pop” business sector in much of the U.S. economy (Johnston, 2005; Sobel & Dean, 2006).

A research study in Oklahoma, conducted by one of the world’s largest advertising agencies Foote Cone & Belding (2003), surveyed people to determine their motives for shopping at Wal-Mart. Another research study in Iowa conducted by Sobel and Dean (2006), surveyed people to determine the actual scope of the perceived negative impact of Wal-Mart on the small “mom and pop” business sector of the U.S. economy. The research indicates that the opening of a Wal-Mart had a devastating effect on existing small businesses. It found that Wal-Mart’s expansion was responsible for the closings of numerous ‘mom and pop’ stores, “including 555 grocery stores, 298 hardware stores, 293 building suppliers, 161 variety shops, 158 women’s stores, and 116 pharmacies” (Sobel & Dean, 2006). This resulted in the creation of enormous externalities to the local society.

Another prominent case involving a large externality in San Diego involved the cleanup of a military base toxic waste site. Liewer (2007) stated that over the years an auto recycling business had created more than 66,000 tons (eventually known) of auto shredder residue. The material was used in the late 1970s as fill in a canyon on the military base overlooking the Pacific Ocean in San Diego. The auto shredder residue is known to contain high levels of many cancer causing chemicals such as dioxin, PCBs, lead, and chromium. Concern was finally raised after heavy rains exposed some of the shredder residue and washed it toward a nature preserve and the ocean. The Navy had



to clean up the site and the 8 million dollar cost of the clean up was ultimately borne by society.

Another example of an externality that may have to be borne by society involves an attempt by a small group of taxpayers to limit corporate welfare in the city of Phoenix (Will, 2008). The corporate welfare consisted of providing a subsidy to an affluent developer by allowing the developer to keep up to \$97.4 million in sales tax collected from businesses in the proposed shopping center he was going to build. The Chicago developer wanted to build an affluent shopping center with many high end stores, including Bloomingdale's and Nordstrom's, in a somewhat distressed area of the city. According to the article, the taxpayers contended that this subsidy violated three of the State's constitutional provisions. However, the local government is defending the subsidy in court as a "public benefit." Although the case is still being tried, the courts have slowly weakened the U.S. constitution's Fifth Amendment restrictions on how government can take private property "for public use." The original intent of the law restricted "public use" to mean public works such as roads, bridges and courthouses. The courts have expanded the meaning to allow the government to take property to cure an "eyesore" or "slum" as a public use. If the court upholds this case, property can be taken by the government and subsidies given to a developer just because they may pay higher taxes than the original owners.

Castellani and Zanfei (2006) did an empirical study of the affect that multinational firms have on the productivity of domestic firms through various types of externalities. They hypothesized that multinational firms establish significant *pecuniary* and *technological externalities* that affect the behaviour and performance of domestic

firms. According to Castellani and Zanfei (2006), there are several channels for the creation of externalities by multinational firms. These include competition, imitation and demonstration, workers' mobility and spin-offs, and backward and forward linkages. The *competition* channel refers to the multinational firm's concentration in industries by investing in advanced technology and innovation. Multinational firms are in a position to overcome high technological costs that contribute to their creation and substantially affect the degree of competition in the host country (Hymer 1960; Kindleberger 1969; Caves 1974). These firms will affect the profitability and efficiency of domestic firms. The multinational firms have the capability to contribute to reduced prices and squeeze indigenous firms' profit margins and push the less well capitalized or less efficient firms out of the market (Aitken and Harrison 1999). However, the increased competition causes a typical pecuniary externality on firms in upstream and downstream industries which can benefit/suffer and drop/increase prices and product quality depending on the multinational firm. The negative pecuniary externality can be created in downstream local industries which can create a positive pecuniary externality in upstream local firms. The positive externality will be the knowledge spillover to domestic industries.

Another effect of competition involves labor or wages. Multinationals can offer higher salaries to attract good workers and thus draw efficient workers away from domestic firms. This results in a negative pecuniary externality to the local industries. The final effect of the competition channel is that it encourages local industries to invest in efforts to become more efficient and innovative in order to maintain their market share. For example, when a Japanese multinational firm entered the UK market in the

1980s, it caused the indigenous firms to react to the competitive threat by improving their product quality and diversifying their product portfolio (Dunning 1988).

The Imitation and Demonstration channel creates positive externalities. Castellani and Zanfei (2006) indicated that when multinational firms bring products, technologies, and new organizational and managerial practices into the host economy they demonstrate and perform the new production and operation techniques as models that domestic firms can imitate. Both domestic firms and foreign firms can benefit from this knowledge spillover. For example, the location of Texas Instruments (TI) in India illustrates how demonstration can improve the performance of the domestic firms. TI brought in their business model and a powerful communication facility coupled with high-end offshore R&D activities which were quickly imitated by Indian firms. Although the effects of this channel are mostly knowledge externalities, some have argued that spillovers from this channel do not always benefit the domestic firms equally (Cohen and Levinthal 1989; Rosenberg 1990; Arora and Gambardella 1990).

Workers' Mobility and Spin-Offs is another channel that creates externalities. Most multinational firms hire skilled workers and have training programs to improve the skills of their employees. When these highly trained skilled workers leave the multinational firms and start their own business or move to local firms they bring their skills and knowledge with them and thus create a positive externality for the receiving firm (Fosfuri et al. 2001). Spin-offs in the software industry are but one example of this type of positive externality. A research study conducted by Sands (2004) showed that 30 percent of the founders of 52 Irish software companies that were started between 1981-2002 were previously employed by multinational firms (Sands, 2004).

The Backward and Forward Linkages channel creates both pecuniary and technological externalities from multinational firms. One example includes multinational firms that set up plants in developing countries in order to access cheap labor and raw materials. It then becomes necessary for the multinational firms to assist their local counterparts by providing information on markets, regulations, pricing, exporting, and location of production, technical assistance on product design, quality control, labour and inventory management, financial, management, and procurement assistance. A more specific example involved IBM when they located a plant in Mexico. IBM could not find a supplier of packaging materials and decided to assist a local firm, Ureblock, to start producing the packaging materials they required. As a result, Ureblock has its own building in the IBM plant and is responsible for the entire production process ranging from cleaning the final product, to labeling, packaging and delivery to the IBM distribution department (UNCTAD 2001). When Toyota located a plant in Thailand, they had to help finance their suppliers in order to prevent the bankruptcy (UNCTAD 2001).

#### Circumstances Influencing Corporations to Create Externalities

It is important to understand why common resources are misvalued by both the market and governmental policy and what factors influence corporations too deliberately or unintentionally create externalities. Some of these factors include an unclearly designed property rights, imperfect market structures, government failure, corporate strategy, globalization effects, and business philosophy.

## Unclear Property Rights Systems

### *Property right*

Poorly developed or designed property rights are one of the common circumstances that can give rise to the creation of externalities (Cornes & Sandler, 1996; Vatan & Bromley, 1997). Baumol & Oates (1975) and Tietenberg (2000) also claim that the undefined property rights of public resources have led to externalities or market failure. In economic theory, a property right refers to “a bundle of entitlements defining the owner’s rights, privileges, and limitations for use of the resource.” (Tietenberg, 2000 p. 62) In “Toward a Theory of Property Rights” by Harold Demsetz (1967), the author explains how property rights are an important part of the economic model. He hypothesized that “property rights arise when it becomes economic for those affected by externalities to internalize benefits and costs” (Demsetz, 1967). Pejovich (1972) argues that the creation and specification of property rights over limited resources are determined by several factors including technological innovations, the opening of new markets, government regulations and changes in factor scarcities. They are also affected by historical development issues and evolution of the legal system. Nowhere is this more complex and confusing than in water rights law (Wolfe, 1996).

However, the fundamental fact of scarcity means that people will compete with each other in using that resource. This is a particular problem for open access resources. If scarcity rents are up for capture, people will compete to take them all. Should this competition result in the depletion of the rents, the “tragedy of commons” occurs (Anderson & Hill, 2003). For example, frequencies were not scarce when the first radio station was licensed to broadcast. However, as more stations entered the market the

frequencies began to interfere with one another. Similarly, over-fishing will deplete the stocks of unowned ocean fish, satellites will collide with each other in open space, and grass will be overgrazed in government owned rangeland.

There are several property rights that define entitlement to the use of resources. These include: *state-property regimes* where the government owns and controls the property, such as the communist countries; *common-property regimes*, where the property is owned by a group of co-owners, such as the system of allocation of grazing rights in Switzerland; and *resnullius regimes* or *open-access resources* where no one owns or controls the resources and they are used on a first-come, first-serve basis (Tietenberg, 2000). The *resnullius regime* can be the most destructive.

Annette Steinacker (2006) studied the use of governmental policy to predict and address environmental issues (externalities). Steinacker found that the assignment of property rights created a baseline which could be used to assess any further government action and to generate political attention. In this case the property right is used both to determine and address the problem.

### *Public Goods*

A pure public good is a good that is non-excludable and non-rival (Keohane and Olmstead, 2007). This means that consumption of the good by an individual does not reduce the amount of the good available for consumption by others and nobody can be excluded from using the goods. Some examples of public goods are clean air, clean water, television airwaves, rivers, mountains, forest, beaches, national and domestic security and biological diversity, etc. Many public goods are excludable, but can be utilized by all members of society simultaneously. Consumers often care about how

people utilize the goods especially if the level of consumption is high, leading to “congestion.” High use of highways, beaches and swimming pools would be examples of this type of congestion that people become concerned about.

Use of public goods in market-like situations provides a crucial example of market failure in which the market-like behaviour of the individual does not produce efficient results. In other words, market failure results when an individual’s pursuit of self-interest leads to bad results for society as a whole. The production of public goods may not be remunerated. If businesses do not derive benefits from a public good they produced, they will have insufficient incentives to produce it or protect voluntarily and supplies will decrease.

People who consume public goods without paying for them or who obtain benefits from them without contributing sufficiently to their production are known as *free riders*. A free ride occurs when the public goods are not allocated efficiently (in the sense of Pareto efficient allocation). Businesses are the ones who most typically take advantage of the *free-ride* concept with public goods. For example, the pollution and externalities caused by industries, businesses and even citizens/consumers who drive cars or heat their homes are *free riders* because the emissions are released into the air or atmosphere (Bainbridge, 2009). These cause air pollution, regional ecosystem disruption, the buildup of greenhouse gases and ultimately global warming. Industries may dispose of the toxic/hazardous waste from their manufacturing processes into the water ways creating water pollution and ecosystem damage.

For example, Shell Oil reduced costs by dumping the Brent Spar oil platform at the bottom of the Atlantic Ocean in June 1995. While their corporate decision saved

£43 million total, compared to the £4.5 million cost of dumping, their decision to sink the platform caused the toxic contamination of the shoreline and the ocean ecosystem (Werther & Chandler, 2006). Similarly, about 50 to 80 percent of the 300,000 to 400,000 tons of electronics collected for recycling in the U.S. each year are shipped to developing countries, especially China, India, Nigeria, and Thailand (CNN.com/Technology, 2007). Workers in each country extract the metals, glasses and other recyclables by using their bare hands or hammers without any type of bodily protection. The highly toxic e-wastes are then dumped into fields and along waterways causing illness and ecosystem damage.

The National Association of Attorneys General (NAAG) expects taxpayers to recover in excess of \$200 billion in costs associated with treating smoking-related illnesses over the next 25 years (Cave, 2005). Although the four large U.S. tobacco industries are projected to pay these costs, this many costs are still borne by society (Bainbridge, 2009). More cases related to *free riding problems* are presented in the section of Corporate Creation of Externalities and Government Failures.

According to Mancur Olson in his “Logic of Collective Action” (1965), as cited in Kozlowski (2002), “industry-level government assistance, such as trade protection or government policy, is a public good for the firms in an industry and lobbying for assistance by firms is a form of collective action subject to the *free rider* problem.” Olson (1965) asserts that the non-excludability collective benefits would extensively cause *free riding* in a variety of settings, such as when a particular producer restricts his output to obtain a higher price for his product. This was demonstrated in the California Energy Crisis, when producers restricted supplies and created artificial shortages to



dramatically increase profits (ref). Cartels, organized labour and other interest groups can create the same *free riding* problem (Dougherty, 2003). Government intervention may be needed to avoid the problem of under-provision of public goods. The problems associated with public goods are in fact a special subset of the general problem of externalities (Johnson, 2005).

“Ambient Pollution, in general, has all the classical characteristics of a pure public good (or more appropriately a pure public “bad”) such as non-rivalry in consumption and non-excludability. The economics of transnational pollution problems, such as global warming or acid rain, thus belongs to the theory of public goods” (Chander, 2006). Costs are transferred from polluters to all people on earth and future generations (Varian, 2006).

### Imperfect Market Structures

Environmental issues or externalities also occur when one participant in a property right system is able to use their power to decide the outcome. An example of this concept involves a single seller or a *monopoly*. A monopoly is an enterprise that is the only seller of a good or service. In the absence of government intervention, a monopoly is free to set any price and set the production choices it chooses, so that monopoly will yield the largest possible profit. Monopoly occurs when a “specific individual or business has sufficient control over a particular product or service to determine significantly the terms on which other individuals shall have access to it” (Friedman, 2002). Friedman emphasized that monopolies are described by a lack of economic competition for the goods and service without any viable substitute goods or

services (2002). A small group of firms, an oligopoly, may act as a monopoly by collusion or corruption. These cartels are often supported by governmental policy, for example, South Korea, Japan, and to a lesser extent the U.S.

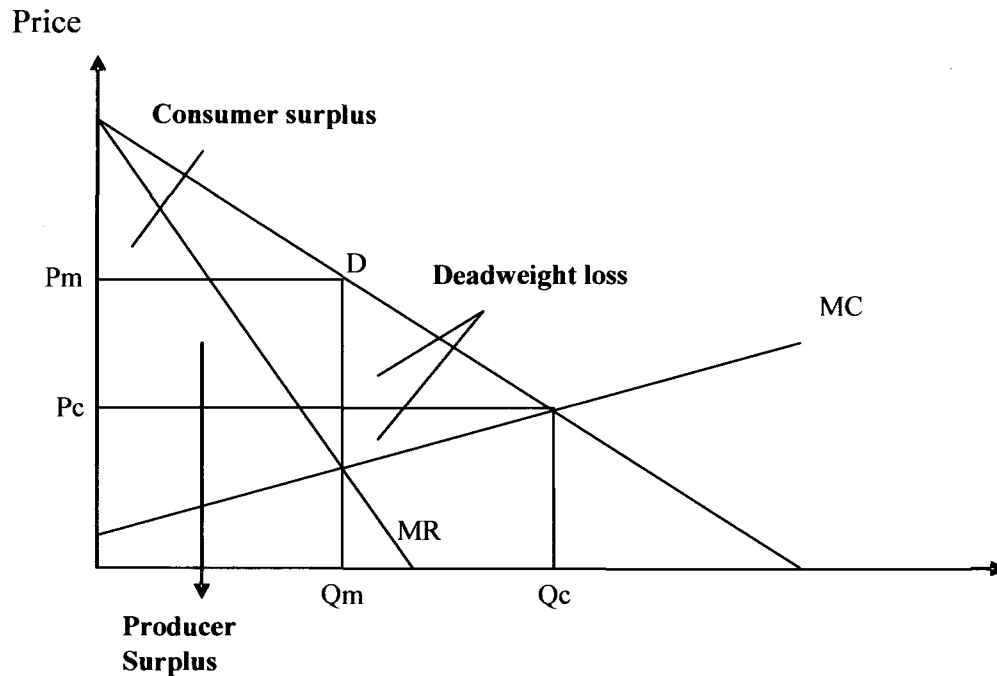


Figure 3. "Monopoly and inefficiency" Source: Tietenberg, 2000.

According to standard economic theory, efficient allocation results when  $Q_c$  is supplied and priced at  $P_c$  (Tietenberg, 2000). This would yield net benefits represented by the triangle above the MC line (i.e. the combination of consumer surplus, producer surplus and deadweight loss areas as the figure shows) Monopolies produce and sell a lower quantity of goods at  $Q_m$  and charge a higher price  $P_m$  than firms in a purely competitive market (see figure 3 above). The loss in consumer surplus is higher than the monopolist's gain which creates a *deadweight loss*, which is inefficient and a form of *market failure*.

Stigler (1988) describes monopoly as two mutually exclusive concepts: 1) a company formed by economic power and earning nearly 100% share of a given market, i.e., Microsoft; 2) and a company formed by political power, i.e., U.S. Post Office. A contemporary example of a monopoly creating market inefficiencies and having high impact worldwide involves the major oil-exporting countries. These countries have formed a cartel that controls production levels and prices to increase profits rather than allowing market conditions to dictate production and price levels. This creates an imperfect market which also plays a role in creating negative externalities. (Tietenberg, 2000).

#### Government Failures

After World War II, government roles in the economy changed dramatically. The *laissez faire* doctrine failed and the mixed economy era, also called modern capitalism or organized capitalism, became prominent beginning in the 1960s. Neo-Liberals tried to re-introduce market principles because they believed that the role of state/government had changed from an unbiased social guardian to that of a “predator” or a “vehicle” for politically powerful groups including the politicians and bureaucrats to enrich themselves (Burlamaqui et al. 2000). Government’s goal also shifted to maximize its own self-interest resulting in corrections to the market that benefited agencies or departments at the cost of the public good.

Boulton (2001) suggests that government reduces the rights of ownership and private property by increasing regulations. Government agencies are now involved with environmental controls, energy allocations and restrictions, job safety inspections,

consumer product safety regulations and enforcement of equal employment opportunities, etc. Some of these areas were previously considered to be private affairs. Today, the government controls or impacts virtually every function of a firm's operations including manufacturing, research and development, marketing, facilities and planning, etc. Overall, government expenditures for business regulations alone increased from \$1.9 billion in 1974 to nearly \$3.0 billion in 1976 (Boulton, 2001).

There is little doubt that governmental policies can be very intrusive and cause inefficiency. Many business and individuals use the political process to engage in what they call *rent seeking*. This is the process of using resources for lobbying and other activities to protect themselves from legislation. Businesses that succeed in the rent seeking activity will accrue higher benefits for their specific group while society as a whole may receive a lower benefit. Vander Bergh and Holburn (2007) analyzed the tactics firms use to target their political activities to gain political support for their desired outcomes of favorable public policies especially as they relate to the avoiding responsibility for environmental crisis and use of common resources.

Many research studies have explored the various tactics that firms and industry groups use to garner political support (Ring, et al., 1990; Murtha and Lenway, 1994; Marsh, 1998; Schuler, Rehbein and Cramer, 2002). They found that political activities included financial support for politicians, lobbying, propaganda, coalition building and grassroots mobilization across multiple political institutions (Vander Bergh and Holburn, 2007). Much of this activity involves free riding in the use of public goods. For example, large corporations use their lobbyists to undermine specific regulations or legislation to use the public goods for higher profit and lower implementation costs.

Firms often target their activities directly at the regulatory agency to achieve favourable administrative rulings. According to the Associated Press, during the 2001 California power crisis, Pacific Gas & Electric, the largest utility in the state, successfully lobbied the state legislature to prevent a proposed regulatory ruling by the California Public Utilities Commission that would have cost them \$500 million in implementation costs. In the UK, the Confederation of British Industry (CBI) used lobbyists to increase deregulation and reduce business taxes. The purpose was to avoid the implementation costs of a proposed regulation while ignoring the environmental, social and health benefits (McRae, 2005). In the U.S., large corporations spend enormous amounts of money each year influencing the political system through lobbying and other political activities. Of the top 200 top firms, 94 maintain a “government relations” office located on or within a few blocks of the lobbying capital of the world—Washington, D.C.’s K Street Corridor (Anderson & Cavanagh, 2000). Corporations such as Coca-Cola, Walmart, Cabelas, Chrysler, GM., Ford, Microsoft, Qualcomm, and Sony invest millions (Lehne, 2003; Johnston, 2007). In the health care debate it is estimated there are now 6 lobbyists for each congressperson ([abcnews.go.com/Politics/HealthCare/story?id=8322683](http://abcnews.go.com/Politics/HealthCare/story?id=8322683) ).

Murty (2003) studied one of the most important reasons for market failure, the problem of externalities. She claimed that governmental policies are important options for addressing externalities for two reasons. First, governmental policies can control externalities by controlling their causes, such as imposing Pigouvian fees, (a specific fee levied on a polluter causing an environmental externality) on coal to control the generation of pollutants by industries that burn coal. Second, policies can directly

control externalities such as imposing a Pigouvian fee directly on emissions from industries. Barrett (1994) shows that “weak” environmental regulation may actually cause a monopoly to become more competitive when potential competing foreign businesses are imperfectly competitive. He also emphasizes that stronger environmental regulations will result if the domestic industry consists of more than one firm.

Government itself can create externalities as a result of its regulatory policies especially taxation. For example, if a state government raises taxes or spends resources in ways that affect the welfare of its residents, the state may become more or less attractive to live in or to invest in. In situations where taxes are perceived as high, residents and/or businesses may relocate to other states. The migration of individual or capital investment to other states will then affect the tax and expenditure bases of those states. This is particularly true of large U.S. corporations that state shop, threatening to move their manufacturing plants to developing countries to avoid paying taxes and fees.

Wal-Mart and General Motors (GM), for example, closed plants in Detroit because of high taxes and high labor costs and moved those plants to China eliminating thousands of American jobs in favour of cheap foreign labor (Dorgan, 2006). Additionally, General Electric (GE) and International Business Machine (IBM) relocated some of their operations from the United States to India, eliminating jobs here in favour of cheaper Indian labor. This phenomenon is not limited to just these four large firms. Many other corporations in many other industries have moved plants offshore to take advantage of lower labor costs, less regulatory interference and tax incentives. In each instance, these free riding corporations are attempting to reduce their labor costs and avoid governmental regulations. They desire to have all of the benefits

with little or none of the responsibilities of citizenship. These externalities are therefore created by both the governmental regulations, corporate policies, and the interaction between the two.

### Governmental Regulation

The creation of regulations by the government has typically resulted from popular demand for the government to solve a specific problem. According to Steiners, (2003) the historical pattern of federal regulation of business in this country occurred in four distinct waves. The first wave began in 1790 and continued through 1837. Regulations created in this era supported and promoted businesses and included many subsidies to new industries in an attempt to foster growth and development in our fledgling nation. The second wave, which included many anti-trust laws, occurred from 1837 to the early 1900's and was heavily influenced by the demands of the progressives and the Supreme Court. The third wave dealt with the Great Depression of the 1930s. The fourth wave, which occurred in the 1960's and 1970's, dealt with improving the quality of life during a period of great abundance in this country. These regulations impacted the operations of many of the large corporations in the U.S. The 1990's saw a rollback in many regulations in the U.S., but the growth of international rules and regulations.

Government regulations are “policy tools—rules that restrict the operations of businesses or other institutions to accomplish government-sanctioned purposes.” (Lehne, 2006; Herman, 1982) At the end of Nineteenth Century, with the emergence of an industrial economy, the increasing impact of railroads on society and a series of

panics, frauds and recession, pressure began to build in some states to regulate big business. Two types of regulations emerged: *competitive regulations* which help to compensate and recover market failures and *protective regulations* which focus on the areas of equal employment opportunity, environmental protection, occupational safety and health, and consumer protection (Ripley & Franklin, 1986).

From a global perspective, international trade agreements such as the General Agreement on Tariffs and Trade (GATT); the World Trade Organization (WTO); the North American and Central America Free Trade Agreements (NAFTA and CAFTA), highlight the role of trade policies in environmental protection. These global trade agreements primarily emphasize the regulation of international commerce, but with side agreements intended to reduce pollution and to improve management of natural resources. These agreement and trade policies have in many cases resulted in increased individual consumption, encouraged resource intensive economic growth, promoted global specialization, led to cross border dumping of pollutants, and protected international trade. The weak environmental provisions have been inefficient as a result of political pressures and the trade enterprises are shifting even further away from sustainability or pro-environmental policies. In fact, these trade policies actually undermine efforts to promote sustainability (Phillips, 1997) in several areas including agriculture, forestry, marine fisheries, pollution control, toxic waste and solid waste (Wathen, 1996).

According to Phillips (2004), NAFTA, GATT and other new free trade agreements apply the economic theory inappropriately. He argues that “the trade agreements violate scientific principles of ecology, marketing, security (including



“investor protection”) and business strategy (Phillips, 2004). These can lead to unwanted global changes and social unrest. These international agents have limited or restricted existing environmental controls within nations, when competing industries complain they unfairly restrict imports.

To further this point and illustrates these differences, Wathen (1996) compared some of the essential principles of GATT with those often advanced for sustainability as shown in Table 1.

Table1. Trade and Sustainability: A Comparison, adapted from Thomas A. Wathen (1996)

	Trade policy	Sustainability policy
Production and consumption	To develop the full use of resources and to expand the production and consumption of goods (GATT preamble).	To eliminate patterns of production and consumption that depletes natural resources.
Economic growth	Trade and economic policy should be conducted to ensure a large and steadily growing volume of real income and effective demand (GATT preamble).	Trade and economic policy should be conducted to ensure the long-term availability of natural resources.
Environmental standards	Environmental standards should be harmonized between nations on as wide a basis as possible (Final Act's TBT and SPS provisions).	Environmental standards should be established at whatever level is necessary (or desirable) to protect the environment and preserve natural resources for perpetual use.
Community orientation	The world is best served by a global economy based upon specialization and trade.	A sustainable world may require greater self-reliance and diversified local economies.
Democratic decision making	All GATT proceedings are held in secret and there is no public right to information.	Sustainability will require the active participation of all concerned citizens, internationally and locally.

*Remark:* The last and largest GATT round, the Uruguay Round, led to the birth of WTO on 1 January 1995. The WTO and its agreement now covers trading systems created by GATT since 1948 and its trade in services, and traded inventions, creations and intellectual property (WTO, 1995).

From a domestic point of view, the pattern of regulation in the United States, which is called “a distinctively American approach to balancing public and private interests”, is different from international trade policy (Steiner & Steiner, 2003). There are two basic theories which identify the affects of the relationship of the regulation between government and private institutions: the *public-interest theory* and the *private-interest theory* (Mintnick, 1980; Steiner & Steiner, 2003).

*Public-interest theory* refers to those regulations that respond to market failure—the failure of the price mechanism (Bernstein, 1955; Steiner & Steiner, 2003). The main purpose of this type of regulation is to achieve the benefits of marketplace competition for consumers and society in which there is a lack of competition, i.e. monopolies. In addition, some of these regulations are targeted towards businesses with industrial processes that create pollution or externalities that impact the society. Government deems it necessary to regulate or control these businesses to help ensure that the products they provide, such as pharmaceutical products, are safe and provide value.

*Private-interest theory* deals with those regulations that are used to redistribute income from one group to another. Many studies show that private-interest theory regulations benefit very specific groups (Peltzman, 1976; McCormick, 1989). Owen and Braeutigam (1978) assert that there are three groups that benefit from these regulations: business, members of Congress, and regulators.

Herman (1982) categorized governmental regulations into two classes. The first class is the traditional or “old” regulation of natural monopolies by commissions. In this case, the Government regulated and controlled every aspect of these businesses such as monopoly franchises, protection against entry, prices, rates of return, and services.

This class is still well represented by the electric utility industry. The second class is the social or “new” regulations such as those generated by the Environmental Protection Agency and those that deal with consumer and employee health and safety matters. These address more limited issues, such as emissions or waste discharges.

Sometimes businesses claim that certain federal regulations are ineffective, that they block productivity and affect the country’s economic competitiveness. An example of this occurred during the late 1970s and early 1980s, when Congress determined that some federal regulations helped to cause the decline of the railroad industry. As a result, the government began to relax or overturn those regulations and gave the railroads more freedom in setting prices and operating their businesses. However, many other federal regulations have to be maintained and supported such as the Clean Air Act Amendments of 1990 which are essential to environmental protection.

#### Globalization Effect

The 1990s brought about dramatic global developments that changed the nature of international business as well as domestic business. The rapid and powerful growth of globalization has improved living standards for many people but at a high cost. While, not all of these benefits have been restricted to the elite in some countries, many groups and societies have been left behind, and pollution has increased dramatically. Some countries that benefited from globalization have actually experienced a rise in tensions of their labor markets leading to civil disturbances and unrest. Although this unequalled period of global economic growth has improved living standards, it has also damaged what many call the “global commons.” This has raised concerns about the sustainability

of long-term growth and the protection of the common resources because increased competition and production cause an attendant increase in exploitation of those resources.

Globalization and increased economic growth provide many opportunities for business but they also pose novel sources of uncertainty and risk and potentially increased environmental and social external costs. This is due to increases in production which magnify cross-border pollution, improvements in technology that enable increased exploitation of scarce global resources, and nationalistic decisions that may adversely impact other countries. Prominent examples of increased environmental side effects resulting from globalization include: global climate change, the depletion of marine fisheries and the spread of infectious diseases.

Increased industrial output, for example, led to an increase in the emissions of greenhouse gasses (GHGs). According to the Organization of Economic Co-operation and Development (OECD), GHGs will increase by roughly 50 percent by 2030 and will more than double by 2050 (The World Bank, 2002). These GHG emissions could result in even more catastrophic climate changes that could undermine the development prospects of whole countries because of the effects on water, agriculture, and our ecosystem (IPCC, 2007).

Rising demand, due to increased population, and increased harvesting capability, due to improved technology, will further deplete the ocean's fish and continue to degrade the ocean environment. In fact, many fisheries have collapsed and many species are already near extinction. Worm et al. (2006) found that the ocean

environment might be near-complete depletion by 2048 due to a lack of a collective international policy to help limit fishing to sustainable levels.

Also, the increase in human movement due to improved transportation and increased international trade has also increased the spread of invasive species and contagious diseases, such as human immune deficiency virus (HIV/AIDS) and severe acute respiratory syndrome (SARS). These are but a few examples of the side effects of globalization that will jeopardize the growth of the global economy as well as the growth of developing countries like China, India and Mexico, etc.

### Corporate Strategy

Chandler (1962) defines strategy as the development of long term goals and objectives by corporate leadership and the actions necessary for their implementation. Andrews (1971) describes strategy as a pattern of politics and plans developed by top management to achieve predetermined goals, where the goals are influenced by the executives' considerations of ethical and social factors. Ansoff (1965, 1988) developed a prescriptive model for the corporate strategic decision process and define strategy as a set of decision making rules that guide organizational behaviour. Ansoff's corporate view emphasizes product/market scope, growth potentials, competitive advantage and synergies as important strategic planning considerations. Mintzberg (1994) defines strategy in two broad ways: 1) it is a plan or course of action that extends into the future; 2) it is a consistent pattern of behaviour over time. He further stated that:

Organizations develop plans for the future and they also evolve patterns out of their pasts. We can call one *intended* strategy and the other *realized* strategy.

The important question thus becomes: must realized strategies always be intended? (Mintzberg, 1994 p.24).

Since the 1980s businesses have encountered increased external pressures that have forced them to be more responsible concerning environmental issues. Some researchers have defined corporate strategic behaviour in terms of environmental strategies into three categories: defensive, reactive and proactive (Schwartz, 2006; Steger, 1993; Ketola, 1993). Much of the research literature has focused on the reactive approach by increasing demands for companies that pollute to improve their environmental performance (Schot, 1992; Roome, 1992; Shrivastave, 1995). Porter and Van der Linde (1995) studied how businesses handle the environmental issues strategically through a more proactive approach. They emphasized that those businesses, which are in proactive category, that consider environmental innovations and solutions as opportunities will gain more benefits and be more competitive than businesses that do not adopt this philosophy. This was confirmed in a research study of California industry (Lorton, 2006). These explanations can be useful in distinguishing the various corporate strategies toward environmental issues; but do not address the matter of the managers' attitudes and decision-making process. That is, how they decide to use common resources to obtain profits and serve their market needs.

Louise Kelly (2008) suggested that corporate strategies utilized by most businesses can be categorized into four types. The following figure indicates these strategies and examples of corporations that applied each strategy.

<i>Emergent Strategy</i> Walt-Mart, Volvo, Toyota, Honda, Ford (green strategies) Google	<i>Deceptive strategy</i> Adelphia, Enron, Tyco, World Com, Fanny Mae, Freddie Mae
<i>Deliberate Strategy</i> Google, AlcCo	<i>Non-deceptive Strategy</i> Delphi, GE, IBM

Table 2: Corporate Strategy, Source: Louise Kelly, 2008

When an organization takes an adaptive, incremental and complex learning process and applies it to its business operations it is called *emergent strategy*. Mintzberg and Walters (1985) developed a diagram (figure 4) that shows the strategy which organizations follow coming from two directions, intended strategy and unrealized strategy. A part of intended strategy carries forward into realized strategy and when intended strategy matches the deliberate strategy it becomes realized strategy. Mixing the deliberate and the emergent strategies in some mode will help the organization to control its course while encouraging the learning process (Mintzberg, 1994).

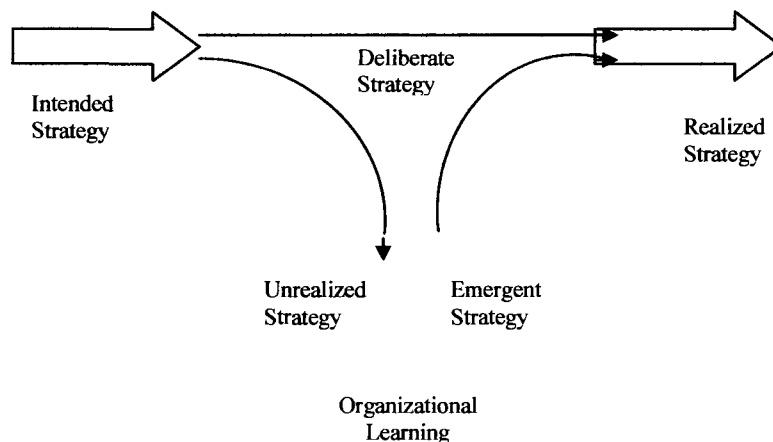


Figure 4. Defining Types of Strategies: Source Mintzberg and Walters, 1985.



"Deliberate strategies provide the organization with a sense of purposeful direction" (Mintzberg, 1984). Some businesses adopt deliberate strategies and are open and honest with society. For example, AlcCo, an alcohol industry in U.K., has created a dialogue with their consumers to "negotiate a 'license to operate' by constructing an account of social performance" (Bent, 2004). From Bent's report AlcCo accepts that alcohol plays a large and problematical role in U.K. and European society. This industry has created both positive and negative roles in UK (and European) society. For example, the employment and economic contribution and the connection of social life are positives. On the other hand, the misuse and abuse of alcohol and its contribution to the systemic dysfunctioning of society are negatives.

Google is another example of a corporation that has become very successful by using deliberate and emergent strategy. They have a unique mix of IT strategy, software development, open source, and people management that is the secret to their success as one of the leading search engines on the internet.

According to Aldana (2008), the feint, which is an *deceiving strategy*, is rarely seen as a practice in Western and U.S. business cultures. Aldana states that "Deception is the manipulation of an opponent through the employment of stratagem. Deception is intentional, purposeful, calculated and deliberated in all meanings." As an example, he states that the military often uses this strategy to deceive the enemy in order to maintain the element of surprise in combat. He compares the military analogy of fighting in the field to businesses fighting to develop and maintain their market share (2008). In business, well-known examples include Adelphia, Enron, Tyco and WorldCom. All of these corporations used deceptive strategies such as altering transaction and account

records to conceal company debt; reporting false earnings in attempts to increase their earnings and stockholder values; and committing various other types of securities fraud. For example, Adelphia, a cable communications giant, is accused of reporting higher earnings and more subscribers than the company actually had, failing to report debts accurately, and hiding the personal purchases, loans, and illegal deals made by its top executives.

Mintzberg also proposed that strategy formation can be a process of incremental learning. He writes that “Few strategies can be purely deliberate and few can be purely emergent. All real-world strategies need to mix these in some way—to attempt to control without stopping the learning process.” (Mintzberg, 1994 p. 25) This dynamic characteristic of his definition is related to the process of strategy implementation. Consequently, according to Mintzberg, some strategies can be planned and implemented thoroughly, whereas other strategies have incremental and deliberate elements and others simply emerge through a process of trial and error.

As Mintzberg pointed out, many strategies or patterns that organizations demonstrate are not a result of formal planning, but are a response to events. The “realized strategies” that are not the result of formal planning are defined as *emergent strategies*. “Emergent strategy is associated with unplanned changes but ; strategy is associated with deliberate attempts to shape the future.” (Hutter & Wiechmann, 2005) Therefore, Mintzberg declares a new dimension to the definition of strategy: the concept of emergent strategies. Mintzberg (1987) believes emergent strategy originates in the interaction of the organization with its environment. Emergent strategy results when a convergence of ideas and actions from multiple sources integrate into a pattern. When

an organization learns and adapts it is called an adaptive organization, i.e. an organization that is able to sense changes in signals from its environment and adapt accordingly.

Ansoff (1991) and Mintzberg (1994) have described the environmental turbulence that businesses operate in differently. Ansoff proposed that there were five levels of environmental turbulence that affect businesses. These included: 1) Repetitive turbulence in which there are no changes in the business environment and the future is expected to replicate the past; 2) Expanding turbulence in which the business environment changes slowly and incrementally; 3) Changing turbulence on which a firm progressively improve their historical products/services in anticipation of the evolving needs of the customers; 4) Discontinuous turbulence in which the business environment is subject to frequent discontinuities and poor predictability; and 5) Surprising turbulence on which a business remains a leader in developing product/services (Ansoff, 1991).

Mintzberg, however, aggregated these into two distinct turbulence levels that businesses encounter: 1) Incremental turbulence in which environmental changes are a logical evolution of the historical change process and the speed of the changes is slower than the response time of the organizations; and 2) Discontinuous turbulence in which successive changes are discontinuous from the preceding ones and the speed of change is greater than the speed of the organizations' response. For the two turbulence levels, Mintzberg suggests all organizations use what he calls the "emergent strategy" approach to strategy formation based on the model of organizational learning which consists of a sequential trial and error process (Mintzberg, 1994).

In response to the way that businesses use strategies to manage and utilize resources, DEFRA, the Department for Environment Food and Rural Affairs (2006) studied the use of sustainable resources in business and organizations. DEFRA indicates that there are several interlinked factors influencing resource utilizations including: 1) the attitudes and behaviour of leaders who lead and work in the organizations; 2) the type of organization, what purpose it has, what pressures it responds to and how it operates internally; 3) external factors such as legislation, consumer pressures, etc.; and 4) organizations are always parts of bigger systems—for example production and consumption systems—which are important in determining an organization’s behaviour. Each of these factors is dependent upon other factors such as the organization’s culture and history; the business and organization’s objectives, strategy and principles; the market needs; and prices and availability of resources (DEFRA, 2006).

Milian (2006) used case studies to examine strategy development in four cultural not-for-profit organizations. His research showed that the organizations studied have a complex and flexible strategy process. He also found that the different activities involved are interconnected and part of the organizations’ daily operations. His research shows how deliberate and emergent strategies are formed and implemented (Milian, 2006). He found that there are several factors that turned deliberate strategies into “emergent strategies.” This included new ideas, critiques, new decisions and a greater understanding of the organizational capabilities (Milian, 2006).

Large corporations that have encountered highly competitive markets attempt to create competitive advantages by outsourcing nearly everything—which is a

*nondeceptive strategy*. In this scenario they reduce labor costs by outsourcing the production of much of what they manufacture offshore to take advantage of cheap labor. A specific example comes from Delphi, the auto-parts giant with 185,000 employees. They filed for bankruptcy because they needed to cut the costs of workers' wages, health care, and retirement. General Electric closed a refrigerator plant in Indiana and moved the operation to Mexico to lower labor costs and enjoy less stringent governmental regulations. As a result, the workers in Indiana lost their jobs and income and had to go on welfare. The government was doubly impacted because it lost the tax revenues and had to pick up the social welfare costs. In yet another example, IBM laid off thirteen thousand workers in the United States and hired more than fourteen thousand workers in India. The result of the emergent strategies adopted by Delphi, GE, and IBM is that they all created externalities for which the cost had to be borne by society. And their less regulated production abroad created additional external costs.

The primary focus of business is to maximize its profitability and the second most important determinant is its position within that industry. Michael Porter introduces many new concepts of strategies based on the focus of business. One category is called *generic strategies* which are utilized to gain a sustainable competitive advantage. In his 1980 classic *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, Porter defined the three best generic strategies as cost minimization strategy, product differentiation strategy and market focus strategies. The *cost minimization strategy* (low cost strategy) emphasizes efficiency by using economies of scale and experience curve effects. This strategy uses low cost with a large order base. In the event of a price war, the firm can maintain some profitability

while the competition suffers losses. The *product differentiation strategy* uses the development of a product or service that offers unique attributes that are valued by customers and are viewed better than the products of the competition. *Market focus strategy* (niche strategy) concentrates on selected target markets. Porter believes that this strategy better meets the needs of that target market because it attempts to achieve either a cost advantage or differentiation in order for firms to gain a competitive advantage through effectiveness rather than efficiency.

Due to the pressure from outside forces, some large corporations have adopted emergent strategies and “green” concepts to generate positive externalities. These pressures include stakeholder concern about environmental issues like global warming which are becoming a core driver for business and the American economy. For example Lee Scott, CEO of Wal-Mart, emphasized that they have a new company strategy to help improve the environment. “Its goals are to be supplied 100% by renewable energy, to create zero waste... and to sell products that sustain our resources and our environment” (Scott, 2008). Other businesses have adopted strategies to cut their emissions and reduce their energy demand creating both a challenge and an opportunity. Volvo was one of the first industrial manufacturing corporations in the world to adopt a formal environmental strategy beginning in 1988. Also, Ford, Toyota, and Honda have adopted “green” policies by switching to hybrid-electric vehicles to lower emissions and improve fuel economy. Intel is another prominent firm that has adopted a green strategy.

## CHAPTER 3

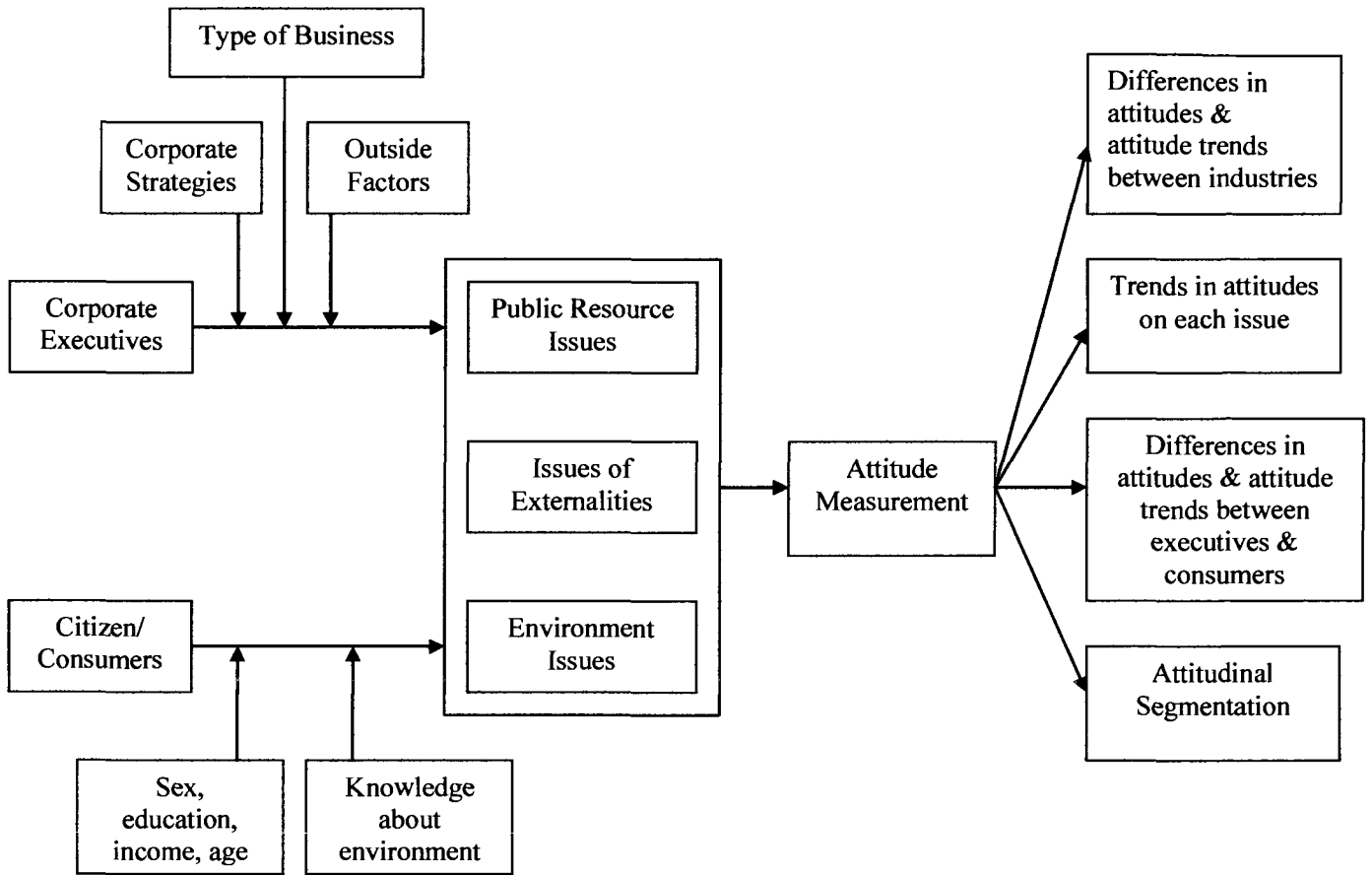
### RESEARCH MODEL, RESEARCH QUESTIONS AND HYPOTHESES

This chapter presents the research model and the literature relevant to support the choice of variables used in this study. It describes the research questions, hypotheses, and variables, presents conceptual definitions and operational definitions, and provides a chapter summary.

#### Research Model

The research model examines the attitudes of two distinct population groups, corporate executives and non-executive citizens, concerning the use of public resources, the creation of externalities and the environment, while factoring in corporate strategies, outside factors, and demographic information. The research model in the Figure below illustrates the various components and their interactions. The model shows the relationship of the attitudes of corporate executives, as well as the attitudes of citizens/consumers, toward the use of public resources, the creation of externalities, and the environment. In the model, the classified groups of people are distinguished to study how their attitudes vary towards environmental issues and the use of public resources based upon their demographics and their position within or outside of the corporation.

*The Research Model*



*Figure 5. Research Model*

**Business's Environmental Attitudes**

Various attitudes prevalent in our society and in business have led to or increased the environmental issues facing us today. One such pervasive attitude is that the common resources are a “free and unlimited good” that people can exploit without concern for the future. John Steinbeck reflected on this in his writings:



This tendency toward irresponsibility persists in very many of us today; our rivers are poisoned by reckless dumping of sewage and toxic industrial wastes, the air of our cities is filthy and dangerous to breathe from the belching of uncontrolled products from combustion of coal, coke, oil, and gasoline. Our towns are girdled with wreckage and debris of our toys—our automobiles and our packaged pleasures. Through uninhibited spraying against one enemy we have destroyed the natural balances our survival requires. All these evils can and must be overcome if America and Americans are to survive; but many of us conduct ourselves as our ancestors did, stealing from the future for our clear and present profit (Steinbeck, 1966).

For a long time, business has considered the environment to be a free and limitless good (Steiner & Steiner, 2003; Kirkby, O'Keefe & Lloyd, 1995). Air, water, land and other natural resources are seen as available for business to use as it pleases. Pervasive pollution, an externality created by business, and the depletion of natural resources are the result of this entrenched attitude. Garrett Hardin, in an allegory, called this attitude “The Tragedy of the Commons.” For example, he wrote about villagers taking their animals to graze in the commons (open pasture land) without any limitations or restrictions, resulting in overgrazing so that no one could use it anymore (Hardin, 1968).

A more tragic example of similar exploitation, which demonstrates exists in the world fishing industry. Over fishing, facilitated by the use of advanced technology, is severely depleting the world's stocks of fish and threatening, not only the whole fishing industry, but the entire ocean ecosystem. The attitude of business as well as individuals is based on their own self-interest as it relates to utilizing common or open access

resources without concern for future effects. The cumulative result will be the gradual destruction of the public domain, which will make every one, business and individuals, worse off as Adam Smith (1790) emphasized in his writings.

The tragedy of open access or unowned resources is also critical to understanding the difference between the private or internal costs and the social or external costs of a business activity which are called “externalities” or “spillovers.” An example of this is the Exxon Mobil oil spill which occurred in Prince William Sound, Alaska on March 24, 1989. One of their oil tankers was on route from Valdez, Alaska to Los Angeles, California with a drunker captain when it ran aground and spilled 10.8 million U.S. gallons (40.9 million liters) of crude oil into the sea. The oil eventually covered more than 11,000 square miles (28,000 km<sup>2</sup>) of ocean, which is still the largest oil spill to date in U.S. waters. Exxon tried to avoid using trucking because of their concern of the higher private costs involved. However, their business decision to use the cheaper transportation method, i.e., huge sea going oil tankers, resulted in severe environmental problems and damage to the ecosystem in Alaska. This in turn created a huge cost to society.

Some believe that the creation of spillovers or externalities through the corporate pursuit of private self-interest and a view that the environment is a free and limitless good for consumption coupled with an appalling ignorance of ecology cause many of the serious environmental problems facing us today (Bainbridge, 2006).

The relationship between business and the environment is an area of increased study and research (e.g., Fischer and Schot, 1993; Welford and Starkey, 1996; McDonagh and Prothero, 1997; Tilley, 1999; McDonough & Braungart, 2002;

Chouinard, 2006). Environmental awareness has increased since 1960, despite corporate efforts to suppress concern. During this period, there was a new political and social movement that awakened people's consciousness of the damage being done to our planet by out of control business's activities (Worcester, 1994). Since then, businesses have felt more pressure to behave with more environmental responsibility. Many businesses viewed this movement as a threat to their profit and survival and tried to ignore it. They began to focus on protecting their business growth by opposing all legislation and market interventions intended to improve their environmental performance (Tilley, 1999).

According to Winsemius & Guntram's (1992) theory, business firms can be clustered into four different types of environmentally-responsible behaviour: reactive (i.e. they undertake minimal effort to improve environmental performance); receptive (they are becoming more willing to consider pro-environmental behaviour); constructive (they usually attempt to improve performance); and proactive (they always seek to be environmentally-responsible in their behaviour). Unfortunately, Winsemius & Guntram conclude, most corporations historically have been reactive.

Over the last fifty years businesses have begun to demonstrate more environmental responsibility. One reason for this change in attitude and behaviour is increased scrutiny by stakeholders, including the public. This has resulted in many large corporations accepting some environmental responsibilities (Baden, 1992). This has been especially true in Europe. There are many management techniques available now to assist business managers to improve their environmental behaviour. These include environmental reporting, new auditing and accounting practices, environmental

management systems, eco-labeling, life cycle analysis and established environmental management standards, etc. All these tools and techniques have assisted businesses to become more responsible (Hutchinson and Hutchison, 1997).

The World Commission on Environment and Development stated in 1987: “Industry or business has the power to enhance or degrade the environment; it invariably does both.” (WCED, 1987) Businesses that change their behaviours toward the environment do so only if they have understand the issues and opportunities. (Schapter, 2001; Palmer, 2000; Townsend, 1998). In addition, research has found that time and information resources are important external predictors that affect the environmental attitudes and behaviours of businesses (Schaper, 2001).

In a September 2007 survey conducted by the McKinsey Quarterly, more than 50 percent of the global executives polled picked the environment, including climate change, as one of three issues that will attract the most public and political attention during the next five years. This compares to only 31 percent of executives in a survey conducted in 2005 (McKinsey Quarterly, December, 2007). In December, 2007 the McKinsey Quarterly conducted a related survey on the topic of “How companies think about climate change.” They received responses from 2,192 executives from around the world. The results of their survey showed that 60% of global executives regard climate change as strategically important. The majority of respondents also indicated that climate change is an important consideration for product development, investment planning and brand management. However, more than half of the CEO’s indicated that their companies only did “somewhat well at best” when asked “How well their companies do take climate change into consideration in strategy.” In fact, 44% of the

CEO's indicated that climate change is not an important aspect on their agendas. Also, more than 80% of global respondents indicated that they expect some form of climate change regulation to be enacted in their home countries within the next five years. These surveys demonstrate the trend of global corporate attitudes towards environmental issues, particularly the climate change, over the past several years.

### Society's Environmental Attitudes

There is increasing public concern and awareness that our common resources are being harmed by human actions. A number of studies have found that people around the world affirm that the problems with the environment is an important social problem (Dunlap, 1991; Dunlap, Gallup, & Gallup, 1993; Kempton, Boster, & Hartley, 1995) and that the critical environmental issues will only be getting more severe (Dunlap & Saad, 2001; Saad, 2002). Before 1960s, environmental problems were not major issues, even though many serious problems were apparent. For example, several widely used national polls conducted in the 1920s did not reflect any environmental concerns by the respondents (Oskamp & Schultz, 2005). In 1970's polls, the Vietnam War, education and the economy were the major concerns to Americans. Only 3% of the respondents mentioned the environment (Smith, 1985). However, according to several polls and studies (cited in Oskamp and Schultz, 2005) conducted a few years later, problems with the environment, pollution and natural resources ranked closed to the main issues like inflation, crime, and government corruption as main problems (Oskamp & Schultz, 2005; Erskine, 1972; Ladd & Bowman, 1995; Dunlap & Saad, 2001; Saad, 2001). By 2001 the Persian Gulf War and terrorist attacks were our main concern. According to

the Gallup Poll, environmental concerns reached a peak of 78% in the early 1990s. This was most assuredly due to the devastating effect of the Exxon Mobil oil spill which occurred in Valdez, Alaska on March 24, 1989. However, the level of environmental concern has dropped since 1999 (pollingreport.com, 2003), but the concern about economic growth has increased (Gallup Poll, March, 2008).

It is, therefore, important to study environmental attitudes which provide a good understanding of the set of beliefs, interests, or rules that influence resource management and environmental protection. Studies concerning attitudes about the environment have begun to attract attention in recent years and they are generating increased interest of researchers and educators in conserving the environment. As Schultz and Zelezny (2000) mention, “until recently, research into attitudes had been mainly carried out in fields such as tobacco policy, health issues, sexual harassment or racism, but of all the social issues that face us in this millennium, the most daunting are environmental problems.”

National Science Foundation statistics in 2005 show that, “Attitudes towards environmental protection have been shifting in recent years.” For example, 53% of survey respondents (an increase of 6% since 2003) viewed environmental protection as more important than economic growth while only 36% held the opposite view (<http://www.nsf.gov/statistics/seind06/c7/c7h.htm>). Additionally, a U.S. survey conducted by International Communications Research (ICR) between March 26 and April 6, 2008 tested response to the statement: “How much of a difference do you think you personally can make in terms of protecting the environment?” The research found that out of 1,200 respondents 64% under the age of 50 believe they can make a

difference in terms of protecting the environment. Results from the statement “Do you plan to or do you currently (yes response)” indicated that 81% of people age 18 and older stated that they recycle and 82% of them stated they will reduce their water use. Furthermore, 85% of the respondents under age 50 stated that they use energy efficient light bulbs.

From a psychosocial point of view, Shultz (2001) and Stern and Dietz (1994) affirm that “environmental attitudes are focusing on beliefs concerning what consequences environmental deterioration may have for oneself, for other human beings, or for the biosphere.” Schultz argues that the attitudes of environmental concern are rooted in a person’s concept of self and the degree to which an individual perceives him or herself to be an integral part of the natural environment. Other authors see the environmental attitudes as the anthropocentric dimension that values the quality of the environment for its contribution to the quality of human life and the econcentric dimension which value nature for itself (Chanler & Dreger, 1993 & Thompson & Barton, 1994).

In researching the attitudes about the environment in other countries, Schultz found that most people are more concerned about “all living things” or a *biospheric concern*. According to Dunlap, Gallup, and Gallup (1993), a survey of 1,000 people in each of 24 countries, found that in other countries the level of support of environmental protection and the concern for the environmental issues are higher even in poor countries, such as India, Chile, and Mexico. The cross-cultural survey shows that the majority of people in 17 of the 24 countries expressed a willingness to pay more for products in order to improve environmental quality. The difference of the two views—

U.S. and others—may stem from cultural difference (Schultz, 2002). Schultz, et. al. concludes that in the U.S. most people are anti-environmental and that overconsumption and pollution are more serious in the industrialized countries, particularly the United States. Moreover, unabated economic growth and technological developments have caused serious environmental problems (Schultz, 2002; Schultz, et. al., 2005).

Schultz, et al. (2005) also studied individual life goals. Schultz and colleagues conducted a study to examine the structure of attitudes about environmental issues, the relationship between values, environmental attitudes, and environmental behaviours across a set of diverse countries. They also explored the relationship between values and environmental behaviour within the framework of norm activation. The research applied a multi-regression analysis. Schultz and his colleagues distinguished individuals in terms of their environmental concern into two types: individuals who value *self-transcendent life goals* and individuals who value *self-enhancing life goals*. The two groups approach the environment in entirely different ways. Schultz found that those with “the *self-transcendent life goals* tend to care more about environmental problems, favour environmental protection over economic growth, and engage in more pro-environmental behaviour.” This group tends to be positively correlated with measures of *biospheric environmental concerns* and negatively with *egoistic environmental concerns*. Those with “the *self-enhancing life goals* tend to favour economic growth over environmental protection and to engage in fewer environmental behaviours.” This group tends to correlate negatively with biospheric concerns and positively with egoistic concerns (Schultz, 2001; Schultz, et. al., 2005). Similar research conducted in the U.S. found that Americans tend to hold strong self-enhancing



values. The self-enhancing values mainly focused on individual or *egoistic concern* which is focused on the individual, and reflect a concern about environmental problem for “self”, such as personal health, financial well-being, quality of life, and availability of resources. The results of this study support the findings of the previous Schultz study (2002).

Kohl’s’ study (1984) indicates that Schultz claimed that Americans live with 13 commonly shared values. The number one value is *personal control over the environment*—“individuals in the U.S. believe that first and foremost, each individual should look out for his or her self interests by controlling nature and one’s environment.” However, Rokeach (1973) and Schwartz (1994) found that the top ranking American value is “to be well adjusted, in harmony with my environment, in good relationship with others.”

Dunlap and Van Liere (1978) examined the emerging worldwide environmental movement that began in the 1960s as a *new environmental paradigm* (NEP). This new environmental paradigm emphasizes beliefs about the delicate balance of nature, the limits of growth and humanity’s need to live in harmony with nature rather than to “rule” it. The main concept of the new environmental paradigm is the concept of a human-nature relationship that people must live in balance with the natural environment. The new environmental paradigm consists of a 12-item NEP scale to measure a primitive set of beliefs about environmental issues and pro-environmental behaviour (Stern, Dietz, Kalof, & Guagnano, 1995; Dunlap et.al. 2000; Stern, 2000).

Global environmental problems concerning the exploitation of natural resources, pollution and population growth challenge the way of life for everyone on the planet.

There are numerous attempts to explore how one might encourage human societies to be less exploitive of the earth's natural resources (Kaiser, Wolfing, & Fuhrer, 1996; Stern, 1992). Kaiser, Wolfing, and Fuhrer (1996) studied the factors that affect the predictive power of environmental attitudes towards more ecological behaviour (i.e., "actions which contribute towards environmental preservation and/or conservation" (Axelrod and Lehman, 1993). They studied attitudes toward the environment, the New Environmental Paradigm and attitudes toward ecological behaviour in order to predict ecological behaviour. They determined that three concepts, general environmental knowledge, general environmental values and general ecological behaviour intention from the conceptual framework of the theory of planned behaviour. Their results indicated that 40% of the variance of ecological behaviour intention is explained by environmental knowledge and environmental values. They concluded that environmental knowledge and environmental values are a useful approximation of one's planned behaviour or attitude and of subjective norms respectively. In addition, the measures of attitude toward ecological behaviour and norms would be helpful to clarify the variance of ecological behaviour intention (Ajzen and Maden, 1986; Kaiser, Wolfing, & Fuhrer, 1996).

Steiners state that the main approach to pollution control, particularly from industrial progress, in the U.S. has been to pass laws that strictly regulate emission, effluents, and wastes (2003). In the late 1960's and early 1970's, the public had become frightened of environmental problems. This led to the passage of numerous laws and the creation of new regulatory agencies to address the environmental problems. The laws included the Congress of the National Environmental Policy Act in 1969, the Clean Air

Act in 1970 and the Federal Water Pollution Control Act in 1972. In 1970, the Environmental Protection Agency (EPA) was established to manage all federal environmental regulations and research programs in order to protect human health and to preserve the natural environment. In addition to enacting new laws and establishing new regulatory agencies, the government also encouraged citizen/consumer and businesses groups to find solutions for the environmental issues.

These efforts were almost all regulatory, emphasizing end of pipe solutions (Bainbridge, 2007). External costs were rarely considered, and environmental protection was seen as a “cost” with little “benefit”. As a result, citizens and corporations are currently faced with the formidable task of reducing global warming and the U.S. has failed completely to address resource depletion issues, including both oil and water (Gaber, 2005).

One example includes local governments ignoring environmental problems as they seek to attract businesses and jobs to their areas. However, it just may be that it needs to focus the fight for environmental protection at the local government level because it does not become a real concern of the central authority until the situation becomes more severe. In “The Economics of Climate Change” by Orszag (2008) argues that the U.S. government and the other leaders of the Group of Eight (G8) realize that the Global Warming issue is real and affects every aspect of life on the planet. Yet they have failed to address the underlying problem, free riding on com resources.

## Value and Environmental Behaviour

Schultz found that “environmental concerns are rooted in a person’s values and refer to the affect associated with environmental problems. One environmental concern is that of environmental attitude which refers to the collection of beliefs, affect, and behavioural intentions a person holds regarding environmentally related activities or issues” (Schultz, 2005). In addition, Schultz, et al. (2005) studied the self-reported environmental behaviours by using Likert-type scale ratings of past behaviour of citizens in six countries: Brazil, the Czech Republic, Germany, India, New Zealand, and Russia. He found that the relationship between values and environmental behaviour show evidence for norm activation only for self-transcendence that means a concern for “the welfare and interests of others” while results for self-enhancement reflected a narrow construal of self and showed a consistently negative relationship (Schultz, et. al., 2005). Their study is limited, however, because of their small sample size and because of the population (students) they studied.

Axelrod and Lehman (1993) explored individual’s ecological behaviour. The study found that actions which contribute towards environmental preservation and/or conservation can change behaviour in a more ecological direction, such as people who do recycling will also exhibit other “green” attitudes like resource conservation and use of more sustainable products.

Kaiser, Wolfing and Fuhrer (1999) examined the predictive power of environmental attitude on ecological behaviour. The researchers used three measures by means of factor analysis: (1) environmental knowledge, (2) environmental values, and (3) ecological behaviour intention to predict the environmental behaviour. Their

research confirmed that environmental knowledge and environmental values explained 40 percent of the variance of ecological behaviour intention and predicted 75 percent of the variance of general ecological behaviour (Kaiser, Wolfing & Fuhrer, 1999).

Usui, Vinken & Kuribayashi (2003) used multiple regression analysis to examine environmental value amongst Asian and Western countries. They found that the structure of environmental values in Asian countries differs from those in Western countries. They applied *the value-based theory* of Stern & Dietz (1994) to compare the result of their study. First, they found that in the Netherlands and the United States, environmental values are linked with altruistic values that are contrary to traditional values; while in Japan, Thailand, and Philippines, environmental values are connected with both traditional values and altruistic values. Second, they found that the environmental values are contrary to egoistic in each of the survey countries. Third, they found that there are different factors encouraging environmental behaviour in different countries and that traditional values are positive predictors of energy-saving and green-consumer behaviours while materialist preferences are the main factor to engage in environmental concern.

Barr (2007) examined the factors influencing environmental attitudes and behaviours. He determined that there are three factors that influence environmental behaviour. These are environmental values, situational variables, and psychological factors. The study was conducted in the UK by using a self-report questionnaire of 670 residents of Exeter, UK. The study found that the predictors of reduction, reuse, and recycling behaviour differed significantly. Reduction and reuse are influenced by

underlying environmental value, knowledge and concern-based variables. In contrast, recycling behaviour is predicted by psychological factors (Barr, 2007).

### Demographic/Psychological Factors

Demographics and Psychological factors involve a wide range of variables that influence attitude towards the environment. These include gender, age, income, education, religion, ethnicity and political affiliation as well as significant personal experiences, environmental identity and rural versus urban residence (Oskamp & Schultz, 2005; Barr, 2007). In this research, education, age, gender, income, and knowledge of environment and environmental issues are used.

#### *Education*

There are numerous studies (cited in the Oskamp and Schultz (2005) study) that confirmed that education is one of the most important demographic variables that distinguish people highly concerned about environmental quality from those less concerned about environmental quality (Oskamp & Schultz, 2005; Dillman & Christenson, 1972; McEvoy, 1972; Van Liere & Dunlap, 1980; Mertig & Kovval, 2001; Weakliem, 2002; EORG, 2002). Those studies show that people with higher education express higher concern for environmental issues. McEvoy's (1972) study showed that 62% of respondents who had never finished high school favored offshore oil drilling, compared with only 39% of those with a post-college education. Thirty years later Smith (2002) conducted a study similar to McEvoy's and found that people's environmental attitudes had continued to change, now only 35% of those who did not

complete high school favored more drilling and only 22% of those with a post-college education favored more drilling (Smith, 2002).

### *Age and Gender*

Age is another significant variable. Oskamp and Schultz (2005) cited in their study that researchers generally found that younger people are more concerned about environmental problems than older people. (Oskamp & Schultz, 2005; Van Liere & Dunlap, 1980; Mertig & Kovalm, 2001)

Gender has been the most studied of the demographic variables that correlate to environmental attitudes. Oskamp and Schultz (2005) found in their study that women are more environmentally concerned than men, particularly as it relates to local health-related issues (Oskamp & Schultz, 2005; Borden & Francis, 1978; McStay & Dunlap, 1983; Schahn & Holzer, 1990; Mohai, 1992; Zelezny, Chua, & Aldrich, 2000; Zelezny, 2000; Schultz, 2002; EORG, 2002). The discussion over gender differences in environmental concerns is sharply divided. For example, even though MacDonald and Hara (1994) found in their study of “Gender differences in environmental concerns among college students,” that males were slightly more likely than females to express environmental concerns, they propose that in general women are expected to be more environmentally concerned than men.

### *Income*

Another significant factor that affects one’s environmental attitude is income level. Some studies have found that wealthier respondents are more concerned about the environment than poorer respondents (Dillman & Christenson, 1972; McEvoy, 1972; Van Liere & Danlap, 1980). However, Smith (2002) argues that there is no

relationship between income and environmental attitudes. Hine and Gerlach (1970) found that people's occupation helps to explain the relationship between income and environmental attitudes. They found that business owners and executives were less concerned than working professionals or governmental officials (Hine & Gerlach, 1970). Moreover, ethnicity, religion, political affiliation, place of residence and significant life experiences are also important factors that influence environmental attitudes and behaviour (Oskamp & Schultz, 2005).

The European Opinion Research Group (EORG) undertook a survey for the Directorate-General Press and Communication office entitled "Public Opinion Analysis" (2002). This examined Europeans attitudes towards environment. Their research shows that Europeans greatest environmental concerns are problems linked to industrial safety (nuclear 50%, industrial disasters 45%). This was followed by environmental problems such as air pollution (44%), natural disasters (43%) and various types of water pollution (42%). The study also found that women are more concerned about the environment than men as did Schultz (2002) and Zeleny (2000). They confirmed that young people are less concerned about the environment than older people different from Van Liere and Dunlap, 1980; Mertig and Koval, 2001 studies. Therefore, education is seen as the key to changing environmental concern since highly educated people are more sensitive to environmental issues. For example, the research found that "the more educated appear more sensitive to the problem of 'the elimination of the tropical rain forests' 49% among senior executives compared to 39% among manual workers ...". The study further found that 65% of the respondents favour an active attitude toward environmental issues but needed cooperation from others to make



an effort in solidarity. These results came mostly from Denmark, Greece, Belgium, and France (EORG, 2002).

On the other hand, there are several variables that influence the attitude toward the environment, externalities and the uses of public resource, besides the demographics. These include their knowledge about the state of the environment and environmental issues and degree of the problem threatening to personal well-being. Another important factor to predict and encourage people to be aware of these problems is the current social norm (Oskamp et al., 1991; Chan, 1998).

#### *Knowledge about the State of the Environment and Environmental Issues*

Knowledge about the state of the environment and an awareness of environmental problems (i.e. scarcity of natural resources, pollutions, and externalities) and personal environmental experience have been found to play significant parts in shaping ecological behaviour (Schahn and Holzer, 1990; Oskamp & Schultz, 2000; Barr, 2007). Indeed, Heines et al. (1987) stated that environmental knowledge is important in shaping general proenvironmental behaviour. Nonetheless, Schahn and Holzer emphasized that there is strong evidence to confirm the link between concrete knowledge of action and ecological behaviour. Additionally, personal experience leads individuals to care about environmental problems and to adopt proenvironmental lifestyle (Oskamp & Schultz, 2000). But in this study, we do not focus on this variable.

Manzanal, Barreiro, and Carrasquer (2007) conducted research to examine environmental attitudes of university students in Spain. The purpose of the study was to increase the consciousness of environmental values and explore the level of awareness of university students. First, they were able to develop an attitudinal scale EAU

(Environmental Attitudes of the University Scale) which facilitated their study at their university. Second, they found that the EAU scale was able to assess four traits of the attitudes: the need for education concerning environmental problems; the importance of fieldwork and activities for environmental education; contamination of the environments and the need for conservation and the willingness to act in a proenvironmental way. Their conclusion was that “the university students have an environmental attitude that is similar to one referred to in other studies that deal with interest in the environment of different social agents, independent of age or education level (see Schultz and Zelezny, 2000; Ajzen, 2001; Hensher and King, 2002; Hart, 2003). Their study confirmed that female students have higher scores than male students on the attitude scale. Female students also displayed higher scores in conservational aspects and in the willingness to participate in pro-environmental actions (Manzanal, Barreiro, & Carrasquer, 2007), the same as Zeleny (2000) found. The researchers also found that final year students showed more environmental concern than first year students which they believed resulted from either the maturity of the students or the knowledge that the senior students obtained from the university.

There are also some studies about environmental attitude based on demographic variables. Vogel (1994) studied the environmental attitudes of the farming industry in Germany. This study tested the influence of several variables on the individual’s environmental attitudes as well as their interactions within the environmental-attitude model and the influence of all the variables on their environmental behaviour. By using multi regression analysis, the research found that the level of education was not associated with the individual’s environmental attitudes. Rather the study found that the

individual's problem-based knowledge was a much stronger influence on their environmental behaviour than their level of education. Age was also a factor that influenced their general attitude toward environment. For example, younger people were more concerned than elders with the environment. However, no significant difference was confirmed on the basis of gender (Vogel, 1994). Vogel confirmed that problem-based knowledge and personal experience of ecological problems and individual-based environmental attitude show a stronger direct influence on environmental behaviour than the level of education.

Schaper (2001) and Groundwork (1995) found that in their research small and medium enterprises (SMEs) contribute as much as 70% of all industrial pollution. Schaper (2001) conducted research in Australia to measure the environmental attitudes of small business owner/managers in the pharmacy industry. Schaper's study focused on the internal and external factors (predictors) that affected their environmental attitudes. Internal factors included age, gender, and education. External factors consisted of consumer demands, capital availability, firm size, time, and information resources. Although his research indicated that there was a high level of "green" attitude amongst the owners, it did not discover any relationship between the green attitude of the business owner and the performance of the business. Age was a significant factor associated with the owner's environmental attitude. The study determined that younger owner/managers were more likely to display positive environmental attitudes than older ones, but the research found that age was not related to their environmental behaviour. These results were completely opposite those of the Vogel (1994) study. The results confirmed that attitudes are not effective predictors of behaviour (Schapter, 2001;

Holahan, 1982). This was also confirmed in Triandis' (1971) work in the field of attitudes, in which he states that "an attitude was as a marker of ...what people *think* about, *feel* about, and how they would like to *behave*..." rather than an indicator of what they actually do.

#### Citizens/Consumers Segmentation

Schultz (2002) and Schultz, et al. (2005) studied the relationship between values and attitudes about environment and environmental issues. The first research of Schultz, et. al. (2002) examined differing environmental attitudes and behaviour across cultures in 24 countries including the United States. The theory focuses on environmental attitudes and behaviours developed from an awareness of the harmful consequences to valued objects. The valued objects are obtained from three basic sources: self, other people, or all living things. The first group "self" is called *egoistic concern* which is focused on the individual and reflect a concern about environmental problems for "self" such as personal health, financial well-being, quality of life, and availability of resources (Schultz, 2000; Schultz, et. al., 2005). The second group "other people" is called *altruistic concern* which is focused on people other than self, including friends, family, community, future generations, or humanity. The last group "all living things" is called *biospheric concern* which is focused on all living things, including animals, plants, ecosystems, and the biosphere. Schultz's (2002) study found that overall people in the U.S. are less concerned about environmental issues and externalities than in most other countries. The survey also found that people in the U.S. are more concerned about local issues that are related to the individual or *egoistic*

*concern.* However, the trend of recognition and concern about environmental issues in the U.S. began increasing in 1970 and rose steadily ever since reaching an all-time peak in the mid-1990s.

Phillips and Limprayoon (2007) recently conducted a small study on attitudes towards environmental issues, particularly the utilization of the commons and problem of externalities. They provisionally categorized people, in terms of environmental attitudes, into four groups:

- *Compassionate Liberal:* A person that believes regulations are required to maximize public availability of common natural resources.
- *Free-market conservative:* A person that believes in individual rights and the regulation of common natural resources by privatization and freely determined prices for their use.
- *Ordinary working man:* A person that only cares about using common natural resources when they need to and is not concerned with their sustainability.
- *CEO Gone Wild:* An executive that manages a company for their own benefit and profit and that of the stockholders without concern for their employees, the public or the environment.

The pre-test survey used a five-point Likert scale to ask respondents to pick their attitudes towards environmental issues. Most of the respondents were college students in San Diego. This small research compares with the Schultz (2002) research mentioned previously. Schultz studied and categorized people into three groups: egoistic attitude, altruistic attitude, and biospheric attitude. Phillips and Limprayoon (2007) classified people into the four groups stated above and found that 62% of the respondents are

concerned about public resources. Of the respondents, 58% agreed with the statement “We need to regulate the use of the public resources” and 58% agreed with the statement “I will utilize the public resources when I need it only.” There were some notable conclusions about the CEO Gone Wild concept. For instance, the survey shows that 46% of the respondents answered “strongly disagree” while 12% answered “agree” on the question “I do not care about the pollution or the damage that would occur after I exploit public resources.” Finally, 12% of the respondents answered “agree” on the statement “Everybody should be free to use the free public resources as much as we can before others do, even if it hurts the common good.” However, these pre-test numbers cannot be considered statistically significant since the sample was small and homogeneous.

### Research Questions and Hypotheses

The information presented in the previous sub-sections and the authors review of the literature demonstrate that the environmental attitudes of both businesses and people in general have been shifting over time (Dunlap & Van Liere, 1978; Baden, 1992; Dunlap & Gallup, 1993; Groundwork, 1995; Tilly, 1999; Schultz, 2000; Schaper, 2001; Schultz, 2005; <http://www.nsf.gov/statistics/seind06/c7/c7h.htm>, 2005; Phillips & Limprayoon, 2007; ICR, 2008). Therefore, the purpose of this research is to examine the following questions:

- What are the attitudes of consumers and corporate executives toward corporate treatment of public resources?

- What are the attitudes of consumers and corporate executives toward the creations of externalities?
- How have those attitudes changed over time?
- How do the corporate strategies dealing with externalities and environmental issues differ between the two selected industries (software and aircraft)?

The following hypotheses are developed from the research model in order to answer the research questions. The hypotheses were subjected to empirical testing as outlined in the subsequent chapter.

*Corporate Executives' Concern Hypotheses*

- Research Hypothesis 1: a. A majority of corporate executives are more concerned about the creation of externalities than in the past.
- b. A majority of corporate executives are more concerned about the use of public resource than in the past.
- c. A majority of corporate executives are more concerned about the natural environment than in the past.
- d. There are differences in attitudes among different industries towards public resources.

*Citizen/Consumers' Concern Hypotheses*

- Research Hypothesis 2: a. A majority of citizens are more concerned about corporations' creation of externalities than they were in the past.

- b. A majority of citizens are more concerned about the use of public resources than they were in the past.
- c. A majority of citizens are more concerned about the natural environment than they were in the past.

*Comparison between the Groups Hypotheses*

Research Hypothesis 3: Corporate Executives are more concerned about public resources than general citizens.

Research Hypothesis 4: Corporate Executives are more concerned about the creation of externalities than general citizens.

Research Hypothesis 5: General Citizens are more concerned about public resources than corporate executives.

Research Hypothesis 6: General Citizens are more concerned about the creation of externalities than corporate executives.

*Psychographic Group and Attitudes Hypotheses*

Research Hypothesis 7: It is possible to cluster executives and the general public into distinct psychographic groups on the dimensions of attitude about externalities, and public resources, and the natural environment.

*Corporate Strategy Hypotheses*

Research Hypothesis 8: Corporate strategies dealing with externalities and environmental issues differ between the selected industries.



Research Hypothesis 9: Businesses apply non-deceptive strategies to deal with potential impacts of externalities and environmental issues (rather than utilize deceptive strategies).

Research Hypothesis 10: Businesses apply deliberate strategies to deal with potential impacts of externalities and environmental issues (rather than utilize emergent strategies).

### Variables and Conceptual and Operational Definitions

#### *Industry Type*

Industry measured through the respondent's selection of one of the following categories: aircraft or software. The respondent's responses will be coded by category: 1 or 2. This variable will use a 2 sample t-Test to measure the difference between the two industry types.

#### *Demographics/Psychological Factors (age, gender, income, education, race)*

Psychological factors comprise a diverse number of variables that relate to the attitude towards the creation of externalities, public resources, and the environment of both corporate executives and citizens/consumers over time. They are all fundamentally linked by the fact that they are personality characteristics of the individuals and the perceptions of those individuals toward the attitudes. These include gender, age, income, and education. These factors are measured as the statistical hypothesis cross-tabulation (chi-square) test of the scores.

*Gender:* 1= male; 0 = female

*Age:* Interval data with a maximum value of 81 assigned to those 71 and older

*Race:* 1 = Hispanic/ Latino, 2 = white/Caucasian, 3,...4,...5, ..., 6 = other

*Education:* 1 = elementary thru 8<sup>th</sup> grade, 2 = high school thru 12<sup>th</sup> grade, 3...4 ...5 ...6  
= other

*Income:* Interval data with a maximum value of \$150,000 assigned to those earning >  
\$115,001

### *Environmental Knowledge*

In order to determine how much people know about the environment, information is furnished regarding the global environment crisis and its causes, international environmental movement, externalities, and free riding. Operationally, environmental knowledge is measured through calculating by using cross-tabulation (chi-square) test from each respondent on 5-point Likert scale. Cross-tabulated variables included industry types and individual demographics.

### *Environmental Concerns*

This variable will lead to environmental behaviour. Environmental concern is rooted in a person's values and to refer to the affect associated with environmental problem. It refers to the collection of belief, awareness, effect, and behavioural intentions a person holds regarding environmentally related activities or issues (Schultz, 2005). Kohlberge (1985) believes that "concern is about working toward a conception of the good society and has to be in a higher stage which defines the principles by which we achieve justice." Operationally, environmental concern is measured through calculating by using cross-tabulation (chi-square) test and t-Test from each respondent on dichotomous and 5-point Likert scale.

## Summary

This chapter has presented a review of literature relevant to the research model, the research questions, hypotheses, and research variables as well as the conceptual and operational definitions for this study. The research model incorporates the industrial type and the consumer demographics with respect to analysis of the attitude towards the creation of externalities, the public resource issues and the environmental issues. The measurement of the attitudes is presented as a method to finding the trends in attitudes on each issue as well as the differences in attitudes between the two population groups.

## CHAPTER 4

### METHODOLOGY

This chapter describes the research methodology used in this study. The chapter includes the research strategy, the research population, the sampling methodology, instrumentation, and research sample, method for establishing validity, reliability test results, data analysis, and research assumptions.

#### Research Strategy

This study is an applied research study in the field of strategic management. The goal of the research is to investigate the trend in attitudes of corporate executives and citizens/consumers over the past five years toward the corporate creation of externalities, corporate use of public resources and the impact of both on the environment. The research is divided into two parts. The first part records the attitudes of corporate executives in two industrial types toward the treatment of corporate externalities, public resources, and environment. The second part records the attitudes of citizens/consumers toward the treatment of the corporate externalities, public resources, and environment. The objective of this study was to establish an attitudinal typology that will help examine and monitor this aspect of the business-government relationship in the future and to use this typology to reveal and clarify empirical trends and issues in today's business-government relationship. This research will help agents, who develop business strategies and regulate policies, predict environmental behaviours and actions of different groups in order to enhance their general ecological awareness and influence their behavioural decisions to promote and support a more sustainable environment.

The statistical hypothesis t-Test, cluster analysis, ANOVA, and descriptive statistics were used to analyze data in this study.

### Data Sources

The data sources enabled the sampling of two groups: executives from two selected industries and general citizens/consumers in the United States. The first group includes executives (upper middle managers) of aircraft and software firms and/or other people who are personally responsible for guiding the business. The first survey group was given a questionnaire, which included questions about their attitude towards the corporate creation of externalities, the use of public resources, the environment, their corporate strategy and their demographic data. The second survey group was given a questionnaire concerning their attitude toward the corporate creations of externalities, the use of public resources, the environment and their knowledge of the environment, and their demographic data.

The first sample group was generated from the Harte-Hanks/Access CI Technology Database, (<http://www.accessci.hartehanksmi.com/>). The database contains the name, function, and address for executives and top managers in technology industries. The population group, which consisted of 438 aircraft firms and 1556 software firms, was randomly processed so as to assign numbers to each of the firms.

A total 438 aircraft company lists of contact departments (most of them have more than 4 or 5 departments in the same company list). Total company lists are around 90 including different states. The researcher used the entire list of companies. The researcher sent out emails via SurveyMonkeys.com and some were sent by USPS. to

two departments per each company per state. For example, for Sikorsky Aircraft Corporation, the researcher sent out the survey to the CEO office and Human Resources Manager. The total number of surveys that out was 202 contacts, received responses back: 18 usable surveys, or 8.9%.

For Software industry there were total 1556 lists of companies. The researcher randomly picked the companies and as focused on software businesses (manufacturing preferred), per state, position of contact (must be at least a middle manager level which dealing with corporate strategies). The researcher sent out surveys via SurveyMonkeys.com and the USPS. to the selected companies (departments). Total number of surveys that the researcher sent out was 309 contacts. The responses received were 33 usable surveys, or 10.7%.

The researcher sent 300 additional questionnaires directly to both industries (180 for aircraft and 120 for software) again including Software Associations in San Diego, Portland, Austin, and New Brunswick. The researcher also used face-to-face survey methods in San Diego by delivered the questionnaires to these firms. A number of questionnaires were also delivered to the management groups of aircraft corporations located in San Diego in either October or November, 2008. Total returned surveys were 76 (aircraft 43, software 33) usable surveys, or 25.4% of 300 additional questionnaires. The total of corporate surveys is 127 which consist of 61 aircraft usable surveys and 66 software usable surveys. The total questionnaires sent to aircraft industry were 382; the percentage returned survey was 15.97%. The total questionnaires sent to software industry were 429; the percentage returned survey was 15.38%. And a total percentage of returned rate of both industries was 15.65%.

In addition, the second population group, citizens/consumers was randomly framed from telephone books by zip code and mailing lists from Fnbr incorporated web site (fnbr.com). A total 500 questionnaires were sent out via SurveyMonkeys.com and by USPS to the randomly consumer lists. According to Groves (1990), individuals tend to prefer face-to-face and mail surveys because of the personal contact a respondent has with the interviewer. Therefore, a total of 400 additional questionnaires were delivered to the citizens/consumers in San Diego. One hundred fifty eight surveys were conducted by a face-to-face survey of opportunity samples in San Diego. And one hundred and four were received from online and USPS survey methods. A total returned of consumer groups is 262 usable surveys, or 29.1%.

Thus, each sample (executives and citizens) was a mix of units selected randomly or close to randomly, and opportunity samples. The result was a set of samples with varied characteristics and (in the case of the citizen sample) demographics not too dissimilar from that of the US at large. The total number of respondents of consumer and corporate executive groups were 262 and 127 respectively. Comparing between the demographics of respondents and nonrespondents, the researcher does not see any differences between those two groups. The respondent groups could be good representatives for this research as they represent all the basic demographic areas, such as marital status, age, gender, income, education, ethnicities, and occupation.

#### Research Instrument and Measures

All data for this study was primary data and collected by the questionnaires. The purpose of the questionnaire was to collect statistically valid and vital information on

the environmental attitudes from the two population groups. The survey questionnaire was sent to corporate executives and citizens/consumers within the United States. A cover letter was included which described the purpose of the study, brief instructions for completing and returning it and a consent statement allowing the use of their information for this research.

The corporate executive survey measured the following variables: attitude towards corporate creation of externalities, the use of public resources, the environment, their corporate strategy and their demographic data.

The citizens/consumers survey measured the following variables measured: their attitude towards the corporate creation of externalities, the use of public resources, the environment and their knowledge of environment, the psychology segmentation and their demographic data.

#### Methods for Establishing Validity and Reliability

The survey instrument was reviewed by the dissertation committee chairperson and the committee members to ensure its validity. To further ensure its validity, the survey questionnaire was developed utilizing the following measurement techniques:

- The questions were developed, reviewed and pilot-tested by two professors, six doctoral students and three associates who have considerable experience in environmental issues before being included in the final survey. Pilot-testing determines if there are weaknesses in the design, order, or structure of the questionnaire (Emory and Cooper, 1991).



- People in both groups were selected making sure that the overall sample contained a balance of gender, age, location and ethnicity of the region's population.
- The questionnaire was distributed to a cross-sectional group of corporate executives and citizens living within the United States.

An internal consistency test or reliability test was designed to examine the stability and consistency of a composite measure. Cronbach's alpha was the most commonly used reliability test and it was presented in a table after receiving the data results.

#### Data Analysis

Several statistical treatment techniques were chosen as the most appropriate methods for analyzing the data collected in this study. First, Cronbach's Alpha was calculated to assess the internal consistency of the composite measures. Second, descriptive statistics was performed for the purpose of examining the possibility of associational relationships among the variables. Third, descriptive statistics was performed on the scenario statements to examine the significance of the counts of corporate attitudes toward the creation of externalities. The paired-samples t-test was also run to test the significance of any difference between the attitudes observed today versus those recorded for five years ago. Analysis of variance (ANOVA) was used to compare the demographic variables between the different groups. And the independent t-test was used to test the differences of corporate strategies between the industries. Finally, a cluster analysis was used for grouping executives and the general citizens/consumers, with similar characteristics, into respective categories of their

attitudes toward environment, externalities, and public resources (hypothesis 7). Cluster analysis was used to sort different attitudes into groups in a way that the degree of association among respondents is maximal if they belong to the same group and minimal otherwise.

## CHAPTER 5

### RESEARCH FINDINGS

This chapter presents the results of the data analysis. The chapter is divided into three sections. The first section provides descriptive statistics of the research variables of the two groups, consumers and corporate executives. The second section presents the statistical findings with regard to all hypotheses. In the third section, additional findings are presented.

#### Description of Sample Subjects

Descriptive statistics were used to describe the sample and the measures. The sample subjects for this study were selected from two different groups in the United States. One group was consumers and the other group was corporate executives from two industries, software and aerospace. The data was collected in San Diego, Portland, Seattle, Austin, and New Brunswick, New Jersey. Among the total of 389 usable surveys, 262 were from consumer respondents and 127 were from corporate executive respondents.

#### Demographics

The following review of demographic data from the survey indicates that the population for each group was represented in the sample to a satisfactory extent. The descriptive statistics were used to identify numbers of respondents, mean scores, and standard deviation for demographic variables. The items for the consumer group included gender, age, income, education, ethnic origin, and occupation. The items for

the corporate group included industry, job function, organization size, sales revenue range, gender, age, income, and education.

#### Demographic Characteristics of the Consumer Samples

A total of 262 consumer participants, all from the United States, completed the on-line, USPS, plus face-to-face surveys. Demographic data included gender, age, income, ethnic origin, marital status, occupation/professional, and educational achievement. Demographic characteristics of the consumer samples are presented in Table 3. The gender of participants was balanced with slightly more females, 53.4%. The age of participants ranged from under 20 up to 71. The majority of respondents fell into the 20 to 40 year range, accounting for 59.2%. The largest group of participants, 40.8% had less than \$36,000 income. Fifty-two percent of respondents indicated they were single, while 48% indicated they were married. White/Caucasian respondents comprised 40.5% while Asian respondents, the second large group, accounted for 38.2%. A total of 23.7% of participants work in businesses and nearly 40% of the respondents had attained a Master or Professional/Doctoral degree.

Table 3

*Demographic Characteristics of the Consumer Respondents*

(N=262)

Variable	Frequency	Percentage
<b>Gender</b>		
Male	122	46.6
Female	140	53.4
<b>Age</b>		
Under 20	8	3.1
20-30	78	29.8
31-40	77	29.4
41-50	33	12.6
51-60	43	16.4
61-70	20	7.6
71+	3	1.1
<b>Income</b>		
Less than \$36,000	107	40.8
\$36,001-\$71,000	80	30.5
\$71,001-\$115,000	50	19.1
More than \$115,000	25	9.5
<b>Marital status</b>		
Married	125	47.7
<b>Ethnic Origin</b>		
Hispanic/Latino	22	8.4
White/Caucasian	106	40.5
Black/African American	11	4.2
Middle Eastern	9	3.4

Asian	100	38.2
Other	14	5.3
Occupation/Professional		
Business Employee	62	23.7
Executive	5	1.9
Self-Employed	29	11.1
Unemployed	11	4.2
Manager	26	9.9
Civil Servant	29	11.1
Retired	16	6.1
Student	41	15.6
Other	43	16.4
Education		
Elementary Thru 8th grade	1	0.4
High School Thru 12th grade	22	8.4
Two Year Degree	41	15.6
Four Year Degree	74	28.2
Post Graduate Study	102	38.9
Other	22	8.4

### Demographic Characteristics of the Corporate Executive Sample

A total of 127 participants who were from the software (66, 52%) and aerospace (61, 48%) industries located in the United States completed the on-line, USPS, plus face-to-face surveys. Demographic data included industry, organization size, sales revenue range, job function, gender, age, income, ethnic origin, marital status, and education.

Demographic characteristics of the corporate samples are presented in Table 4. The gender of participants was mainly male, accounting for 86.8%. The age of participants ranged from under 20 up to 71. The majority of respondents fell into the 41 to 50 year range, accounting for 37%. The majority of participants, 42.5%, had more than \$115,000 income. Around 66% of respondents indicated they were married, while 32% indicated they were single. White/Caucasian respondents were the main ethnic group with 51.9% while Asian respondents were the second largest group, accounting for 24.8%. Most of participants, 30.2% held a manager position. Organizational sizes (the number of employee) ranged from 100, 6.2% to more than 25,000, and 33.3%. The majority of respondents worked for companies having more than one billion in sales revenue, accounting for 49.6%. Nearly 58% of respondents had attained a Master or Professional/Doctoral degree.

Table 4

*Demographic Characteristics of the Corporate Executive Respondents*

(N=127)

Variable	Frequency	Percentage
<b>Industry</b>		
Aerospace	61	48
Software	66	52
<b>Gender</b>		
Male	112	86.8
Female	15	11.5
<b>Age</b>		
Under 20	1	0.8
20-30	7	5.4
31-40	35	27.6
41-50	47	37.0
51-60	32	25.2
61-70	5	3.9
71+	-	-
<b>Income</b>		
Less than \$36,000	2	1.6
\$36,001-\$71,000	19	14.7
\$71,001-\$115,000	51	39.5
More than \$115,000	54	42.5
<b>Marital status</b>		
Married	85	65.91
Single	40	31.0
<b>Ethnic Origin</b>		
Hispanic/Latino	17	13.2
White/Caucasian	67	51.9



Black/African American	5	3.9
Middle Eastern	6	4.7
Asian	32	24.8
Other	-	-
<b>Job Function</b>		
Manager	39	30.2
Director	21	16.3
VP or Sr.VP	12	9.3
Sr. Management	24	18
Corporate Responsibility Officer	9	7
Other	22	17.1
<b>Organization Size (#of employees)</b>		
Less than 100	8	6.2
100-499	3	2.3
500-999	9	7.0
1000-2499	18	14.0
2500-4999	10	7.8
5000-9999	2	1.6
10,000-24,999	34	26.4
25,000 or more	43	33.3
<b>Sales Revenue (\$million)</b>		
Less than 25 million	8	6.2
25-50	1	0.8
51-100	6	4.7
101-200	6	4.7
201-300	8	6.2
301-500	8	6.2

### Means and Reliability of Scale of Consumer and Corporate Executive Groups

Cronbach's Alpha (Coefficient Alpha) was used to measure the reliability of the scales used in this study, particularly the internal consistency reliability of a five item measure of the attitude about externalities, the use of natural resources, and the environment. The responses for each item on the attitude about externalities, the use of natural resources, and the environment scale ranged from 1 to 5, where 1 = strongly disagree and 5 = strongly agree. A higher score level on the scale corresponds to stronger positive attitudes. The items on the attitude scale had a high degree of internal consistency (i.e., if the scale was reliable), then the participants responded in a fairly consistent manner to each of the items on the scale. In the consumer group, the overall attitude toward externality scale was found to be reliable ( $\alpha = 0.841$ ). The attitude toward the use of natural resources was found to be reliable ( $\alpha = 0.873$ ). The attitude toward the environment was also found to be reliable ( $\alpha = 0.824$ ).

In the corporation group, the overall attitude toward externality scale was found to be reliable ( $\alpha = .692$ ). The attitude toward the use of natural resources was found to be reliable ( $\alpha = .792$ ). The attitude toward the environment was also found to be reliable ( $\alpha = .758$ ). Table 5 outlines the means and reliability coefficients. The Cronbach's Alpha value of corporate executive group on the attitude toward externalities was below 0.70. This could be explained that the survey questions of the externality part have multi-dimensional data. Cronbach's alpha measures how well a set of items (or variables) measures a single one-dimensional latent construct. When data have a multidimensional structure, Cronbach's alpha will usually be low.

Table 5

*Scale Means, Standard Deviations, and Cronbach's Alpha*

(N=389)

Scale	# of Items	Item Mean	Item Standard Deviation	Cronbach's alpha ( $\alpha$ )
<i>Consumers</i>				
Attitudes toward Externalities	14	3.832	.7782	.841
Attitudes toward the use of natural resources	32	3.566	1.3408	.873
Attitudes toward the Environment	26	3.676	1.0937	.824
<i>Corporations</i>				
Attitudes toward Externalities	16	3.484	.6180	.692
Attitudes toward the use of natural resources	22	3.484	.8910	.792
Attitudes toward the Environment	10	3.73	.4957	.758

## Descriptive Statistics of Consumer Respondents

### *Attitudes toward Externalities*

Attitude toward externalities was evaluated with 7 items, measured on a 5 point Likert type scale (1= strongly disagree, 5 = strongly agree). The highest mean was “The government should regulate corporations to reduce the creation of pollutants” ( $\mu = 4.19$ ,  $\sigma = 1.015$ ). On the other hand, the lowest mean was “Externalities created by corporations are more harmful and collectively more damaging than ever” ( $\mu = 3.51$ ,  $\sigma = 1.057$ ). Table 6 summarizes the descriptive statistics of attitudes toward the externalities.

Table 6

### *Descriptive Statistics of Attitude toward the Externalities – Consumer Sample*

Attitude toward the Externalities	N	Min	Max	Mean	SD
1. I am concerned about off shore outsourcing of American businesses to developing countries.	262	1	5	3.73	1.061
2. I am concerned about the loss of American jobs in favor of cheaper labor.	262	1	5	3.81	1.063
3. Corporations are still creating many environmental and social external costs, such as pollution.	262	1	5	4.12	0.904
4. I am concerned about the cost of externalities created by corporations and their effect on society.	262	1	5	3.88	0.900
5. Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.	262	1	5	4.11	0.984
6. The government should regulate corporations to reduce the creation of pollutants.	262	1	5	4.19	1.015
7. Externalities created by corporations are more harmful and collectively more damaging than ever.	262	1	5	3.51	1.057

### *Attitudes toward the Use of Public Resources*

Attitude toward the use of public resources was evaluated with 16 items, measured on a 5 point Likert type scale (1= strongly disagree, 5 = strongly agree). The

highest mean was “I am concerned when I hear about public resources being exploited, ruined or destroyed” ( $\mu = 4.24$ ,  $\sigma = .796$ ). On the other hand, the lowest mean was “Everyone should be free to use common resources as much as they want before others do, even if it hurts the common good” ( $\mu = 1.9$ ,  $\sigma = 1.073$ ). Table 7 summarizes the descriptive statistics of attitude toward the use of public resources.

Table 7

*Descriptive Statistics of Attitude toward the Use of Public Resources – Consumer Sample*

Attitude toward the Use of Public Resources	N	Min	Max	Mean	SD
8. I am concerned about the overuse/exploitation of public resources.	262	1	5	3.98	.903
9. I feel personally responsible for preserving public resources.	262	1	5	3.84	.944
10. I am concerned when I hear about public resources being exploited, ruined or destroyed.	262	1	5	4.24	.796
11. Increasing demands on public resources without restraint is a serious problem now.	262	1	5	4.02	.842
12. Corporations continue to use public resources without compensating the public.	262	1	5	3.76	.970
13. Corporations are overusing public resources at a much greater rate now.	262	1	5	3.71	.930
14. We need to regulate the use of public resources.	262	1	5	4.05	.909
15. I try to preserve public resources to provide better opportunities for future generations.	262	1	5	4.13	.808
16. Overuse is the main concern for preserving common resources.	262	1	5	3.66	1.003
17. I study the possible impact before I use public resources as described in the introduction.	262	1	5	3.35	.946
18. I only utilize public resources when I really need them.	262	1	5	3.50	.929
19. Large corporations drive our economy and they have the right to exploit public resources.	262	1	5	2.18	1.224
20. Some part of common resources must be privatized and be subject to a price in order to best protect and utilize them.	262	1	5	3.37	1.063
21. The use of common resources should be on a first come first served basis.	262	1	5	2.53	1.143
22. Everyone should be free to use common resources as much as they want before others do, even if it hurts the common good.	262	1	5	1.90	1.073
23. Individual, corporate and government responsibility is even more important now to protect and preserve our common resources.	262	1	5	4.13	.917

*Attitudes toward the Environment*

Attitude toward the environment was evaluated with 7 items, measured on a 5 point Likert type scale (1= strongly disagree, 5 = strongly agree). The highest mean was “Developing awareness in all of us can help protect and preserve our resources” ( $\mu = 4.38, \sigma = .839$ ). On the other hand, the lowest mean was “I do not believe that the environment is as polluted as people say” ( $\mu = 2.31, \sigma = 1.157$ ). Table 8 summarizes the descriptive statistics of attitude toward the environment.

Table 8

*Descriptive Statistics of Attitude toward the Environment – Consumer Sample*

Attitude toward the Environment	N	Min	Max	Mean	SD
24.I get upset when I learn that people or corporations create harmful environmental pollution intentionally or by accident.	262	1	5	4.21	.843
25.Developing awareness in all of us can help protect and preserve our resources.	262	1	5	4.38	.839
26.Increasing consumption demands are depleting the world’s natural resources.	262	1	5	4.24	.817
27.I think now before putting something harmful into the environment – e.g. sewage, chemical, radioactive, or heat wastes into water, noxious or dangerous fumes into the air.	262	1	5	4.24	.776
28.We worry too much about the future of the environment and not enough about prices and jobs today.	262	1	5	2.63	1.252
29.I am concerned about our ability to halt or reverse global warming	262	1	5	3.70	1.147
30.I believe environmental protection is more important than economic growth.	262	1	5	3.40	1.084
31. I do not believe that the environment is as polluted as people say.	262	1	5	2.31	1.157
32. People worry too much about economic progress harming the environment.	262	1	5	2.76	1.178
33. Natural resources have finite limits.	262	1	5	3.94	1.187
34. Massive changes in climate will occur because of human misuse of natural resources.	262	1	5	3.81	1.069
35. The world climate will probably change massively if carbon dioxide continues to be emitted into the atmosphere in as huge amounts as it is now.	262	1	5	3.94	1.002
36. I believe that information is increasingly necessary to be aware of the effects our actions have on the environment.	262	1	5	4.26	.814

## Descriptive Statistics of Corporate Executive Respondents

### *Attitudes toward Externalities*

Attitude toward externalities was evaluated with 8 items, measured on a 5 point Likert type scale (1= strongly disagree, 5 = strongly agree). The highest mean was “Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.” ( $\mu = 4.20$ ,  $\sigma = .891$ ). On the other hand, the lowest mean was “My company reneged on a promise to create a certain number of jobs in a municipality in exchange for tax breaks or similar considerations.” ( $\mu = 1.94$ ,  $\sigma = 1.10$ ). Table 9 summarizes the descriptive statistics of attitude toward the externalities.

Table 9

### *Descriptive Statistics of Attitude toward the Externalities – Corporate Executive Sample*

Attitude toward the Externalities	N	Min	Max	Mean	SD
14. Governments license corporations with the expectation that net social benefits will be derived e.g. jobs, tax income, economic development, etc.	127	1	5	4.09	1.06
15. Corporations have routinely created many health, social, and environmental externalities.	127	1	5	3.76	.957
16. I am concerned about off shore outsourcing of American businesses to developing countries.	127	1	5	3.6	1.20
17. I am concerned about the cost of externalities created by corporations and their effect on society.	127	1	5	3.84	.929
18. Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.	127	1	5	4.20	.891
35. Corporations have created externalities to help economic growth.	127	1	5	3.48	1.17
36. My company reneged on a promise to create a certain number of jobs in a municipality in exchange for tax breaks or similar considerations.	127	1	5	1.94	1.10
37. If a state refused to charter my corporation or license a business activity, I would shop around for a state that would grant the desired permissions.	127	1	5	3.41	1.10

*Attitudes toward the Use of Public Resources*

Attitude toward the use of public resources was evaluated with 11 items, measured on a 5 point Likert type scale (1= strongly disagree, 5 = strongly agree). The highest mean was “We need to regulate the use of public resources.” ( $\mu = 4.07$ ,  $\sigma = .865$ ). On the other hand, the lowest mean was “The social responsibility of business is to increase its profits.” ( $\mu = 3.12$ ,  $\sigma = 1.26$ ). Table 10 summarizes the descriptive statistics of attitude toward the use of public resources.

Table 10

*Descriptive Statistics of Attitude toward the Use of Public Resources– Corporate Executive Sample*

Attitude toward the Use of Public Resources	N	Min	Max	Mean	SD
19. I am concerned about the overuse/exploitation of public resources.	127	1	5	3.98	.968
20. Increasing demands on public resources without restraint is a serious problem now.	127	1	5	3.91	1.16
21. We need to regulate the use of public resources.	127	1	5	4.07	.865
22. Corporations should use their power and influence responsibly in keeping with a broad social contract (this is often described as corporate social responsibility)	127	1	5	3.99	1.12
23. Overuse is the main concern for preserving common resources.	127	1	5	3.77	1.10
24. I believe that to make more profit, corporations must exploit the environment and utilize common resources as much as possible.	127	1	5	3.69	1.24
25. I consider the broad social impact of every decision I make regarding resources.	127	1	5	3.22	.967
26. If my company despoils the commons (i.e., makes disproportionate use “beyond normal wear and tear”), it is the company’s responsibility to remediate the damage.	127	1	5	3.66	1.07
27. A company should lobby government bodies to forestall or eliminate penalties for making disproportionate use of the commons.	127	1	5	3.67	1.24
28. My company practices corporate social responsibility even if it sometimes decreases profitability.	127	1	5	3.84	.858
29. The social responsibility of business is to increase its profits.	127	1	5	3.12	1.26



### *Attitudes toward the Environment*

Attitude toward the environment was evaluated with 5 items, measured on a 5 point Likert type scale (1= strongly disagree, 5 = strongly agree). The highest mean was “My company is trying to be more environmentally responsible and continues to head in that direction.” ( $\mu = 4.26$ ,  $\sigma = .809$ ). On the other hand, the lowest mean was “It is expected that a business will cause some harm to the environment because it is a normal function of the business process.” ( $\mu = 2.91$ ,  $\sigma = 1.21$ ). Table 11 summarizes the descriptive statistics of attitude toward the environment.

Table 11

#### *Descriptive Statistics of Attitude toward the Environment– Corporate Executive Sample*

Attitude toward the Environment	N	Min	Max	Mean	SD
30. My company tries to help preserve the environment by creating new products and services that conserve resources and that are environmentally friendly.	127	1	5	3.91	1.11
31. I am concerned about the environment, pollution and global warming and the legacy we are leaving to our children.	127	1	5	3.85	1.12
32. It is expected that a business will cause some harm to the environment because it is a normal function of the business process.	127	1	5	2.91	1.21
33. My corporation tries to reduce the environmental problem created by its business process.	127	1	5	4.08	0.793
34. My company is trying to be more environmentally responsible and continues to head in that direction.	127	1	5	4.26	0.809

## Hypothesis Testing

This section presents and discusses the results of tests of each of the hypothesis which developed from the research model in order to answer the research questions.

### Corporate Executives' Concern Hypotheses

#### *Hypotheses 1a, 1b, 1c, 1d*

##### *Hypothesis 1a*

Hypothesis 1a stated that a majority of corporate executives are more concerned about the creation of externalities than in the past. A higher mean score indicates greater concern about the externalities. A paired-samples t-test was performed with the dependent variables being corporate concern about the externalities nowadays and corporate concern about the externalities five years ago. This test was statistically significant,  $t(126) = 2.0, p=0.048$ . The mean score for the concern about the externalities today was 3.58 with a standard deviation of .54. The mean score for the concern about the externalities in the last five years was 3.48 with a standard deviation of .40. The mean score increased in the present concern .11 with a 95% confidence interval ranging from .00103 to .19976. The eta (effect size) squared statistic (.03) indicated a small effect size. This test shows that the corporate concern about the externalities today was higher than corporate concern about the externalities five years ago. The hypothesis was supported.

Table 12

*Comparison of Attitude toward Externalities Today and Five Years ago— Corporate Executive Sample*

Concern Level	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95%Confidence Interval of the Difference	
					Lower	Upper
Corporate Concern about Externalities, Nowadays	3.58	.54	2.0	.048	.00103	.19976
Corporate Concern about Externalities, 5 years ago	3.48	.40				

*Hypothesis 1b*

Hypothesis 1b stated that a majority of corporate executives are more concerned about the use of public resource than in the past. A higher mean score indicates greater concern about public resources. A paired-samples t-test was performed with the dependent variables being corporate concern about the public resources today and corporate concern about the public resources five years ago. This test was statistically significant,  $t(126) = 4.343, p=0.001$ . The mean score for the concern about the public resources nowadays was 3.78 with a standard deviation of 0.61. The mean score for the concern about the public resources in the last five years was 3.54 with a standard deviation of 0.48. The mean score increased in the today concern was 0.24 with a 95% confidence interval ranging from 0.130 to 0.349. The eta (effect size) squared statistic (.13) indicated a medium effect size. This test indicates that the corporate concern about the public resources today was higher than corporate concern about the public resources five years ago. The hypothesis was supported.

Table 13

*Comparison of Attitude toward the Use of Public Resources Today and Five Years Ago—Corporate Executive Sample*

Concern Level	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
					Lower	Upper
Corporate Concern about the Use of Public Resources, Nowadays	3.78	0.61	4.340	0.001	0.130	0.349
Corporate Concern about the Use of Public Resources, 5 years ago	3.54	0.48				

*Hypothesis 1c*

Hypothesis 1c stated that a majority of corporate executives are more concerned about the natural environment than in the past. A higher mean score indicates greater concern about the environment. A paired-samples t-test was performed with the dependable variables being corporate concern about the environment today and corporate concern about the environment five years ago. This test was statistically significant,  $t(126) = 4.560$ ,  $p=.001$ . The mean score for the concern about the environment today was 3.80 with a standard deviation of .58. The mean score for the concern about the environment in the last five years was 3.54 with a standard deviation of 0.51. The mean score increased today by 0.26 with a 95% confidence interval ranging from 0.148 to 0.378. The eta (effect size) squared statistic (.14) indicated a medium effect size. This test indicates that the corporate concern about the environment today was higher than corporate concern about the environment five years ago. The hypothesis was supported.

Table 14

*Comparison of Attitude toward Environment Today and Five Years Ago— Corporate Executive Sample*

Concern Level	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
					Lower	Upper
Corporate Concern about the Environment, Nowadays	3.80	0.58	4.560	0.001	0.148	0.375
Corporate Concern about the Environment, 5 years ago	3.54	0.51				

*Hypothesis 1d*

Hypothesis 1d stated that there would be differences in attitudes among different industries towards public resources. A different mean score indicates the differences in attitudes between the industries toward public resources. An independent-sample t-test was performed with the independent variables being the two industries, aerospace and software, and the dependent variables being overall the concern about the public resources nowadays scores. There was no significant difference between the groups,  $t(125)=-1.620, p=0.108$ . The mean score for the concern about the public resources of aerospace industry was 3.69 with a standard deviation of 0.48. The mean score for the concern about the public resources of software industry was 3.87 with a standard deviation of 0.70. The mean score was different, accounting with -0.173 with a 95% confidence interval ranging from -.38518 to .03848. This test indicates that the corporate concern about the public resources today was not different between the two selected industries. The hypothesis was not supported.

Table 15

*Comparison of Industry Attitudes toward the Use of Public Resources*

Industry	N	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
						Lower	Upper
Public Resource Concern: Aerospace	61	3.69	0.48	-1.620	0.108	-0.385	0.039
Software	66	3.87	0.70				

Citizen/Consumers' Concern Hypotheses

*Hypotheses 2a, 2b, 2c*

*Hypothesis 2a*

Hypothesis 2a stated that a majority of citizens are more concerned about corporations' creation of externalities than they were in the past. A higher mean score indicates greater concern about the externalities. A paired-samples t-test was performed with the dependable variables being consumer concern about the externalities today and consumer concern about the externalities five years ago. This test was statistically significant,  $t(261) = 3.590$ ,  $p=0.001$ . The mean score for the concern about the externalities nowadays was 3.90 with a standard deviation of .64. The mean score for the concern about the externalities in the last five years was 3.76 with a standard deviation of .67. The mean score increase in the today concern was .15 with a 95% confidence interval ranging from .06843 to .23473. The eta (effect size) squared statistic (.05) indicated a small effect size. This test indicates that the consumer concern about

the externalities today was higher than consumer concern about the externalities five years ago. The hypothesis was supported.

Table 16

*Comparison of Attitude toward Externalities Today and Five Years Ago— Consumer Sample*

Concern Level	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
					Lower	Upper
Consumer Concern about Externalities, Nowadays	3.91	.64	3.590	0.001	.06843	.23473
Consumer Concern about Externalities, 5 years ago	3.76	.67				

*Hypothesis 2b*

Hypothesis 2b stated that a majority of citizens would be more concerned about the use of public resources than they were in the past. A higher mean score indicates greater concern about the public resources. A paired-samples t-test was performed with the dependable variables being citizen concern about the public resources today and citizen concern about the public resources five years ago. This test was statistically significant,  $t(261) = 2.398, p = .017$ . The mean score for the concern about the public resources today was 3.82 with a standard deviation of .51. The mean score for the concern about the public resources in the last five years was 3.75 with a standard deviation of .48. The mean score increased in the nowadays concern was .07 with a 95% confidence interval ranging from .01315 to .13379. The eta (effect size) squared statistic (.02) indicated a small effect size. This test indicates that the consumer concern

about the public resources today was higher than corporate concern about the public resources five years ago. The hypothesis was supported.

Table 17

*Comparison of Attitude toward the Use of Public Resources Today and Five Years Ago  
– Consumer Sample*

Concern Level	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
					Lower	Upper
Consumer Concern about the Use of Public Resources, Nowadays	3.82	.51	2.398	.017	.01315	.13379
Consumer Concern about the Use of Public Resources, 5 years ago	3.75	.48				

*Hypothesis 2c*

Hypothesis 2c stated that a majority of citizens are more concerned about the natural environment than they were in the past. A higher mean score indicates greater concern about the environment. A paired-samples t-test was performed with the dependable variables being consumer concern about the environment today and consumer concern about the environment five years ago. This test was statistically significant,  $t(261)=4.629$ ,  $p=.000$ . The mean score for the concern about the environment today was 3.61 with a standard deviation of 0.53. The mean score for the concern about the environment in the last five years was 3.47 with a standard deviation of 0.54. The mean score increase today was 0.14 with a 95% confidence interval ranging from 0.079 to 0.195. The eta (effect size) squared statistic (.08) indicated a medium effect size. This test indicates that the consumer concern about the environment today is higher than five years ago. The hypothesis was supported.



Table 18

*Comparison of Attitude toward Environment Today and Five Years Ago – Consumer Sample*

Concern Level	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
					Lower	Upper
Consumer Concern about the Environment, Nowadays	3.61	0.53	4.629	0.001	0.079	0.195
Consumer Concern about the Environment, 5 years ago	3.47	0.54				

### Comparison between Groups Hypotheses

Hypothesis group (H3, H4, H5, and H6) examined the difference between consumer and corporate executive attitudes toward externalities and the use of public resources. Table 19 lists the comparative questions. The results of the analysis are presented in Table 20.

#### *Hypothesis 3*

Hypothesis 3 stated that corporate executives are more concerned about public resources than general citizens. An independent-samples t-test was performed with the independent variables being the corporation and consumer groups and the dependent variables being overall the concern about the public resources nowadays scores, see Table 20. The test shows the small different value in both mean score of attitudes between the corporation and consumer group; however, the value of significance shows equal variances assumed. Therefore, there was no significant difference between the groups,  $t(388) = -0.120, p = 0.904$ . The mean score for the concern about the public

resources of consumer group was 3.81 with a standard deviation of 0.652. The mean score for the concern about the public resources of corporation group was 3.80 with a standard deviation of 0.781. The mean score was different, accounting with -0.01 with a 95% confidence interval ranging from -0.139 to 0.157. This test indicates that the corporate and consumer concern about the public resources was not different between the two groups. The hypothesis was not supported. Table 20 presents the t-test results.

#### *Hypothesis 4*

Hypothesis 4 stated that corporate executives are more concerned about the creation of externalities than general citizens. An independent-samples t-test was conducted with the independent variables being the corporation and consumer groups and the dependent variables being overall the concern about the externalities nowadays scores, see Table 20. This test shows statistically significant different value,  $t(388)=1.647$ ,  $p=0.010$  in both mean score of attitudes between the corporation and consumer group. The mean score for the concern about the public resources of consumer group was 3.90 with a standard deviation of 0.746. The mean score for the concern about externalities of corporation group was 3.77 with a standard deviation of 0.634. The mean score was different, accounting with .13 with a 95% confidence interval ranging from -0.025 to 0.278. This test indicates that there was significant difference between the groups. The hypothesis was not supported. Table 20 presents the t-test result.

### *Hypothesis 5*

Hypothesis 5 stated that general citizens are more concerned about public resources than corporate executives. Hypothesis 3 was not supported, and hypothesis 5 was likewise not supported. The subjects had no significant difference in attitude toward the public resources between the two groups,  $t(388) = -0.120$ ,  $p = 0.904$ , see Table 20. The mean score for the concern about the public resources of consumer group was 3.81 with a standard deviation of 0.652. The mean score for the concern about the public resources of corporation group was 3.80 with a standard deviation of 0.781. This test indicates that the corporate and consumer concern about the public resources nowadays was not significantly different between the two groups. The hypothesis was not supported. Table 20 presented the t-test results.

### *Hypothesis 6*

Hypothesis 6 stated that general citizens are more concerned about the creation of externalities than corporate executives. The subjects had no significant differences in attitude toward the externalities,  $t(388) = 1.647$ ,  $p = 0.010$  in both mean score of attitudes between the corporation and consumer group, see Table 20. The mean score for the concern about the public resources of consumer group was 3.90 with a standard deviation of 0.746. The mean score for the concern about the public resources of corporation group was 3.77 with a standard deviation of 0.634. The mean score was different, accounting with 0.13 with a 95% confidence interval ranging from -0.025 to 0.278. This test indicates that the consumers are more concerned about the externalities than corporate executives. The hypothesis was supported. Table 20 presents the t-test result.

Table 19

*Questions Used for Comparison between Corporate Executive and Consumer Attitudes toward Externalities and the Use of Public Resources*

Abbreviation: Corporation/ Consumer	Corporate Executive Questions	Consumer Questions
EXT15/EXT1	Corporations have created externalities with negative health, social, and environmental consequences.	I am concerned about offshore outsourcing of American businesses to developing countries.
EXT16/EXT4	I am concerned about off shore outsourcing of American businesses to developing countries.	I am concerned about the cost of externalities created by corporations and their effect on society.
EXT17/EXT5	I am concerned about the cost of externalities created by corporations and their effect on society.	Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.
EXT18/EXT7	Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.	Externalities created by corporations are more harmful and collectively more damaging than ever.
EXT35/EXT23	Corporations have created externalities to help economic growth.	Individual, corporate and government responsibility is even more important now to protect and preserve our common resources.
PR19/PR8	I am concerned about the overuse/exploitation of public resources.	I am concerned about the overuse/exploitation of public resources.
PR20/PR11	Increasing demands on public resources without restraint is a serious problem now.	Increasing demands on public resources without restraint is a serious problem now.
PR21/PR14	We need to regulate the use of public resources.	We need to regulate the use of public resources.
PR23/PR16	Overuse is the main concern for preserving common resources.	Overuse is the main concern for preserving common resources.
PR25/PR17	I consider the broad social impact of every decision I make regarding resources.	I study the possible impact before I use public resources, as described in the introduction.

Table 20

*Hypothesis 3, 4, 5, and 6: Comparisons of the Consumer and Corporate Executive Groups on Attitudes toward Externalities and the Use of Public Resources*

Variables	Population					
	N=389					
	Consumer N=262		Corporation N=127		T	P
Mean	SD	Mean	SD			
Attitude toward the Use of Public Resources (H3, H5)	3.81	.652	3.80	.781	.120	.904
Attitude toward Externalities (H4, H6)	3.90	.746	3.77	.634	1.647	.010

H3 Possible range is 1-5 with higher numbers indicating greater concern about externalities.

H4 Possible range is 1-5 with higher numbers indicating greater concern about the use of public resources.

Significance value ( $p$ ) = .05

## Psychographic Group and Attitudes Hypotheses

### *Hypothesis 7*

Hypothesis 7 stated that it would be possible to cluster executives and the general public into distinct psychographic groups on the dimensions of attitudes about externalities, public resources, and the natural environment. Cluster analysis, Hierarchical and Two-stage methods, was performed to determine the distinct psychographic groups on the three dimensions of attitudes. The term “cluster analysis” refers to a set of statistical methods that classify entities with similar profiles of scores on a number of measured dimensions, in order to create empirically based classifications or typologies (Pallant, 2007). The sample units having similar score profiles are placed into the same group and those with different score profiles are placed into different groups. Cluster analysis was performed with three groups of data, corporate executive, consumer/citizen and combined corporate executive and consumer groups. The entities clustered respectively consisted of 127 corporate executives, 262 consumer/citizens, and 398 combined corporate and consumer respondents.

Hierarchical method and Two-stage method can inform the decision about how many clusters to create. Tables 22, 23 and 24 show the centroids which represent the mean values of the objects contained in the cluster on each of the variables of consumer group. Tables 25 and 26 show the groups of characteristics of respondents and the cluster mean of variables of each cluster. Tables 28, 29 and 30 show the centroids which represent the mean values of the corporate executive group. Tables 31 and 32 show the groups of characteristics of respondents and the cluster mean of variables of each cluster. And the Tables 34, 35 and 36 represent the centroids or mean values of the

combined of the two groups (consumer and corporation). Tables 37 and 38 show the groups of characteristics of respondents and the cluster mean of variables of each cluster. The centroids enable us to describe each cluster by assigning it a name or label. These centroids were obtained through analysis of variance (ANOVA) and Two-stage method.

#### Consumer Cluster Analysis: Hierarchical Method (ANOVA)

This cluster distribution table simply shows how many cases are in each cluster, enabling the researcher to judge if there are splits among the clusters. The result in Table 21 suggests a three-cluster solution.

Table 21

*Cluster Distribution*

		N	% of Combined	% of Total
Cluster	1	83	31.7%	31.7%
	2	24	9.2%	9.2%
	3	155	59.2%	59.2%
	Combined	262	100.0%	100.0%
	Total	262		100.0%

The centroid or means of variables Tables (22 through 24) indicate the descriptive output for the continuous variables for three clusters. The tables show mean differences between the clusters on the attitudinal characteristics used for clustering. The clusters contain 83, 24 and 155 consumers respectively.

Cluster 1 contains 83 consumers. According to the graph in table 26, which compares the items used to measure the attitudes toward externalities, it shows the high

scores on environmental attitudes, particularly the statement of: “Developing awareness in all of us can help protect and preserve our resources” and “I believe that information is increasingly necessary to be aware of the effects our actions have on the environment.” This cluster has a slightly lower concern on public resources and externalities as the graph shows.

Cluster 2, which is a small group, contains 24 consumers and is very similar across solutions and has high scores on the use of public resource and externalities attitudes as shown in table 31. Cluster 2 respondents are concerned the most about the statements: “The government should regulate corporations to reduce the creation of pollutants” and “I am concerned when I hear about public resources being exploited, ruined or destroyed.” Also, this group greatly agreed with the statement: “Developing awareness in all of us can help protect and preserve our resources.”

Cluster 3 consists of 155 consumers. This group has low scores in most items, particularly on the environment. However, the highest scores are on a few parts of externalities and the use of public resources. For instance, cluster 3 agreed with the statements: “I am concerned about the loss of American jobs in favor of cheaper labor” and “Everyone should be free to use common resources as much as they want before others do, even if it hurts the common good.”

Based on the information in Tables 21 through 23, it is possible to interpret the clusters. Cluster 1 consumers can be characterized by “High Environmental Concern”. This cluster is 31.7% of the samples. This cluster consists of 12.2% of white/Caucasian who are concerned the most on environment. Cluster 2 consumers might be called “High Public Resource Concern” and represents only 9.2%, which is a very small group



of the sample but the attitudes of this group are obvious. This cluster consists of 24 cases who are more concerned about the public resources. The graph shows the higher scores of the concern level than other clusters. The third cluster, which might be called “Economic and Public Resource Concern”, is the largest segment with 59.2% of the sample falling in this category. Overall, cluster 3 shows the lower concern scores than clusters 1 and cluster 2. This cluster consists of 155 cases with distinctive demographic in high education and income. Most of them were concerned about the job lost and offshoring/outsourcing, such as the statement of “I am concerned about offshore outsourcing of American businesses to developing countries” and “I am concerned about the loss of American jobs in favor of cheaper labor”. There are slightly more females than males and they are concerned more about the economy.

Table 22

*Cluster Centroids of Externalities of Consumer Samples*

*Means of Variables*

Cluster No.	EXT1		EXT2		EXT4		EXT6		EXT7	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	3.33	1.149	3.30	1.079	3.52	.875	4.00	.911	3.23	.874
2	4.09	.742	4.15	.866	4.25	.687	4.60	.641	3.86	.943
3	2.79	1.414	3.33	1.308	2.79	.833	2.25	.897	2.25	1.113
Combined	3.73	1.061	3.81	1.063	3.88	.900	4.19	1.015	3.51	1.057

Table 23

*Cluster Centroids of Public Resources of Consumer Samples*

*Means of Variables*

Cluster No.	PR8		PR9		PR10		PR14		PR22	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	3.59	.766	3.42	.899	3.82	.751	3.70	.822	3.65	1.173
2	4.37	.666	4.21	.727	4.56	.536	4.43	.613	4.41	.888
3	2.79	1.062	2.96	1.160	3.58	1.213	2.79	1.179	3.71	1.160
Combined	3.98	.903	3.84	.944	4.24	.796	4.05	.909	4.10	1.073

Table 24

*Cluster Centroids of Environment of Consumer Samples*

*Means of Variables Consumer Samples*

Cluster No.	ENV25		ENV27		ENV30		ENV34		ENV35		ENV36	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	4.37	.557	4.28	.631	3.36	.957	3.73	.798	3.92	.702	4.23	.669
2	4.55	.676	4.33	.675	3.60	1.036	4.14	.915	4.25	.817	4.46	.657
3	3.29	1.546	3.50	1.319	2.21	1.062	1.92	.776	2.08	.974	3.08	1.139
Combined	4.38	.839	4.24	.776	3.40	1.084	3.81	1.069	3.94	1.002	4.26	.814

Table 25

*Scatter Plot shows the data set with three main dimensions*

**Consumer Sample Concerns**

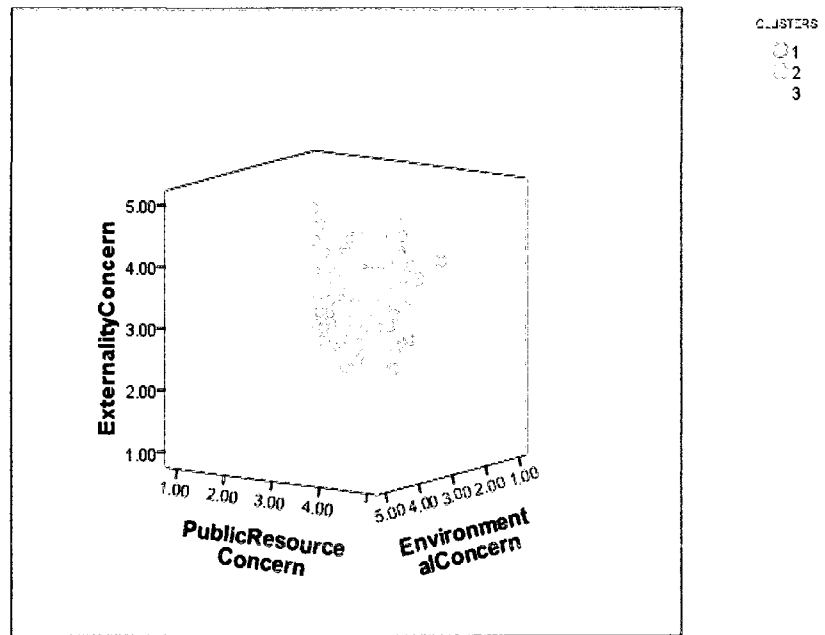
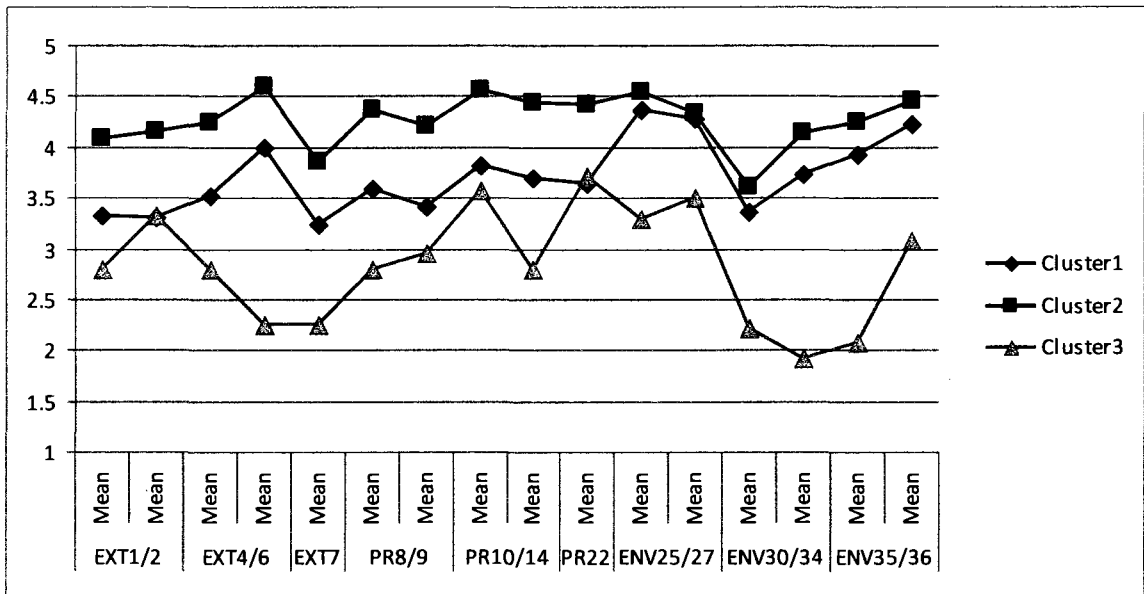


Table 26

*Cluster Mean of Variables of Consumer Samples*



Corporate Executive Cluster Analysis Hierarchical Method (ANOVA)

This cluster distribution table simply shows how many cases are in each cluster. The result in Table 27 suggests a three-cluster solution which consists of cluster 1: 26 corporate executives, cluster 2: 68 corporate executives, and cluster 3: 33 corporate executives.

Table 27

*Cluster Distribution*

		N	% of Combined	% of Total
Cluster	1	26	20.5%	20.5%
	2	68	53.5%	53.5%
	3	33	26.0%	26.0%
	Combined	127	100.0%	100.0%
	Total	167		100.0%

Tables 28 through 31, centroids or means of variables tables, indicate the descriptive output for the continuous variables for three clusters. The tables show mean differences between the clusters on the attitudinal characteristics used for clustering.

Cluster 1 contains 26 corporate executives and is on average slightly negative towards externalities. According to the graph in table 33 it shows very high scores on a few items of externality and public resource concerns, especially the statement: “My company reneged on a promise to create a certain number of jobs in a municipality in exchange for tax breaks or similar considerations”.

Cluster 2 which contains 68 corporate executives is very similar across solutions and has high scores on the use of public resources and externality concerns as shown in table 32. Cluster 2 respondents are concerned the most on the statements: “My company reneged on a promise to create a certain number of jobs in a municipality in exchange for tax breaks or similar considerations” and “ My company is trying to be more environmentally responsible and continues to head in that direction. In general, this cluster is always positive on every area of concern.

Cluster 3 consists of 33 corporate executives. This group has highly different scores among the components. However, the highest scores are on the parts of the use of public resources and environment. For instance, cluster 3 agreed with the statements: “I am concerned about the overuse/exploitation of public resources” and “My company is trying to be more environmentally responsible and continues to head in that direction”. However, this group has low scores on externalities such as the statements: “Corporations have created externalities to help economic growth” and “If a state

refused to charter my corporation or license a business activity, I would shop around for a state that would grant the desired permissions”.

Based on the information in Tables 28 through 30, it is possible to interpret the clusters. Cluster 1 corporate executives, 20.5% of the sample, can be characterized as “High Externalities Concern”. This cluster makes up 62% of aircraft corporate executives that showed high concern scores on externalities especially offshoring/outsourcing issues. That why this industry is still located in the US. as the last remaining large manufacturing industry. The cluster 2 might be called “High Public Resource Concern” and represents 53.5% of the sample which consists of more than 60% software executives which were in the higher job functions (Vice President and Sr.Vice President). The third cluster the “Economic and Environment Concern” contains the segment with 26.0% of the respondents. Most of this group has high income and working in the high management level like Vice President and Sr. Management levels.

Table 28

*Cluster Centroids of Externalities of Corporate Executive Samples  
Means of Variables*

Cluster No.	EXT15		EXT16		EXT17		EXT35		EXT36		EXT37	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	2.65	1.164	2.42	1.604	2.69	1.123	2.12	.711	4.96	.196	3.12	1.243
2	4.15	.566	3.42	.867	4.12	.485	4.09	.631	4.33	.736	3.36	1.055
3	3.99	.680	4.13	.731	4.15	.629	1.91	.728	3.57	1.188	2.01	.635
Combined	3.76	.957	3.60	1.197	3.84	.929	2.52	1.167	4.06	1.101	2.59	1.094

Table 29

*Cluster Centroids of Public Resources of Corporate Executive Samples**Means of Variables*

Cluster No.	PR19		PR21		PR23		PR24		PR25		PR28	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	2.85	1.255	3.23	1.107	2.77	1.275	3.81	.981	2.42	.857	3.31	1.011
2	4.27	.626	4.36	.699	4.15	.712	3.91	1.156	3.27	.911	3.91	.522
3	4.28	.595	4.25	.608	3.97	.962	3.54	1.354	3.50	.872	4.01	.855
Combined	3.98	.968	4.07	.865	3.77	1.100	3.69	1.238	3.22	.967	3.84	.858

Table 30

*Cluster Centroids of Environment of Corporate Executive Samples**Means of Variables*

Cluster No.	ENV30		ENV31		ENV32		ENV34	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	3.31	1.192	3.15	1.405	3.54	1.303	3.62	1.169
2	4.15	.566	4.21	.927	3.52	1.004	4.18	.465
3	4.01	1.165	3.94	.976	2.38	1.008	4.54	.609
Combined	3.91	1.087	3.85	1.120	2.91	1.209	4.26	.809

Table 31

*Scatter Plot Data set with three main components*

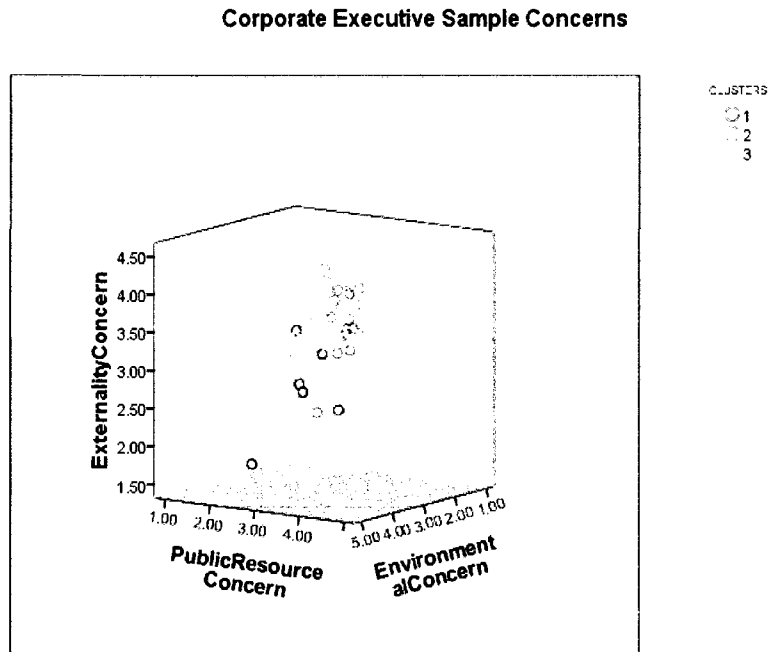
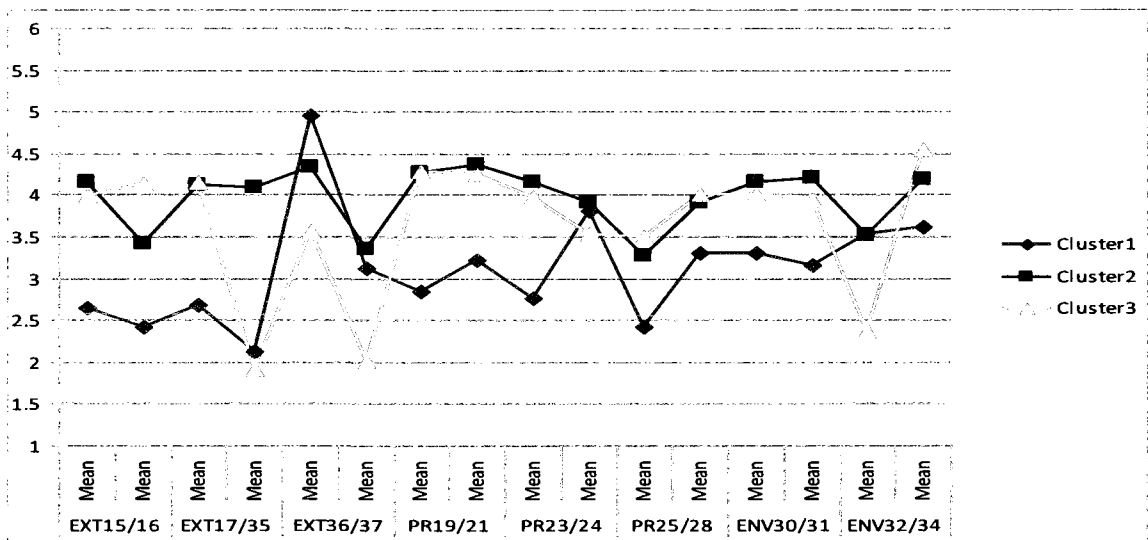


Table 32

*Cluster Mean of Variables of Corporate Executive Samples*





### Combined Data of Consumer and Corporate Executive Group Cluster Analysis (Two-Stage Method)

This analysis combined the consumer and corporate executive data. The Two-Stage method was performed to determine the distinct psychographic groups on the three dimensions (externalities, public resources, and environment) of the attitudes. By generation of the SPSS software, the data could be clustered into two groups which are high and low scores. The two clusters did not show exactly the same concern on each dimension. Therefore, the researcher decided to select numbers of cluster for the program to generate. Table 33 indicates four clusters. The centroids for these solutions are provided in Tables 34 through 36.

Based on the centroids or mean scores and the Table (graph) 38, cluster 1 has little concern about public resources and externalities; however, this group is concerned about economic issues, particularly on the statement: "I believe that to make more profit, corporations must exploit the environment and utilize common resources as much as possible". Cluster 2 shows positive concerns about public resources and environment. Cluster 3 is mostly concerned about externalities--offshoring/outsourcing of American businesses and the environment. And cluster 4 is positively concerned about corporate creation of externalities, the public resources and the environment. This group disagreed with the last two statements: "It is expected that a business will cause some harm to the environment because it is a normal function of the business process" and "Corporations have created externalities to help economic growth".

According to the mean of variables in Tables 34 through 36, it is possible to interpret the clusters. These four clusters do not show distinct characteristics among them. Cluster 1 makes up 5.1% of the sample. This group consists of 45% of consumers

and 55% of corporate executives. This cluster shows high environmental concerns. It can be characterized as “Environmental Concern.” Cluster 2 represents 25.2% with 62% consumers and 37% corporate executives. They are low-educated and are slightly young than those from the other segments and shows high concern scores on the public resources. So this cluster can be called “Public Resource Concern.” The third cluster makes up 45% of the total samples. This group was a biggest one with 87% consumers and 13% corporate executives. They are well-educated, and are high earners. But they are roughly equal numbers of males and females. This group shows high concern scores on job lost and offshoring and environment. This cluster might be called “Economic and Environmental Concern.” The last cluster (4) is concerned about every area and represents 24.7% of the total samples. The members of this segment are not particularly well-educated, and are slightly older than other segments. This group could be called “three dimension concerns.”

Table 33

***Cluster Distribution***

		N	% of Combined	% of Total
Cluster	1	20	5.1%	5.1%
	2	98	25.2%	25.2%
	3	175	45.0%	45.0%
	4	96	24.7%	24.7%
	Combined	389	100.0%	100.0%
	Total	389		100.0%

Table 34

*Cluster Centroids of Externalities of Combined Data of Consumer and Corporate Executive Samples*

*Means of Variables*

Cluster No.	EXT15		EXT16		EXT17		SEXT18		SEXT35r	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	1.55	.689	1.55	1.099	2.30	1.174	2.65	1.309	2.20	1.056
2	3.20	.919	3.53	1.142	3.22	.793	3.59	.872	3.03	1.040
3	3.75	.936	4.12	1.001	4.26	.652	4.43	.806	4.49	.596
4	4.11	.647	4.12	.637	4.14	.609	4.48	.598	2.86	1.311
Combined	3.59	1.030	3.69	1.107	3.87	.909	4.14	.954	3.60	1.257

Table 35

*Cluster Centroids of Public Resources of Combined Data of Consumer and Corporate Executive Samples*

*Means of Variables*

Cluster No.	SPR19		SPR20		SPR21		SPR23		SPR25	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	2.05	1.099	1.80	1.056	2.10	1.334	1.50	.761	2.00	.973
2	3.48	.802	3.65	.921	3.69	.817	3.20	.885	2.98	.825
3	4.35	.668	4.30	.697	4.38	.621	3.99	.806	3.38	.881
4	4.23	.640	4.21	.631	4.24	.594	4.12	.811	3.79	.832
Combined	3.98	.923	3.98	.955	4.05	.894	3.70	1.035	3.31	.954

Table 36

*Cluster Centroids of Environment of Combined Data of Consumer and Corporate Executive Samples*

*Means of Variables*

Cluster No.	CSR28		SENV30		SENV31		SENV33		SENV24r		SENV32r	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1	2.80	1.240	2.65	1.531	1.85	1.182	2.80	1.322	4.00	1.376	3.40	1.635
2	3.87	.845	3.79	.987	3.34	1.157	3.68	.754	3.68	1.109	3.44	.874
3	4.27	.656	4.58	.571	4.03	.999	4.49	.545	4.53	.585	4.39	.802
4	4.32	.657	4.35	.821	4.04	.807	4.51	.523	3.23	1.365	2.04	.820
Combined	4.11	.824	4.22	.952	3.75	1.139	4.20	.811	3.97	1.144	3.52	1.289

Table 37

*Scatter Plot view of combined data (Consumer and Corporation Samples) in respect to their score or correlation to the three components.*

Combined Data (Consumer - Corporation) Cluster Concerns

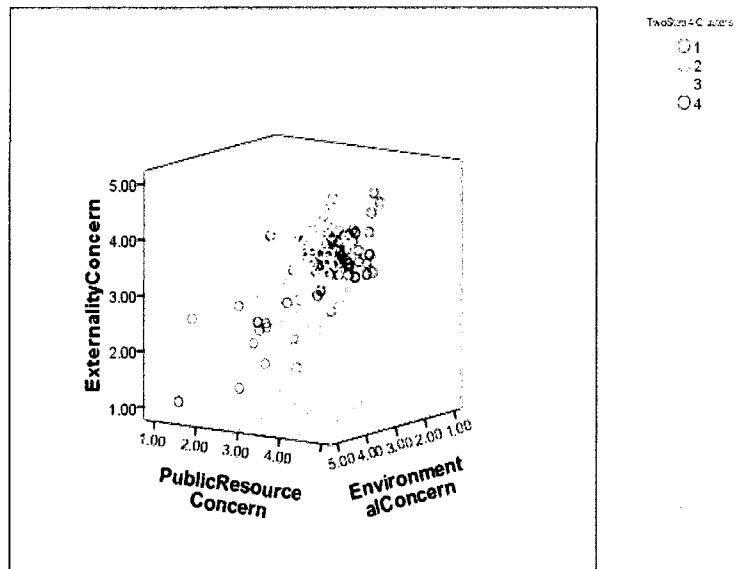
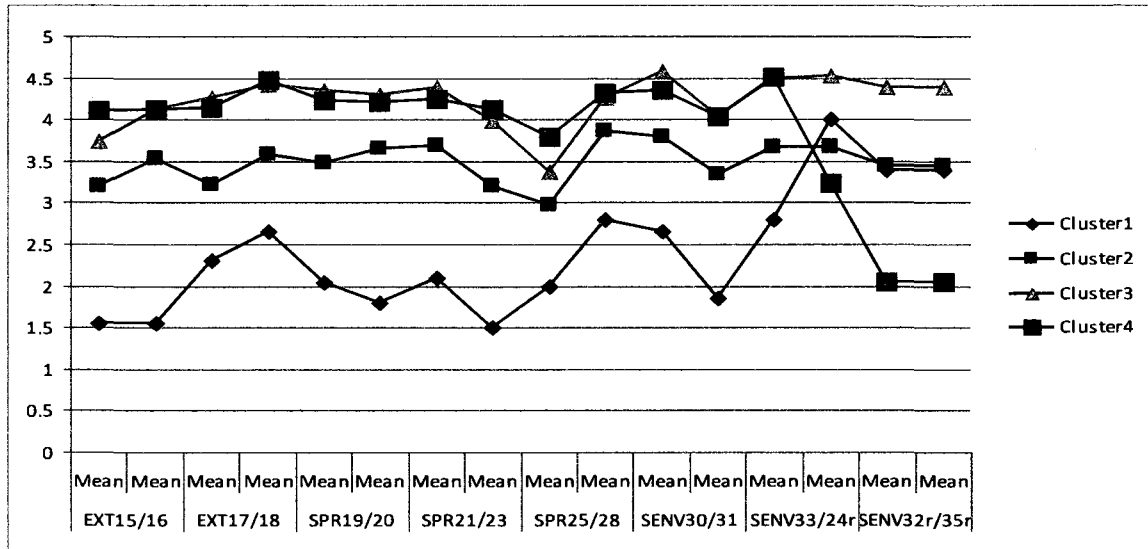


Table 38

*Cluster Mean Variables of Combined Data of Consumer and Corporate Executive Samples*



### Corporate Strategy Hypotheses

#### *Hypothesis 8*

Hypothesis 8 stated that corporate strategies dealing with externalities and environmental issues would differ between the selected industries. An independent t-test was conducted and found that there was no significant difference between the two industries,  $t(124) = .1714$ ,  $p=0.089$  in both mean scores of corporate strategies dealing with externalities and environmental issues. The mean score for the strategies of aerospace industry group was 3.47 with a standard deviation of 0.33. The mean score for the strategies of software industry group was 3.36 with a standard deviation of 0.38. The test shows that corporate strategies dealing with externalities and environmental issues

do not differ between the two industries. The hypothesis was not supported. Table 39 presented the results.

Table 39

*Comparison of Corporate Strategy of the two Industries toward Externalities and the Environment*

Corporate Strategy of Two Industries	N	Mean	Standard Deviation	Standard Error Mean
<i>Aerospace</i>	<i>61</i>	<i>3.47</i>	<i>.33</i>	<i>.04201</i>
<i>Software</i>	<i>66</i>	<i>3.36</i>	<i>.38</i>	<i>.04690</i>

*Hypothesis 9*

Hypothesis 9 stated that businesses apply non-deceptive strategies to deal with potential impacts of externalities and environmental issues (rather than utilize deceptive strategies). A paired-samples t-test was performed with the dependable variables being non-deceptive strategies and deceptive strategies. This test was statistically significant,  $t(126) = 2.56, p = 0.012$ . The mean score for the non-deceptive strategies was 3.05 with a standard deviation of 0.63. The mean score for the deceptive strategies was 2.89 with a standard deviation of 0.54. The difference between mean scores was 0.16 with a 95% confidence interval ranging from 0.036 to 0.278. This test shows that businesses apply non-deceptive strategies to deal with potential impacts of externalities and environmental issues (rather than utilize deceptive strategies). The hypothesis was supported.

Table 40

*Comparison of Non-deceptive and Deceptive Strategies to deal with potential impacts of Externalities and Environmental issues*

Variable	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
					Lower	Upper
Non-deceptive Strategies	3.05	.63	2.559	.012	.036	.278
Deceptive Strategies	2.89	.54				

*Hypothesis 10*

Hypothesis 10 stated that businesses apply deliberate strategies to deal with potential impacts of externalities and environmental issues (rather than utilize emergent strategies). A paired-samples t-test was performed with the dependable variables being non-deceptive strategies and deceptive strategies. This test showed a statistically significant difference,  $t(126) = 9.852, p = 0.001$ . The mean score for the non-deceptive strategies was 4.10 with a standard deviation of 0.63. The mean score for the deceptive strategies was 3.67 with a standard deviation of 0.65. The difference between mean scores was 0.43 with a 95% confidence interval ranging from 0.343 to 0.515. This test shows that businesses apply deliberate strategies to deal with potential impacts of externalities and environmental issues (rather than utilize emergent strategies). The hypothesis was supported.

Table 41

*Comparison Of Deliberate and Emergent Strategies to Deal With Potential Impacts of Externalities and Environmental Issues*

Variable	Mean	Std. Deviation	<i>t</i>	<i>p</i>	95% Confidence Interval of the Difference	
					Lower	Upper
Deliberate Strategies	4.10	.63	9.852	.001	.343	.515
Emergent Strategies	3.67	.65				



Summary of hypotheses testing in this study is presented in Table 42.

Table 42

*Results of Hypotheses Testing*

Hypothesis	Description	Result
H1a	A majority of corporate executives are more concerned about the creation of externalities than in the past.	Supported
H1b	A majority of corporate executives are more concerned about the use of public resource than in the past.	Supported
H1c	A majority of corporate executives are more concerned about the natural environment than in the past.	Supported
H1d	There are differences in attitudes among different industries towards public resources.	Not Supported
H2a	A majority of citizens are more concerned about corporations' creation of externalities than they were in the past.	Supported
H2b	A majority of citizens are more concerned about the use of public resources than they were in the past.	Supported
H2c	A majority of citizens are more concerned about the natural environment than they were in the past.	Supported
H3	Corporate executives are more concerned about public resources than general citizens.	Not Supported
H4	Corporate executives are more concerned about the creation of externalities than general citizens.	Not Supported
H5	General citizens are more concerned about public resources than corporate executives.	Not Supported
H6	General citizens are more concerned about the creation of externalities than corporate executives.	Supported
H7	It is possible to cluster executives and the general public into distinct psychographic groups on the dimensions of attitude about externalities, public resources, and the natural environment.	Supported
H8	Corporate strategies dealing with externalities and environmental issues differ between the selected industries.	Not Supported
H9	Businesses apply non-deceptive strategies to deal with potential impacts of externalities and environmental issues (rather than utilize deceptive strategies).	Supported
H10	Businesses apply deliberate strategies to deal with potential impacts of externalities and environmental issues (rather than utilize emergent strategies).	Supported

## Corporate Executive Demographics

### *Gender*

A one-way between groups analysis of variance (ANOVA) was conducted to explore the impact of gender on level of attitudes toward externalities, the use of public resources and environment. The corporate executive subjects were divided into two groups (male and female) in attitudinal questions (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > .05$  level in concern scores for the two gender groups: externalities  $F(1, 125)=0.653, p=0.421$ , public resources  $F(1, 125)=0.067, p=0.797$ , and environment  $F(1,125)=0.592, p=0.443$ . The mean and standard deviation that resulted from the concern of the three areas was shown in Table 43.

Table 43

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Genders—Corporate Executive Sample*

Attitude	Gender	N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Male	112	3.5949	.55071	.653	.421	1.63	4.38
	Female	15	3.4750	.44118			2.88	4.25
	Total	127	3.5807	.53880			1.63	4.38
Public Resources	Male	112	3.7768	.63685	.067	.797	1.40	4.80
	Female	15	3.8200	.30519			3.10	4.30
	Total	127	3.7819	.60650			1.40	4.80
Environment	Male	112	3.8161	.60278	.592	.443	1.40	4.60
	Female	15	3.6933	.35349			3.00	4.20
	Total	127	3.8016	.57927			1.40	4.60

### *Age*

A one-way between groups analysis of variance was conducted to explore the impact of corporate executives' age on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into six groups according to their age and attributed to attitudinal questions (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > 0.05$  level in concern scores for the six age groups: externalities  $F(5, 121) = 0.768, p = 0.575$ , public resources  $F(5, 121) = 0.194, p = 0.964$ , and environment  $F(5, 121) = 0.691, p = 0.631$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 44. However, there was a trend for the 30-60 groups to be more concerned about public resources and externalities. The concern about the environment was higher in the 20-30 and 61-70 groups.

Table 44

*Descriptive and Test Statistics on the Attitudes toward Externalities, the Use of Public Resources, and the Environment for Age—Corporate Executive Sample*

Attitudes	Age Level	N	Mean	SD	F	p	Minimum	Maximum
Externalities	Under 20	1	3.6250	.	.768	.575	3.63	3.63
	20-30	7	3.4821	.41097			3.13	4.13
	31-40	35	3.5429	.69461			1.63	4.38
	41-50	47	3.5293	.48005			2.38	4.38
	51-60	32	3.7383	.47131			2.13	4.25
	61-70	5	3.4500	.37081			3.13	4.00
	Total	127	3.5807	.53880			1.63	4.38
Public Resources	Under 20	1	3.4000	.	.194	.964	3.40	3.40
	20-30	7	3.8286	.43480			3.10	4.30
	31-40	35	3.8257	.78641			1.40	4.80
	41-50	47	3.7553	.52577			2.40	4.60
	51-60	32	3.7969	.57892			1.90	4.70
	61-70	5	3.6400	.42190			3.30	4.30
	Total	127	3.7819	.60650			1.40	4.80
Environment	20-30	7	3.9143	.32367	.691	.631	3.20	4.20
	31-40	35	3.7600	.64498			1.80	4.60
	41-50	47	3.7617	.49806			1.40	4.40
	51-60	32	3.8875	.68897			1.40	4.40
	61-70	5	3.9200	.22804			3.60	4.20
	Total	127	3.8016	.57927			1.40	4.60

*Income*

A one-way between groups analysis of variance was conducted to explore the impact of income on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into four groups according to their income and attributed to attitudinal questions (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > 0.05$  level in concern scores for the four income groups: externalities  $F(4, 122) = 1.217, p = 0.307$ , public resources  $F$

(4, 122)=1.443,  $p=0.207$ . There was a statistically significant difference at the  $p<.05$  level in concern scores for four income groups for the environment  $F(4, 122)=3.619$ ,  $p=0.008$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 45.

Table 45

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Income—Corporate Executive Sample*

Attitudes	Income Level	N	Mean	SD	F	p	Minimum	Maximum
Externalities	<\$36,000	2	2.9375	.79550	1.217	.307	2.38	3.50
	\$36,001-71,000	19	3.5132	.45241			2.88	4.13
	\$71,001-115,000	51	3.5907	.44164			2.00	4.38
	>\$115,000	55	3.6065	.63106			1.63	4.38
	Total	127	3.5807	.53880			1.63	4.38
Public Resources	<\$36,000	2	3.3500	1.34350	1.443	.224	2.40	4.30
	\$36,001-71,000	19	3.7842	.24555			3.10	4.10
	\$71,001-115,000	51	3.9000	.43681			2.60	4.80
	>\$115,000	55	3.6741	.77489			1.40	4.80
	Total	127	3.7819	.60650			1.40	4.80
Environment	<\$36,000	2	2.4000	1.41421	3.619	.008	1.40	3.40
	\$36,001-71,000	19	3.7789	.50286			3.00	4.60
	\$71,001-115,000	51	3.7725	.54702			1.80	4.40
	>\$115,000	55	3.8815	.55425			1.40	4.40
	Total	127	3.8016	.57927.			1.40	4.60

### *Ethnicities*

A one-way between groups analysis of variance was conducted to explore the impact of ethnicity on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into five groups according to their ethnicity and attributed to attitudinal questions (externalities, public resources, and environment). There was a statistically significant difference at the  $p < .05$  level in concern scores for five ethnic groups for the externalities  $F(4, 122) = 2.852, p = 0.027$ . There was not a statistically significant difference at the  $p > .05$  level in concern scores for the five ethnic groups: public resources  $F(4, 122) = 2.306, p = 0.062$ , environment  $F(4, 122) = 1.474, p = 0.214$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 46.

Table 46

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Ethnicities—Corporate Executive Sample*

Attitude	Ethnic	N	Mean	SD	F	p	Minimum	Maximum
Externalities	Hispanic/Latino	17	3.8309	.33055	2.852	.027	3.00	4.25
	White/Caucasian	67	3.4776	.57732			1.63	4.38
	Black/African American	5	3.8500	.34686			3.50	4.38
	Asian	32	3.5469	.54045			2.00	4.38
	Middle Eastern	6	3.9792	.18400			3.75	4.13
	Total	127	3.5807	.53880			1.63	4.38
	Public Resources	Hispanic/Latino	17	3.9176			.35923	2.306
White/Caucasian		67	3.6313	.74553	1.40	4.70		
Black/African American		5	4.0200	.25884	3.70	4.40		
Asian		32	3.9531	.33503	3.00	4.80		
Middle Eastern		6	3.9667	.34448	3.50	4.50		
Total		127	3.7819	.60650	1.40	4.80		
Environment		Hispanic/Latino	17	4.0588	.38578	1.474	.214	
	White/Caucasian	67	3.7015	.71212	1.40			4.40
	Black/African American	5	3.9200	.38987	3.40			4.20
	Asian	32	3.8438	.31206	3.40			4.40
	Middle Eastern	6	3.8667	.41312	3.20			4.20
	Total	127	3.8016	.57927	1.40			4.60

### *Education*

A one-way between groups analysis of variance was conducted to explore the impact of education on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into five groups according to their education level and attributed to attitudinal questions (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > .05$  level in concern scores for the five educational level groups: externalities  $F(3, 123) = 0.364$ ,  $p = 0.779$ , public resources  $F(3, 123) = 0.530$ ,  $p = 0.663$ , and environment  $F(3, 123) = 0.268$ ,  $p = 0.848$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 47.



Table 47

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Education Level—Corporate Executive Sample*

Attitude	Education Level	N	Mean	SD	F	p	Minimum	Maximum
Externalities	High School Thru 12th Grade	5	3.6750	.06847	.364	.779	3.63	3.75
	Four Year Degree	45	3.5750	.63593				
	Post Graduate Study	74	3.5659	.49752				
	Other	3	3.8750	.43301				
	Total	127	3.5807	.53880				
Public Resources	High School Thru 12th Grade	5	4.0000	.00000	.530	.663	4.00	4.00
	Four Year Degree	45	3.7044	.66091				
	Post Graduate Study	74	3.8108	.60173				
	Other	3	3.8667	.23094				
	Total	127	3.7819	.60650				
Environment	High School Thru 12th Grade	5	3.6000	.54772	.268	.848	3.00	4.00
	Four Year Degree	45	3.8356	.58974				
	Post Graduate Study	74	3.7919	.59074				
	Other	3	3.8667	.11547				
	Total	127	3.8016	.57927				

### *Job Function*

A one-way between groups analysis of variance was conducted to explore the impact of job function on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into six groups according to their job function and attributed to attitudinal questions (externalities, public resources, and environment). There were statistically significant differences at the  $p < .05$  level in concern scores for the six groups: externalities  $F(5, 121) = 4.313, p = 0.001$ , public resources  $F(5, 121) = 3.429, p = 0.006$ , and environment  $F(5, 121) = 4.305, p = 0.001$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 48. Director and manager levels are more concerned about the environment. Senior VP and VP had the highest concern about externalities, while public resources and environment concerns were more widely shared.

Table 48

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Job Function—Corporate Executive Sample*

Attitude	Job Function	N	Mean	Std. Deviation	F	p	Minimum	Maximum
Externalities	Vp & Sr.Vp	39	3.8013	.35439	4.313	.001	3.00	4.38
	Sr. Management	21	3.3036	.58972			2.13	4.38
	Director	12	3.2083	.87148			1.63	4.13
	Manager	24	3.6563	.33833			3.13	4.13
	Cor. Resp. Officer	9	3.4444	.52333			2.88	4.13
	Other	22	3.6307	.54072			2.00	4.38
	Total	127	3.5807	.53880			1.63	4.38
Public Resources	Vp & Sr.Vp	39	3.8256	.44469	3.429	.006	3.00	4.80
	Sr. Management	21	3.3857	.84160			1.90	4.70
	Director	12	3.5750	1.07460			1.40	4.70
	Manager	24	3.8708	.37588			3.10	4.80
	Cor. Resp. Officer	9	3.9111	.26667			3.70	4.50
	Other	22	4.0455	.33768			3.00	4.60
	Total	127	3.7819	.60650			1.40	4.80
Environment	Vp & Sr.Vp	39	3.8872	.42746	4.305	.001	3.00	4.60
	Sr. Management	21	3.3048	1.04617			1.40	4.40
	Director	12	3.9000	.34641			3.40	4.40
	Manager	24	3.9667	.32660			3.20	4.40
	Cor. Resp. Officer	9	3.8222	.32318			3.40	4.20
	Other	22	3.8818	.34176			3.40	4.40
	Total	127	3.8016	.57927			1.40	4.60

### *Company Size*

A one-way between groups analysis of variance was conducted to explore the impact of company size on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into eight groups according to their number of employees and attributed to attitudinal questions (externalities, public resources, and environment). There were statistically significant differences at the  $p < .05$  level in concern scores for the eight groups: externalities  $F(7, 119) = 6.512$ ,  $p = 0.001$ , public resources  $F(7, 119) = 5.447$ ,  $p = 0.001$ , and environment  $F(7, 119) = 3.516$ ,  $p = 0.002$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 49.

Table 49

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Company Size—Corporate Executive Sample*

Attitude	Company Size	N	Mean	Std. Deviation	F	p	Minimum	Maximum
Externalities	Less Than 100	8	2.8125	.60504	5.447	=.000	2.13	3.63
	100-499	3	3.5000	.25000			3.25	3.75
	500-999	9	3.3333	.34233			2.88	3.75
	1000-2499	18	3.3472	.70653			1.63	4.00
	2500-4999	10	3.5125	.56657			2.00	4.00
	5000-9999	2	3.4375	.26517			3.25	3.63
	10,000-24,999	34	3.7316	.44714			2.88	4.38
	25,000 Or More	43	3.7820	.37904			3.00	4.38
	Total	127	3.5807	.53880			1.63	4.38
Public Resources	Less Than 100	8	3.0750	.89722	3.516	.002	1.90	4.30
	100-499	3	3.9000	.20000			3.70	4.10
	500-999	9	3.7556	.79861			2.60	4.80
	1000-2499	18	3.7444	.90373			1.40	4.70
	2500-4999	10	3.4700	.43729			3.00	4.10
	5000-9999	2	3.7500	.07071			3.70	3.80
	10,000-24,999	34	4.0735	.32127			3.40	4.60
	25,000 Or More	43	3.7698	.45173			2.60	4.80
	Total	127	3.7819	.60650			1.40	4.80
Environment	Less Than 100	8	2.7250	1.11580	6.512	.000	1.40	3.80
	100-499	3	3.8000	.40000			3.40	4.20
	500-999	9	3.4889	.97525			1.80	4.20
	1000-2499	18	3.9889	.35295			3.40	4.40
	2500-4999	10	3.8200	.28983			3.40	4.40
	5000-9999	2	3.7000	.42426			3.40	4.00
	10,000-24,999	34	3.8765	.35167			3.00	4.40
	25,000 Or More	43	3.9302	.40210			3.00	4.60
	Total	127	3.8016	.57927			1.40	4.60

### *Company Sales Revenue*

A one-way between groups analysis of variance was conducted to explore the impact of company sales revenue on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into eight groups according to their sales revenue and attributed to attitudinal questions (externalities, public resources, and environment). There were statistically significant differences at the  $p < .05$  level in concern scores for the eight groups: externalities  $F(7, 119) = 5.892$ ,  $p = 0.001$ , public resources  $F(7, 119) = 5.127$ ,  $p = 0.001$ , and environment  $F(7, 119) = 9.419$ ,  $p = 0.001$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 50. The larger companies tend to be more concerned.

Table 50

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Company Sales Revenue—Corporate Executive Sample*

Attitude	Company Sales	N	Mean	Std. Deviation	F	p	Minimum	Maximum
Externalities	<25 Mil	8	2.8125	.60504	5.892	.000	2.13	3.63
	25-50 Mil	1	3.2500	.			3.25	3.25
	51-100 Mil	6	3.3542	.44312			2.88	3.75
	101-200 Mil	6	3.3750	.28504			3.13	3.75
	201-300 Mil	8	3.6563	.34557			3.00	4.00
	301-500 Mil	8	3.4844	.28690			3.13	4.00
	501mil-1 Bil	26	3.3990	.58845			1.63	4.00
	>1billion	64	3.7988	.45677			2.00	4.38
	Total	127	3.5807	.53880			1.63	4.38
Public Resources	<25 Mil	8	3.0750	.89722	5.127	.000	1.90	4.30
	25-50 Mil	1	3.7000	.			3.70	3.70
	51-100 Mil	6	2.9833	.40208			2.60	3.70
	101-200 Mil	6	3.9167	.31885			3.30	4.20
	201-300 Mil	8	3.9000	.44721			3.40	4.80
	301-500 Mil	8	4.0875	.40510			3.70	4.70
	501mil-1 Bil	26	3.6500	.83582			1.40	4.70
	>1billion	64	3.9344	.37042			3.00	4.80
	Total	127	3.7819	.60650			1.40	4.80
Environment	<25 Mil	8	2.7250	1.11580	9.419	.000	1.40	3.80
	25-50 Mil	1	3.8000	.			3.80	3.80
	51-100 Mil	6	3.2000	1.09545			1.80	4.20
	101-200 Mil	6	3.8333	.34448			3.40	4.20
	201-300 Mil	8	4.1500	.25635			3.60	4.40
	301-500 Mil	8	3.7500	.29761			3.40	4.20
	501mil-1 Bil	26	3.7000	.41665			3.00	4.40
	>1billion	64	3.9937	.32065			3.20	4.60
	Total	127	3.8016	.57927			1.40	4.60

## Consumer/Citizen Demographic

### *Gender*

A one-way between groups analysis of variance was conducted to explore the impact of gender on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into two groups (male and female) in attitudinal questions (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > .05$  level in concern scores for the two gender groups: externalities  $F(1, 260) = .383, p = 0.537$ , public resources  $F(1, 260) = .128, p = 0.721$ , and environment  $F(1, 260) = 0.464, p = 0.496$ . The mean and standard deviation that resulted from the concern of the three areas is shown in Table 51.



Table 51

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Genders – Consumer Sample*

Attitude		N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Male	122	3.8817	.63002	.383	.537	1.00	5.00
	Female	140	3.9306	.64471			2.00	5.00
	Total	262	3.9079	.63716			1.00	5.00
Public Resources	Male	122	3.8094	.48889	.128	.721	1.69	4.75
	Female	140	3.8317	.51336			2.00	4.81
	Total	262	3.8213	.50128			1.69	4.81
Environment	Male	122	3.5779	.52953	.464	.496	1.71	4.64
	Female	140	3.6224	.52749			1.29	4.64
	Total	262	3.6017	.52790			1.29	4.64

*Age*

A one-way between groups analysis of variance was conducted to explore the impact of age on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into six groups according to their age and attributed to attitudinal questions (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > .05$  level in concern scores for the six age groups: externalities  $F(6, 255) = 1.217, p = 0.298$ , public resources  $F(6, 255) = 1.008, p = 0.420$ , and environment  $F(6, 255) = 2.012, p = 0.065$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 52. The 71+ results are interesting, but the numbers are too small to draw conclusions.

Table 52

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Age Group– Consumer Sample*

Attitudes	Age Level	N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Under 20	8	3.7143	.58654	1.217	.298	2.71	4.43
	20-30	78	3.8315	.53687			2.29	5.00
	31-40	77	3.9091	.75661			1.00	5.00
	41-50	33	4.0996	.55614			2.43	5.00
	51-60	43	3.9502	.58974			2.43	5.00
	61-70	20	3.8000	.71863			1.86	5.00
	71+	3	4.3810	.54085			4.00	5.00
	Total	262	3.9079	.63716			1.00	5.00
Public Resources	Under 20	8	3.4922	.48807	1.008	.420	2.56	4.06
	20-30	78	3.8165	.46053			2.44	4.75
	31-40	77	3.8222	.59067			1.69	4.81
	41-50	33	3.9394	.50907			2.00	4.56
	51-60	43	3.7703	.44960			2.81	4.75
	61-70	20	3.8656	.37460			3.00	4.44
	71+	3	3.9375	.22535			3.69	4.13
	Total	262	3.8213	.50128			1.69	4.81
Environment	Under 20	8	3.3571	.40944	2.012	.065	2.57	3.71
	20-30	78	3.5815	.46244			2.36	4.36
	31-40	77	3.6011	.65694			1.29	4.64
	41-50	33	3.8442	.42086			3.14	4.64
	51-60	43	3.4834	.44928			2.57	4.50
	61-70	20	3.5929	.48173			2.50	4.43
	71+	3	3.8810	.47559			3.57	4.43
	Total	262	3.6017	.52790			1.29	4.64

### *Income*

A one-way between groups analysis of variance was conducted to explore the impact of income on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into four groups according to their income and attributed to attitudinal questions (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > .05$  level in concern scores for the four income groups: externalities  $F(3, 258) = 0.527, p = 0.664$ , public resources  $F(3, 258) = 0.420, p = 0.739$ , and the environment  $F(3, 258) = 1.82, p = 0.909$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 53.

Table 53

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Income Level– Consumer Sample*

Attitude	Income Level	N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Less Than \$36,000	107	3.9186	.57079	.527	.664	2.00	5.00
	\$36,001-\$71,000	80	3.8804	.68434			1.00	5.00
	\$71,001-\$115,000	50	3.9829	.68338			1.14	5.00
	More Than \$115,000	25	3.8000	.67386			1.86	5.00
	Total	262	3.9079	.63716			1.00	5.00
Public Resources	Less Than \$36,000	107	3.8475	.51066	.420	.739	2.00	4.81
	\$36,001-\$71,000	80	3.8258	.49560			1.94	4.81
	\$71,001-\$115,000	50	3.8063	.51558			1.69	4.75
	More Than \$115,000	25	3.7250	.46526			2.63	4.63
	Total	262	3.8213	.50128			1.69	4.81
Environment	Less Than \$36,000	107	3.6302	.48721	.182	.909	1.29	4.64
	\$36,001-\$71,000	80	3.5786	.53484			1.71	4.64
	\$71,001-\$115,000	50	3.5914	.57434			1.79	4.64
	More Than \$115,000	25	3.5743	.60062			1.93	4.57
	Total	262	3.6017	.52790			1.29	4.64

### *Marriage Status*

A one-way between groups analysis of variance was conducted to explore the impact of marital status on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into two groups and attributed to each attitudinal question (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > .05$  level in concern scores for the two groups: externalities  $F(3, 258) = 1.613, p = 0.187$ , public resources  $F(3, 258) = 0.413, p = 0.702$ , and environment  $F(3, 258) = 0.308, p = 0.819$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 54.

Table 54

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Marital Status– Consumer Sample*

Attitude	Status	N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Married	126	3.8480	.67757	1.613	.187	1.00	5.00
	Single	136	3.9556	.59274			2.00	5.00
	Total	262	3.9079	.63716			1.00	5.00
Public Resources	Married	126	3.7875	.51807	.473	.702	1.69	4.75
	Single	136	3.8542	.48826			2.06	4.81
	Total	262	3.8213	.50128			1.69	4.81
Environment	Married	126	3.5817	.50145	.308	.819	1.71	4.64
	Single	136	3.6196	.55513			1.29	4.64
	Total	262	3.6017	.52790			1.29	4.64

### *Ethnicities*

A one-way between groups analysis of variance was conducted to explore the impact of ethnicity on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into five groups according to their ethnicity and attributed to attitudinal questions (externalities, public resources, and environment). There was a statistically significant difference at the  $p < .05$  level in concern scores for five ethnic groups for the environment  $F(5, 256) = 3.058, p = 0.011$ . There was not a statistically significant difference at the  $p > .05$  level in concern scores for the five ethnic groups: externalities  $F(5, 256) = 0.700, p = 0.624$  and public resources  $F(5, 256) = 2.199, p = 0.055$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 55.

Table 55

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Ethnic Group— Consumer Sample*

Attitude	Ethnic	N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Hispanic/Latino	22	3.7013	.75966	.700	.624	1.14	5.00
	White/Caucasian	106	3.9663	.57938			1.86	5.00
	Black/African American	11	3.9091	.86017			2.57	5.00
	Middle Eastern	9	3.9365	.99260			2.00	5.00
	Asian	100	3.9014	.61577			1.00	5.00
	Other	14	3.8163	.57806			2.71	4.71
	Total	262	3.9079	.63716			1.00	5.00
Public resources	Hispanic/Latino	22	3.6648	.62516	2.199	.055	1.69	4.75
	White/Caucasian	106	3.9021	.44572			2.81	4.81
	Black/African American	11	3.4943	.58594			2.56	4.56
	Middle Eastern	9	3.7361	.76851			2.06	4.81
	Asian	100	3.8313	.48007			1.94	4.75
	Other	14	3.6964	.46762			2.94	4.50
	Total	262	3.8213	.50128			1.69	4.81
Environment	Hispanic/Latino	22	3.7208	.66016	3.058	.011	1.79	4.64
	White/Caucasian	106	3.6745	.48816			2.50	4.57
	Black/African American	11	3.3831	.77214			1.93	4.43
	Middle Eastern	9	3.1429	.77919			1.29	3.79
	Asian	100	3.5971	.47375			1.71	4.64
	Other	14	3.3622	.33086			2.86	4.07
	Total	262	3.6017	.52790			1.29	4.64

### *Occupation*

A one-way between groups analysis of variance was conducted to explore the impact of occupation on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into six groups according to their job function and attributed to attitudinal questions (externalities, public resources, and environment). There was a statistically significant difference at the  $p < .05$  level in concern scores for six occupation groups for the environment  $F(5, 256) = 2.023$ ,  $p = 0.044$ . There was not a statistically significant difference at the  $p > .05$  level in concern scores for the six groups: externalities  $F(5, 256) = 1.163$ ,  $p = 0.322$  and public resources  $F(5, 256) = 1.351$ ,  $p = 0.219$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 56.



Table 56

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Occupation– Consumer Sample*

Attitude	Occupation	N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Business Employee	62	3.8203	.75987	1.163	.322	1.00	5.00
	Executive	5	3.3143	.65776			2.57	4.14
	Self-Employed	29	3.9655	.46863			3.14	5.00
	Unemployed	11	4.1039	.41938			3.57	5.00
	Manager	26	3.9560	.48448			3.14	4.71
	Civil Servant	29	4.0246	.51940			3.14	5.00
	Retired	16	3.7411	.88866			1.86	5.00
	Student	41	3.9547	.61315			2.00	5.00
	Other	43	3.9236	.63686			2.29	5.00
	Total	262	3.9079	.63716			1.00	5.00
Public Resources	Business Employee	62	3.7510	.57811	1.351	.219	1.69	4.75
	Executive	5	3.2375	.36282			2.63	3.56
	Self-Employed	29	3.8642	.36751			2.94	4.75
	Unemployed	11	3.8864	.44705			3.19	4.44
	Manager	26	3.7620	.34096			3.13	4.44
	Civil Servant	29	3.9289	.43131			3.00	4.56
	Retired	16	3.8477	.49527			2.81	4.44
	Student	41	3.8704	.57374			2.06	4.69
	Other	43	3.8517	.51737			2.44	4.81
	Total	262	3.8213	.50128			1.69	4.81
Environment	Business Employee	62	3.5207	.54711	2.023	.044	1.71	4.43
	Executive	5	2.8429	.53785			1.93	3.21
	Self-Employed	29	3.6749	.37825			2.93	4.50
	Unemployed	11	3.5065	.57716			2.71	4.36
	Manager	26	3.5797	.48206			2.57	4.57
	Civil Servant	29	3.7118	.45033			2.71	4.57
	Retired	16	3.5491	.55311			2.50	4.43
	Student	41	3.6760	.57368			1.29	4.64
	Other	43	3.6694	.54265			2.36	4.64
	Total	262	3.6017	.52790			1.29	4.64

### *Education*

A one-way between groups analysis of variance was conducted to explore the impact of education on level of attitudes toward externalities, the use of public resources and environment. The subjects were divided into five groups according to their education level and attributed to each attitudinal question (externalities, public resources, and environment). There was not a statistically significant difference at the  $p > .05$  level in concern scores for the five educational level groups: externalities  $F(5, 256) = 0.602, p = .699$ , public resources  $F(5, 256) = 1.887, p = 0.097$ , and environment  $F(5, 256) = .661, p = 0.653$ . The mean and standard deviation that resulted from the concern of the three areas (externalities, public resources, and environment) is shown in Table 57.

Table 57

*Descriptive and Test Statistics on the Attitude toward Externalities, the Use of Public Resources, and the Environment for Education Level– Consumer Sample*

Attitude	Education Level	N	Mean	Std. Deviation	F	Sig.	Minimum	Maximum
Externalities	Elementary Thru 8th Grade	1	4.1429	.	.602	.699	4.14	4.14
	High School Thru 12th Grade	22	3.7987	.61668			2.43	5.00
	Two Year Degree	41	4.0418	.55535			2.43	5.00
	Four Year Degree	74	3.9093	.49857			2.71	5.00
	Post Graduate Study	102	3.8922	.78926			1.00	5.00
	Other	22	3.8247	.39906			3.14	4.43
	Total	262	3.9079	.63716			1.00	5.00
Public Resources	Elementary Thru 8th Grade	1	3.7500	.	1.887	.097	3.75	3.75
	High School Thru 12th Grade	22	3.6790	.53636			2.00	4.50
	Two Year Degree	41	3.8613	.44448			2.94	4.75
	Four Year Degree	74	3.7796	.44858			2.56	4.69
	Post Graduate Study	102	3.8076	.55996			1.69	4.81
	Other	22	4.0966	.37486			3.44	4.75
	Total	262	3.8213	.50128			1.69	4.81
Environment	Elementary Thru 8th Grade	1	4.2143	.	.661	.653	4.21	4.21
	High School Thru 12th Grade	22	3.5552	.42397			2.86	4.43
	Two Year Degree	41	3.6080	.41867			2.50	4.36
	Four Year Degree	74	3.5589	.48103			2.57	4.57
	Post Graduate Study	102	3.6064	.61648			1.29	4.64
	Other	22	3.7305	.52300			2.79	4.64
	Total	262	3.6017	.52790			1.29	4.64

## CHAPTER 6

### DISCUSSION AND CONCLUSION

The purpose of this chapter is to present a discussion of the research results. It is divided into three sections. The first section presents a discussion of the research findings, the second section presents expected contributions of the study and implications for management and the third section presents future research opportunities.

This study investigated the trend in attitudes of corporate executives and citizens/consumers over the past five years toward the corporate creation of externalities, corporate use of public resources and the impact of both on the environment. The objective of this study was to establish an attitudinal typology that would help examine and monitor this aspect of the business-government relationship in the future and to use this typology to reveal and clarify empirical trends and issues in today's business-government relationship. Two industries were selected for this research, Aerospace and Software. Aerospace was chosen as a representative of one of the last remaining large manufacturing industries in this country, while the Software industry was selected as representative of the more contemporary innovative technology industries. The intent was to capture the attitudes of corporate executives towards externalities, the environment and public resources from both "old" and "new" industries.

## Research Findings

The literature and past research demonstrate that the environmental attitudes of both businesses and people in general have been shifting over time (Dunlap & Van Liere, 1978; Baden, 1992; Dunlap & Gallup, 1993; Groundwork, 1995; Tilly, 1999; Schultz, 2000; Schaper, 2001; Schultz, 2005, 2005; Phillips & Limprayoon, 2007; ICR, 2008). Therefore, this chapter discusses and answers the following research questions:

- What are the attitudes of consumers and corporate executives toward corporate treatment of public resources?
- What are the attitudes of consumers and corporate executives toward the creations of externalities?
- How have those attitudes changed over time?
- How do the corporate strategies dealing with externalities and environmental issues differ between the two selected industries (software and aircraft)?

### Corporate Executive Group

#### *Corporate Attitudes toward Externalities, the Use of Public Resources, and the Environment*

It is generally agreed that environmental sustainability must be built on long-term economic and social sustainability and that the challenge of sustainable development requires integration of the economy and the environment in all sectors and at all levels. In the past, business has considered the environment and the public resources to be free and limitless goods (Kirkby, O'Keefe & Lloyd, 1995). This

research confirmed past studies that the corporate attitude toward the corporation's creation of externalities, the use of public resources, and the environment has been gradually shifting. The results showed that a majority of corporate executives are more concerned about those three areas now than they were five years ago. The data showed a majority of respondents agreed with the statements: "Corporations bear responsibility for reducing and/or eliminating the negative externalities they create" and "We need to regulate the use of public resources." Most of the corporate executives agreed with the statement: "My company is trying to be more environmentally responsible and continues to head in that direction." As an example, the world's largest retailers Wal-Mart and JC Penney put solar panels on their tall office buildings (Watson, 2009). Each system provides between 25 percent and 35 percent of the electricity consumed by the host store and helped improve its environmental performance since 2005.

The new administration of the U.S. government has issued a rule for some industries to install pollution controls when they expand and then "trade" credits with other industries. This rule would have enabled businesses to upgrade power plants without worrying about violating anti-pollution laws (San Diego Union Tribune, February 2009). California's AB32 regulated GWG in California and the Governor has recently added new mandates for use of renewable energy (Bainbridge, 2009). Also, the U.S. Department of Energy consortium has launched a new program to capture and store carbon and emissions in manufacturing plants. Corporate responses to the challenge of the trends, however, have meant more than pollution prevention. In many companies it has involved the development of new innovative products and services (Marcus and

Fremeth, 2009) that reduce harm. For example, the challenge of sustainability has stimulated new product innovations in the automobile industry (Marcus, 1996).

### Consumer/Citizen Group

#### *Consumer Attitudes toward Externalities, the Use of Public Resources and the Environmental Issues*

Past research studies showed that people around the world affirm that attitudes towards environmental protection have been shifting in recent years (National Science Foundation, 2005). This research confirms the past research that shows a majority of consumers are more concerned about the corporations' creation of externalities, the public resources, and the environment than they were five years ago. The data showed a majority of respondents agreed with the statements "The government should regulate corporations to reduce the creation of pollutants" as well as "I am concerned when I hear about public resources being exploited, ruined or destroyed" and "Developing awareness in all of us can help protect and preserve our resources."

In many current cases people have tried to improve and promote environmental concern. As an example, teachers use environmental videos in schools to open children's eyes and increase their awareness of environmental issues. The videos show a cheerful but truthful assessment of how much Americans waste and what is behind climate change and pollution, in order to educate them when they are young (Kaufman, 2009). It is believed that many of the children who watch it will take it to heart and demonstrate more concern when they grow up. There is also an increased focus on the environmental, social, and public policy issues at work in American cities. For

example, the new administration of the U.S. government endorses an energy bill that would cap greenhouse gases and reduce the nation's reliance on fossil fuels. This would not only help tackle climate change but spur investment in clean-energy technology.

### Comparison between Consumer and Corporation Groups

#### *A Concern about the Creation of Externalities and the Use of Public Resources*

Past literature confirmed that people around the world state that environmental issues are the most important social problem they face and they are getting more severe (Dunlap, 1991; Dunlap, Gallup, & Gallup, 1993; Kempton, Boster, & Hartley, 1995). Not too long ago war and the economy were the foremost problems of concern for nearly every nation. Today, environmental issues, the creation of externalities, and the use of public resources are rising to the top list of every sector (public and private). In this research, the data shows that consumers and corporate people are equally concerned about the use of public resources. TV and newspaper advertisements are more effective in encouraging people to take care of the resources. People have learned that the world is running out of the commons; especially clean water, clean air, forests, sustainable oceans, land, and other natural resources. People need to pay more attention and do something to preserve them.

However, consumer and corporate sample groups are concerned differently about externalities. The research shows that corporations are less concerned about the creation of externalities than consumers. Past studies found that the pervasive attitude of the corporations was that the common resources are a "free and unlimited good" that people may exploit with impunity. This attitude of course intentionally or



unintentionally created externalities that helped their businesses to grow. There are two types of externalities: negative externalities and positive externalities. Positive externalities, such as an educated labor force, help a corporation to be more effective. An example of a negative externality, that corporations usually don't consider an externality at all, is offshoring or outsourcing American jobs outside the country. This is because the central corporate philosophy is to pursue profitability and power in business. However, this business practice creates serious impacts on employees and families in general. The dramatic increase in the number of companies using offshore outsourcing over the last several years is an area of growing concern to many Americans. This concern spans a whole range of current human resources and labor relations issues facing today's workplace. Environmental externalities such as the health impacts of smog on children's health, on forests and aquatic ecosystems, or on the global climate represent the most potentially costly externalities.

Previous studies in the U.S. indicated that people are anti-environmental (Schultz et al. 2005) and concerned about overconsumption and pollution created by corporations in the industrial nations, like the United States. In terms of consumer concern about externalities, consumers are often affected by the externalities created by the corporations. This research confirmed that the trend of these concerns is shifting.

### Psychographic Groups

When thinking about attitudes toward environmental issues, one often assumes that these attitudes fall a scale from low (not concerned) to high (very concerned). According to the Schultz, et al. (2005) study, these attitudes present general concerns for

environmental issues, such as energy conservation, recycling or public transportation. Schultz (2000) found that there are three types of attitudes toward the environment. These include the egoistic attitude—concern about the individual itself; the altruistic attitude—concern about people and society in general; and the biospheric attitude—concern about all living things (plants, animals, and ecosystems). Most people were found to hold positive attitudes toward various dimensions of the environment and were supportive of an environmental approach to protect natural resources (Reading et al. 1994).

This research shows that people in both consumer and business groups are concerned about the three dimensions, environment in general, the use of public resources, and the corporate creation of externalities in different levels. These results may be influenced by demographic and psychographic characteristics, experiences, culture, and life style as well as people's volitional control and situational factors such as economic constraints, social pressures and opportunities to choose different actions.

For instance, women are in general believed to be more concerned about environmental issues than men, more biospheric in their attitudes and more likely to act in proenvironmental ways; but this was not shown in this study. Another example is people will do recycling because of pressures from societies or trends. This research categorized samples into clusters both in consumers and corporate executives. The two largest clusters—59.2% consumer samples and 53.5% corporate executive samples are concerned about the use of public resources and environment. However, this shows quite a change from Schultz (2002), who that found that people in the United States are anti-environmental. This may help explain past literature that the trend of environmental

concern of people all around the world has been shifting gradually (<http://www.nsf.gov/statistics/seind06/c7/c7h.htm>).

One can also use attitudes toward environment and natural resources to predict environmental behavior. There are two types of environmental attitudes to use to predict ecological behavior: (1) attitudes toward the environment or environmental concern, and (2) attitudes toward ecological behavior (Hines et al. 1986) which are related to each other. Past research has concluded that environmental concern is the first step toward proenvironmental behavior (Schultz et al. 2005). Some studies argued that environmental concern is not strong enough to encourage environmental behaviours (Vining & Ebreo, 1992). However, environmental attitudes tend to be positively correlated with a range of specific environmental behavior, such as energy conservation, recycling, and buying “green” products (Schultz & Oskamp, 2005). Including external costs in products and services may prove to be more effective at changing behavior (Bainbridge, 2009), and this study suggests concern about externalities is increasing. Concern about public resources is also growing, perhaps stimulated in this survey by the recent rapid price spike in oil and gasoline prices ((Bainbridge, 2009).

## Corporate Strategy

### *Non-deceptive Strategy vs. Deceptive Strategy*

According to Kelly (2008), there are four types of corporate strategies that corporations use to run their businesses. These include emergent strategy, deliberate strategy, deceptive strategy, and non-deceptive strategy. This study found that most of the businesses sampled applied non-deceptive strategies to deal with the potential

impacts of externalities and environmental issues. This research shows the mean score of non-deceptive and deceptive were 3.05 and 2.89 respectively. The data show a very low score on the statement: "My company reneged on a promise to create a certain number of jobs in a municipality in exchange for tax breaks or similar considerations." Most corporate executive respondents disagreed with this strategy, although it is often difficult to be sure that the survey is getting an open and honest answer even if it is unidentified.

The literature mentions several examples such as Google and AlCo, which adopt deliberate strategy and are open and honest with the community and their customers. However, for the deceptive strategy, most respondents returned higher scores on the statement: "A company should lobby government bodies to forestall or eliminate penalties for making disproportionate use of the commons." This is a confirmation that businesses focus on profitability and economic growth and manipulating public policy to avoid external costs.

For example, even though theme park industries have caused some deaths and damages to societies, they still have worked hard to get governmental subsidies. According to Robert W. Johnson, president of the Outdoor Amusement Business Association, who helped create the federal exemption 26 years ago: "Amusement parks need less taxes, less government oversight but they need federal support" (Borosage, 2007). The industry claimed that \$200 million federal funding would bring more tourists to the United States. Another example includes some made-in-China toxic toys that were regulated.

Deceiving strategy is intentional, purposeful, calculated and deliberate actions to maintain good business positions. For instance, Enron, Tyco, and WorldCom, Bernie Madoff and Lehmann Brothers are all obvious cases that show how deceiving strategies can be applied to run even massive organizations. Other examples include the United States Banking and Automobile industries that had to be restructured as a result of the corporate strategies adopted by those industries. Finally, it is for the same reasons that we are having a national debate to reform the entire health care industry. Taken collectively, all of these changes have resulted in the most profound change in the business government relationship in U.S. history.

#### *Deliberate Strategy vs. Emergent Strategy*

Two different types of strategies, deliberate and emerging strategies, were investigated in this study. A majority of corporate executives applied deliberate strategy to deal with the potential impacts of externalities and environmental issues. This research shows the mean score of deliberate and emergent strategies were 4.10 and 3.67 respectively. Most corporate executives agreed with this statement: "My Company is trying to be more environmentally responsible and continues to head in that direction." And "My Company tries to help preserve the environment by creating new products and services that conserve resources and that are environmentally friendly." The results of this study confirmed the previous research of McKinsey (2007) and Mercer study (2004). The research studies show that 50% of 2000 CEOs surveyed were concerned about the environment and 80% of the respondents predicted corporate social responsibility would be a mainstream practice within 5 years. Some research reports a strong correlation between sustainability ratings and financial returns (Godfrey 2005;

Orlitzky 2005). These show the trends of attitudes toward the externalities, the use of public resources, and the environment which have been shifting progressively.

## Demographics

### *Gender*

Schultz (2002) and Zeleny (2000) studies suggested that females were more concerned about the environment than men. This research found that in the consumer sample, females were not more concerned about externalities, the use of public resources, and the environment than their male counterparts. This may reflect the survey location, sampling differences or changes in society. For the corporate respondents; however, males were more concerned about those three issues than females. This is most likely due in large part to the fact that the number of male respondents was substantially more than female (men, 112: women, 15). [((There was not a statistically significant difference at the  $p > .05$  level in concern scores for the two gender groups: externalities  $F(1, 260) = .383, p = 0.537$ , public resources  $F(1, 260) = .128, p = 0.721$ , and environment  $F(1, 260) = 0.464, p = 0.496$ .)]]

### *Age*

Age influenced general attitude toward the environment. Most research has confirmed that younger people are less concerned about the environment and social issues. One study in Korea confirmed that the higher the age of respondents, the greater the propensity to perceive personal harm from the environment (Yang-Hee, 2005). This research also found that for the consumer group, older people have greater concern than younger people, and in some cases more than older people. One explanation for this

could be that older people have a better understanding of the degree of impact certain daily activities have on the environment and changes in education and understanding. In addition, they understand how their daily actions affect the environment.

#### *Income*

The literature confirms that wealthier people are typically more concerned about the environment than poorer people (Dillman & Christenson, 1972; Van Liere & Dunlap, 1980). This research confirmed that people in both groups (consumer and corporate executives) who have higher income are more concerned about externalities, the use of public resources, and the environment. The extent of their concern is high based upon their mean scores of 3.88 and 3.9.

#### *Education*

Past research studies show education is one of the most important demographic variables that distinguish people highly concerned about the environmental issues. This study found that respondents in all education levels are concerned about the externalities, the use of public resources, and the environment equally. However, in both respondent groups (consumer and corporation) the results show that people who have higher education are more concerned about those three areas. This research supported the past studies of (Oskamp & Schultz, 2005; Dillman & Christenson, 1972; McEvoy, 1972; Van Liere & Dunlap, 1980; Mertig & Kovval, 2001; Weakliem, 2002; EORG, 2002).

#### *Knowledge about the State of the Environment and Environmental Issues*

According to Arcury (1990), there is a strong reciprocal relationship between knowledge and attitude toward the environment. Increased knowledge about the

environment is assumed to change environmental attitudes. Both knowledge and attitude are important for changing human action toward the environment and environmental policy making (Ramsey & Rickson, 1976). Likewise, Heines et al. (1987) confirmed that environmental knowledge is an important factor to shape the general proenvironmental behaviour. Oskamp and Schultz (2000) found that personal experience leads individuals to care about environmental issues. The knowledge about the state of environment helps to increase the consciousness of environmental values and the level of awareness (Manzanal et al. 2007).

In order to determine how much people know about the environment, information was provided regarding the global environmental crisis and its causes, as well as regarding the state of natural resources. The questionnaire provided several questions about the knowledge and awareness of environment as follows: that, “developing awareness in all of us can help protect and preserve our resources” was the highest score, with 90% agreeing with this statement; 89.7% agreed that “I believe that information is increasingly necessary to be aware of the effects our actions have on the environment”; 87.4% agreed that “increasing consumption demands are depleting the world’s natural resources”. Also, 73.6% affirmed that “the world climate will probably change massively if carbon dioxide continues to be emitted in to the atmosphere in as huge amounts as it is now”; 75.9% agreed with “Natural resources have finite limits” and that 70.3% agreed with “massive changes in climate will occur because of human misuse of natural resources”. Therefore, this research found that most of respondents agreed and understood the state of environment. These will help to create a more positive attitude toward environmental issues and environmental awareness.



## Conclusion

The research found that there were no significant differences in the attitudes among the different industries toward public resources. This finding is consistent with the past studies. Since there are high pressures from public to businesses demanding them to improve their environmental performance. Corporate executives and general citizens were similarly concerned about public resources. As for the corporate strategy dealing with environmental issues, the research found no significant differences between the two selected industries. This may reflect the secondary nature of both industries, removed from direct resource manipulation. Results might have been very different for a mining or resource extracting industry.

### *Corporate executive group*

This research included additional demographic findings in the area of attitudes toward those three dimensions, externalities, the public resources and environment. Some of these demographic findings confirmed and were consistent with past studies. Interestingly, there were no significant differences among the demographics, genders, age, income, and education of the corporate executive sample group in concern scores which were opposite with past studies. However, there were statistically significant differences among job function, company size and company sales revenue. The results of this study revealed that job function of vice president and senior vice president group are more concerned about externalities, the public resources than other job functions.

However, director and manager functions are more concerned about environment than other positions. Furthermore, the size of companies influenced concerns. The data showed that the larger companies with 10,000 – 24,999 employees

are more concerned about all dimensions: externalities, the public resources, and the environment areas than other company sizes. Small companies were less concerned than other larger companies. Company sales revenue was another variable to be used to determine the corporate attitudes toward the three dimensions. The research showed the higher the sales revenues the higher the concern companies pay to these issues. For example, companies with more than one billion in sales revenue showed the more concern towards the three dimensions than any of the other companies with lower sales volumes.

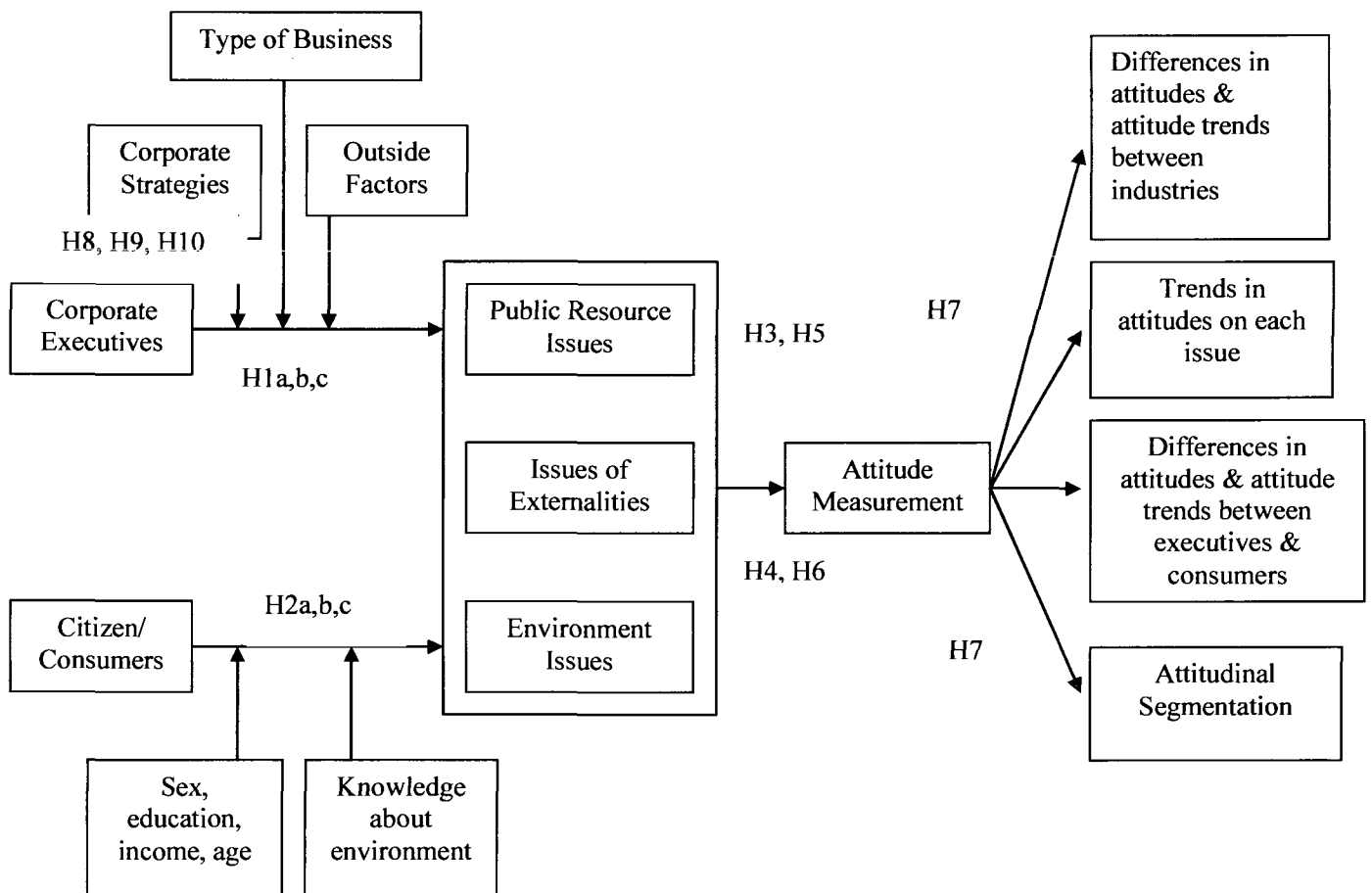
#### *Consumer Group*

Surprisingly, there was no significant difference among the demographics, genders, age, income, marriage status, and education of the consumer sample group in concern scores which is opposite that found in past studies. However, there were statistically significant differences among ethnicities. The results of the study indicated that white/Caucasian were more concerned about externalities, the public resources and environment than other ethnic groups. Asians were more concerned about externalities and the public resources and less concerned about the environment than other groups. Interestingly, Hispanic/Latinos were more concerned about the environment than other ethnic groups. Also, there were significant differences among occupations. The data showed that civil servants, unemployed and self-employed groups were more concerned about the three dimensions than other occupational groups. Also, the student group had higher concern scores.

Again, this research confirmed that a majority of consumer and corporate executive respondents are more concerned about externalities, the use of public

resources and the environment today than in five years earlier. The consumer and corporate attitudes toward externalities, the public resources and the environment have been shifting progressively. Also, non-corporate respondents are more concerned than corporate respondents about externalities, but equally concerned about the environment and the common resources. However, respondents have shared their comments and opinions, which should not be ignored, about the three dimensions. These comments and opinions are added on the appendix E.

*Research Model (revisited)*



### Expected Contributions of the Study and Implications for Management

This study was designed to identify and assess corporate and public attitudes toward the creation of externalities, use of the commons and utilization of public resources, and the possible impact of these on the environment. The expected contributions of the study to academia and the practice of strategic management are presented as follows:

1. This study established an attitudinal typology that will help examine and monitor this aspect of the business-government-society relationship as it exists today and to use this typology to reveal trends and issues in that relationship to better predict future outcomes.
2. This study should help contribute to a better understanding of the factors and attitudes that encourage corporations and citizens/consumers to create externalities while ignoring the resulting environmental and economic impacts, as well as to provide insight into the behaviours of those groups as it relates to concerns about the environment.
3. This study provides empirical evidence on the attitudes and concern of corporate managers/executives and citizens/consumers and the treatment of public resources and environment issues.

On a practical side, this study has contributed by breaking “green” concern into three dimensions, the environment, externalities, and the public resources and by measuring attitudes on these separately. This study benefits policy makers, corporate public affairs officers, political scientists, political candidates, and scholars interested in corporate social responsibility and the corporate-government-society interface. For example, to

promote green consumption, policy makers can use this information to tailor communications strategies according to each target group.

This research should also help agents such as consultants, advisors, and NGOs, to develop business strategies, modify and regulate policies and predict environmental behaviors and actions of different groups. This should also help craft campaigns or programs to enhance general awareness about these critical issues and influence their behavioral decisions to promote and support a more sustainable environment.

Educators and corporate coaches and trainers can also benefit from this study. It is clear that attitudes are changing for externalities, common resources, and the environment. Corporations will need to respond to these changes as they shape corporate policy, public relations and corporate strategy in the coming years.

### Limitations

There are several limitations in this study. First and foremost, the samples in this study were primarily from a limited number of geographic areas (San Diego, Portland, Seattle, Washington, Austin, Texas and New Brunswick, New Jersey) in the United States, and were not representative of the whole population. In addition, the study included some nonrandom sampling of part of the corporate sampling. This is due to the fact that the researcher sent out some questionnaires via e mail to some of the samples for convenience and to improve returns. The potential participants were also asked to forward the email to their friends, family members, or associates in order to increase the sample size. Due to this highly limited exposure to potential participants, selection bias is likely to be embedded in the results obtained. Finally, there were some

complaints about the questionnaires being too long, which may have resulted in participants becoming fatigued, bored, confused, and/or disinterested in the middle of the survey.

It was extremely difficult to get participants from the corporations to respond, especially in the aerospace industry. Several corporate executives considered the topic to be too “sensitive” and there was considerable resistance from upper management. When the researcher inquired about accessing their middle management employees, the decision-makers had to discuss the research with their executive teams and legal staff and concluded it would be impossible to maintain security and protect the company from potentially sensitive data being published. Another limitation is the answers from corporate executives may not be open and honest as they might concern about the security and hiding of some mistakes to public even if it is anonymous. This may create bias in answer which called “self-presentation bias”. One final limitation may be that the respondents’ recollections of their attitudes five years ago may be faulty as for some people it may be too long to remember their precise feelings back then. One respondent complained he could not recall his concern level in the past.

#### Recommendation

The researcher would like to conclude this dissertation with policy recommendations and a call for more research into attitudes about the creation of externalities, the use of public resources and the environment in different industries and in government and to expand the sampling to other countries, especially the developing countries.

## Policy Recommendations

This research shows that attitudes are changing regarding the creation of externalities, the use of common resources, and the environment. Corporations and politicians will need to make changes because of the external pressure especially from scrutiny including the public and consumers. These changes should emphasize the public resources by emphasizing on common concerns such as the environment and the use of public resources. Additionally, it is very important that corporate executives diffuse common attitudes about those concerns across management levels and job junctions inside companies and expand this diffusion across medium and small firms. Also, the clusters from this research can be applied to marketing and electoral campaigns. Moreover, advocacy groups can build on these results by focusing on externalities and results of what corporations do instead of why they do and what the motivations are.

## Recommendation for Future Research

This research should be expanded to include ongoing monitoring and larger samples and different industries. One's view of environmental issues in emerging countries differs for a variety of reasons that may lead to differences in their actions toward the environment, public resources and externalities. Further research in this area could help explain why countries differ in their choice of environmental actions and help better to understand international differences and the implications for policy development. Additionally, future research should also focus on corporate social responsibility (CSR) activities and company strategies that are likely to connect those

activities. Both strategic management and CSR researchers can help deepen understanding of the theories that connect the business's CSR activities and the primary impacts to the enterprise as well as society. Moreover, according to this research, the demographic is a blunt tool to measure attitudes about the environmental concerns. The psychographics characteristics, such as lifestyle, experiences, living locations, and motivations are better tools to investigate the environmental attitudes and concerns. Outside factors such as costs associated with the depletion of natural resources or environmental impacts, which may influence and/or motivate respondent's attitudes, were not studied. This may be an interesting area of future research. Finally, for future research, questionnaires should focus on a type of industry and a specific sector of an industry, such as focusing on financial sector of software industry. Also, questionnaires should be created by using specific trade-off questions, such as the trade off between choosing economic growth and preserving natural resources and environment. This can encourage respondents to think reasonably and respond by using personal and practical considerations to compare the loss and gain when they have to choose for their future.



## **APPENDICES**

## APPENDIX A: Cover Letter and Surveys

Dear Corporate Manager:

I am a doctoral student studying attitudes about the environment and economic externalities. The focus of my research is the attitudes of consumers and corporate managers/executives from different industries toward environmental issues and the use of public resources. This research will help improve management decision-making and policy development by clarifying trends in the business-government-society relationship. You can help advance these important goals by completing a short survey.

My dissertation is the culmination of my doctoral degree with an emphasis in Strategic Management from Alliant International University (formerly USIU) in San Diego, California. My dissertation committee includes Dr. Fred Phillips as chairperson, Dr. Louise Kelly, Dr. David Felsen and Professor David Bainbridge.

In accordance with University policy, Alliant's Institutional Review Board has approved this survey. The Institutional Review Board ensures that the rights of all participants in academic research are protected. If you have any questions about these rights, you may contact Alliant International University, Institutional Review Board, 10455 Pomerado Road, San Diego, CA 92131.

It should only take about 15 to 20 minutes to complete the survey. I think you will find it interesting. In order to obtain a reliable statistical analysis I will need to have more than 100 firms respond. So each response is important – especially yours!

If you would like to receive a brief summary of the study results, contact me by email at [plimprayoon@alliant.edu](mailto:plimprayoon@alliant.edu).

Thank you for your assistance.

Sincerely,

Pornpimol (Joy) Limprayoon  
Doctoral Candidate  
Alliant International University  
10455 Pomerado Road  
San Diego, CA 92131

## A Survey of Environmental Attitude (corporate managers)

Today's global environment is encouraging businesses to change in response to many forces including: global warming, resource shortages, and rising demand for social accountability. In response, corporations are being asked to provide more information about the impact of their products and services. This includes information on their external costs or "externalities" that are not generally accounted for in the pricing of their product or service. They can be either positive or negative costs. Positive externalities include providing well paid and satisfying work, providing health care and making direct and indirect contributions to the local community. Negative externalities include unfunded health costs; air, water, soil and noise pollution; unfunded infrastructure needs, and many others.

Many external costs are related to use of public resources such as ground water, forests, and ocean fish. These public resources have proved difficult to manage and the decline in asset value of the commons is an important form of external cost.

This survey is an attempt to categorize **emerging trends in American corporations' attitudes** toward their accounting for these externalities and for the treatment of the public resources. To help clarify these issues I would like to ask you some questions about your understanding and consideration of external costs and the commons. These surveys are anonymous. Your comments will not be linked to you or your company so please be honest.

1. **First, have you ever had any discussions with colleagues at the corporation about how global climate change might affect your company or organization's social responsibility? (check one)**
  - No
  - Occasionally (1-3 times/years)
  - Frequently (more than 4 times/years)
  
2. **Have you ever had any discussions with colleagues at the corporation about how resource shortages or price increases are, or might in the near future, affect your company or organization's responsibility? (check one)**
  - No
  - Occasionally (1-3 times/years)
  - Frequently (more than 4 times/years)
  
3. **Does your company include any discussion of external costs, resource shortages, or common resources in the annual report? (check one)**
  - Yes
  - No
  
4. **My company pursued a government bailout because of a failing business operation.**
  - Yes
  - No
  
5. **Does your company engage in activities that cause environmental costs to society?**
  - a. *Yes \_\_\_ No \_\_\_*  
*If yes, how important is this impact? \_\_\_ Minimal \_\_\_ Moderate \_\_\_ Serious*
  
  - b. *Has your company rewarded you for this or a similar behavior? Yes \_\_\_ No \_\_\_*  
*If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*

- c. *Has your company rewarded you or other workers for minimizing these impacts?? (for example van pool incentives, energy conservation, waste reduction) Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- 6. Previously unresolved external costs are often realized when a change in ownership or use occurs. For example, if a company sells an abandoned factory site environmental liabilities may be discovered.**
- a. *Has this ever happened to your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such behavior (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- b. *Were the people involved rewarded for this or a similar behavior? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- c. *Have you rewarded others for this or a similar behavior in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- 7. A company may reduce harmful environmental impacts by adopting new "Green" manufacturing processes, installing anti-pollution control devices and/or other methods. They may do this to contribute to the well-being of society-or perhaps in anticipation of government regulation, but not as a response to a current regulation or court decision.**
- a. *Has this ever happened in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such behavior (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- b. *Were the people involved rewarded? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- c. *Have you rewarded others for this or a similar behavior in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- 8. A pharmaceutical company's popular drug was shown to deliver a much higher and potentially harmful amount of active ingredient than was shown on its label. Because this drug had already been approved by the FDA (Food and Drug Administration) rather than accept responsibility, the company's court defense focused on the "pre-emption doctrine," that is, that the FDA's decisions should not be second-guessed by the courts.**
- a. *Has something like this ever happened in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such behavior (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- b. *Were the people involved rewarded? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
- c. *Have you rewarded others for this or a similar behavior in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*

9. **Companies sometimes ask for help from the government to change laws or regulations in order to reduce costs or reduce the regulatory burden (hiring a lobbyist or working with trade associations, contributions to politicians)**
- Has this ever happened in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such behavior (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
  - Were the people involved rewarded? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
  - Have you rewarded others for this or a similar behavior in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
10. **Companies often ask for help from the government to reduce the cost of developing new sites or businesses. This may be in the form of subsidies, direct or indirect, tax relief, debt relief, land consolidation, etc.**
- Has this ever happened in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such behavior (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
  - Were the people involved rewarded? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
  - Have you rewarded others for this or a similar behavior in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
11. **A company can better understand its social and environmental impacts by developing annual reports that address these issues. Does your corporation prepare a sustainability report as part of the annual reporting process?**
- Has this every happened in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such behavior (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
  - Were the people involved rewarded? Yes \_\_\_ No \_\_\_ I don't know \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
  - Have you rewarded others for this or a similar behavior in your company? Yes \_\_\_ No \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
12. **A company can better manage its environmental impacts by developing an effective environmental management system (EMS) that addresses these issues. The company may prepare an EMS report as part of the annual reporting process under the ISO14000 guideline.**
- Has your company done either of these things? Yes \_\_\_ No \_\_\_ I don't know \_\_\_  
If yes, was the last instance of such behavior (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*
  - Were the people involved rewarded? Yes \_\_\_ No \_\_\_ I don't know \_\_\_  
If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than 2 years ago?*

- c. Have you rewarded others for this or a similar behavior in your company? Yes \_\_\_ No \_\_\_  
 If yes, was the last instance of such reward (check one) \_\_\_ in the last 2 years; \_\_\_ more than  
 2 years ago?

Please read each statement and then circle the number which best shows how you feel today.  
 1= Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree

For part A of each question check one of the boxes that indicate how your opinion has changed over the  
last five years.

14. Governments license corporations with the expectation that net social benefits will be derived  
 e.g. jobs, tax income, economic development, etc. 1.....2.....3.....4.....5  
 14A. I now agree with this statement (check one):  
 much less than  less than  the same as  more than  much more than I did five years  
 ago.

15. Corporations have created externalities with negative health, social,  
 and environmental consequences. 1.....2.....3.....4.....5  
 15A. I now agree with this statement (check one):  
 much less than  less than  the same as  more than  much more than I did five years  
 ago.

16. I am concerned about off shore outsourcing of American businesses  
 to developing countries. 1.....2.....3.....4.....5  
 16A. I now agree with this statement (check one):  
 much less than  less than  the same as  more than  much more than I did five years  
 ago.

17. I am concerned about the cost of externalities created by corporations  
 and their effect on society. 1.....2.....3.....4.....5  
 17A. I now agree with this statement (check one):  
 much less than  less than  the same as  more than  much more than I did five years  
 ago.

18. Corporations bear responsibility for reducing and/or  
 eliminating the negative externalities they create. 1.....2.....3.....4.....5  
 18A. I now agree with this statement (check one):  
 much less than  less than  the same as  more than  much more than I did five years  
 ago.

19. I am concerned about the overuse/exploitation of public  
 resources. 1.....2.....3.....4.....5  
 19A. I now agree with this statement (check one):  
 much less than  less than  the same as  more than  much more than I did five years  
 ago.

20. Increasing demands on public resources without restraint is a serious  
 problem now. 1.....2.....3.....4.....5  
 20A. I now agree with this statement (check one):  
 much less than  less than  the same as  more than  much more than I did five years  
 ago.

21. **We need to regulate the use of public resources.** 1.....2.....3.....4.....5  
 21A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
22. **Corporations should use their power and influence responsibly in keeping with a broad social contract (this is often described as corporate social responsibility)** 1.....2.....3.....4.....5  
 22A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
23. **Overuse is the main concern for preserving common resources.** 1.....2.....3.....4.....5  
 23A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
24. **I believe that to make more profit, corporations must exploit the environment and utilize common resources as much as possible.** 1.....2.....3.....4.....5  
 24A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
25. **I consider the broad social impact of every decision I make regarding resources.** 1.....2.....3.....4.....5  
 25A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
26. **If my company despoils the commons (i.e., makes disproportionate use “beyond normal wear and tear”), it is the company’s responsibility to remediate the damage.** 1.....2.....3.....4.....5  
 26A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
27. **A company should lobby government bodies to forestall or eliminate penalties for making disproportionate use of the commons.** 1.....2.....3.....4.....5  
 27A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
28. **My company practices corporate social responsibility even if it sometimes decreases profitability.** 1.....2.....3.....4.....5  
 28A. *I now agree with this statement (check one):*  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*

- 29. The social responsibility of business is to increase its profits.** 1.....2.....3.....4.....5  
**29A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
- 30. My company tries to help preserve the environment by creating new products and services that conserve resources and that are environmentally friendly.** 1.....2.....3.....4.....5  
**30A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
- 31. I am concerned about the environment, pollution and global warming and the legacy we are leaving to our children.** 1.....2.....3.....4.....5  
**31A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
- 32. It is expected that a business will cause some harm to the environment because it is a normal function of the business process.** 1.....2.....3.....4.....5  
**32A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
- 34. My corporation tries to reduce the environmental problems created by its business process.** 1.....2.....3.....4.....5  
**33A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
- 34. My company is trying to be more environmentally responsible and continues to head in that direction.** 1.....2.....3.....4.....5  
**34A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
- 35. Corporations have created externalities to help economic growth.** 1.....2.....3.....4.....5  
**35A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*
- 36. My company reneged on a promise to create a certain number of jobs in a municipality in exchange for tax breaks or similar considerations.** 1.....2.....3.....4.....5  
**36A. I now agree with this statement (check one):**  
 *much less than*    *less than*    *the same as*    *more than*    *much more than I did five years ago.*



37. If a state refused to charter my corporation or license a business activity, I would shop around for a state that would grant the desired permissions. 1.....2.....3.....4.....5  
 37A. I now agree with this statement (check one):  
 much less than    less than    the same as    more than    much more than I did five years ago.
38. Please categorize your industry type, choosing one from the list below. (check one)  
 Aerospace    Software    Other
39. Your job function?  
 Manager    Director    VP or Sr. VP    Sr. Management  
 Corporate Responsibility Officer    Other \_\_\_\_\_
40. Your organization size (number of employees in total)?  
 Less than 100    100-499    500-999    1000-2499  
 2500-4999    5000-9999    10,000-24,999    25,000 or more
41. Your company sales revenue range?  
 Less than 25 million    25-50 million    25-100 million    100-200 million  
 200-300 million    300-500 million    500 million-1 billion    more than 1 billion
42. What is your gender?    Male    Female
43. What age group are you in? (check one)  
 under 20    20-30    31-40    41-50  
 51-60    61-70    71+
44. What is your income?  
 Less than \$36,000    \$36,601 - \$71,000  
 \$71,001 - \$115,000    More than \$115,001
45. What is your marital status?    Married    Single
46. What is your ethnic origin? (check one)  
 Hispanic/Latino    White/Caucasian    Black/African American  
 Asian    Middle Eastern    Other \_\_\_\_\_

**47. What is your highest level of education? (check one)**

- Elementary thru 8<sup>th</sup> grade
- High school thru twelfth grade
- Two year degree
- Four year degree
- Post Graduate studies
- Other \_\_\_\_\_

Use the space below to write comments or elaborations on any questions/answers.  
THANK YOU.

## A Survey of Environmental Attitude (Citizens/Consumers)

Corporations create beneficial products and services. Sometimes the selling price of the product or service does not fully cover the costs (including corporate taxes and risks of creating the product or service). These excess costs and risks, when borne by the general public, are called “externalities”. They include air, water, soil and noise pollution, medical problems and costs, and unfunded infrastructure needs, etc. The exhaust from our cars is a common example of an externality. It causes many health problems and contributes to global warming.

Corporations may also create “positive” externalities, for example, by training staff who then become more competitive on the job market, contributing to local communities, and providing meaningful work and products that improve the quality of life.

Our air, water (lakes, streams, and rivers), parks, and roads—when they are not privately owned—are called “common resources” or “commons”. The commons are owned in common by all citizens and usually administered by the government. Externalities often take the form of encroachments, such as excessive use of groundwater, on the commons that lead to declining value of these resources.

This survey is an attempt to categorize the trends of Americans’ attitudes toward the creation of these externalities. So I would like to ask you some questions about your opinions on the use of the commons and on the creation and remediation of externalities.

This survey contains 43 questions. For each question, please read each statement and then circle the number which best shows how you feel today. 1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree

For part A of each question check the box that best indicates how your opinion has changed over the last five years.

1. I am concerned about off shore outsourcing of American businesses to developing countries. 1.....2.....3.....4.....5  
1A. I now agree with this statement (check one):  
 much more than  more than  the same as  less than  much less than I did five years ago.
2. I am concerned about the loss of American jobs in favor of cheaper labor. 1.....2.....3.....4.....5  
2A. I now agree with this statement (check one):  
 much more than  more than  the same as  less than  much less than I did five years ago.
3. Corporations are still creating many environmental and social external costs, such as pollution. 1.....2.....3.....4.....5  
3A. I now agree with this statement (check one):  
 much more than  more than  the same as  less than  much less than I did five years ago.
4. I am concerned about the cost of externalities created by corporations and their effect on society. 1.....2.....3.....4.....5  
4A. I now agree with this statement (check one):  
 much more than  more than  the same as  less than  much less than I did five years ago.

5. **Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.** 1.....2.....3.....4.....5  
*5A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
6. **The government should regulate corporations to reduce the creation of pollutants.** 1.....2.....3.....4.....5  
*6A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
7. **Externalities created by corporations are more harmful and collectively more damaging than ever.** 1.....2.....3.....4.....5  
*7A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
8. **I am concerned about the overuse/exploitation of public resources.** 1.....2.....3.....4.....5  
*8A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
9. **I feel personally responsible for preserving public resources.** 1.....2.....3.....4.....5  
*9A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
10. **I am concerned when I hear about public resources being exploited, ruined or destroyed.** 1.....2.....3.....4.....5  
*10A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
11. **Increasing demands on public resources without restraint is a serious problem now.** 1.....2.....3.....4.....5  
*11A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
12. **Corporations continue to use public resources without compensating the public.** 1.....2.....3.....4.....5  
*12A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*
13. **Corporations are overusing public resources at a much greater rate now.** 1.....2.....3.....4.....5  
*13A. I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than I did five years ago.*

14. **We need to regulate the use of public resources.** 1.....2.....3.....4.....5  
 14A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
15. **I try to preserve public resources to provide better opportunities for future generations.** 1.....2.....3.....4.....5  
 15A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
16. **Overuse is the main concern for preserving common resources.** 1.....2.....3.....4.....5  
 16A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
17. **I study the possible impact before I use public resources as described in the introduction.** 1.....2.....3.....4.....5  
 17A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
18. **I only utilize public resources when I really need them.** 1.....2.....3.....4.....5  
 18A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
19. **Large corporations drive our economy and they have the right to exploit public resources.** 1.....2.....3.....4.....5  
 19A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
20. **Some part of common resources must be privatized and be subject to a price in order to best protect and utilize them.** 1.....2.....3.....4.....5  
 20A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
21. **The use of common resources should be on a first come first served basis.** 1.....2.....3.....4.....5  
 21A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.
22. **Everyone should be free to use common resources as much as they want before others do, even if it hurts the common good.** .....2.....3.....4.....5  
 22A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than* I did five years ago.

23. **Individual, corporate and government responsibility is even more important now to protect and preserve our common resources.** 1.....2.....3.....4.....5  
 23A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
24. **I get upset when I learn that people or corporations create harmful environmental pollution intentionally or by accident.** 1.....2.....3.....4.....5  
 24A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
25. **Developing awareness in all of us can help protect and preserve our resources** 1.....2.....3.....4.....5  
 25A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
26. **Increasing consumption demands are depleting the world's natural resources.** 1.....2.....3.....4.....5  
 26A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
27. **I think now before putting something harmful into the environment – e.g. sewage, chemical, radioactive, or heat wastes into water, noxious or dangerous fumes into the air.** 1.....2.....3.....4.....5  
 27A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
28. **We worry too much about the future of the environment and not enough about prices and jobs today.** 1.....2.....3.....4.....5  
 28A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
29. **I am concerned about our ability to halt or reverse global warming.** 1.....2.....3.....4.....5  
 29A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
30. **I believe environmental protection is more important than economic growth.** 1.....2.....3.....4.....5  
 30A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*
31. **I do not believe that the environment is as polluted as people say.** 1.....2.....3.....4.....5  
 31A. *I now agree with this statement (check one):*  
 *much more than*    *more than*    *the same as*    *less than*    *much less than*   *I did five years ago.*

32. **People worry too much about economic progress harming the environment.** 1.....2.....3.....4.....5  
 32A. *I now agree with this statement (check one):*  
 much more than  more than  the same as  less than  much less than I did five years ago.
33. **Natural resources have finite limits.** 1.....2.....3.....4.....5  
 33A. *I now agree with this statement (check one):*  
 much more than  more than  the same as  less than  much less than I did five years ago.
34. **Massive changes in climate will occur because of human misuse of common resources of common resources.** 1.....2.....3.....4.....5  
 34A. *I now agree with this statement (check one):*  
 much more than  more than  the same as  less than  much less than I did five years ago.
35. **The world climate will probably massively change if carbon dioxide continues to be emitted into the atmosphere in as huge amounts as it is now.** 1.....2.....3.....4.....5  
 35A. *I now agree with this statement (check one):*  
 much more than  more than  the same as  less than  much less than I did five years ago.
36. **I believe that information is increasingly necessary to be aware of the effects our actions have on the environment.** 1.....2.....3.....4.....5  
 36A. *I now agree with this statement (check one):*  
 much more than  more than  the same as  less than  much less than I did five years ago.
37. **What is your gender?**  Male  Female
38. **What age group are you in?**  
 under 20  20-30  31-40  41-50  
 51-60  61-70  71+
39. **What is your income?**  
 Less than \$36,000  \$36601 - \$71,000  
 \$71,001 – \$115,000  More than \$115,001
40. **What is your marital status?**  Married  Single
41. **What is your ethnic origin? (check only one)**  
 Hispanic/Latino  White/Caucasian  Black/African American  
 Asian  Middle Eastern  Other \_\_\_\_\_
42. **What is your profession/occupation? (check only one)**  
 Business employee  Executive  Self-employed  Unemployed  
 Manager  Civil servant  Retired  Other \_\_\_\_\_

43. **What is your highest level of education?** (check only one)

- Elementary thru 8<sup>th</sup> grade       Two year degree       Post Graduate studies  
 High school thru twelfth grade       Four year degree

Other \_\_\_\_\_

Use the space below to write comments or elaborations on any questions/answers. THANK YOU.



## APPENDIX B: Corporate Questions and Abbreviations

Abbreviations	Questions
SCEN1	First, have you ever had any discussions with colleagues at the corporation about how global climate change might affect your company or organization's social responsibility?
SCEN2	Have you ever had any discussions with colleagues at the corporation about how resource shortages or price increases are, or might in the near future, affect your company or organization's responsibility?
SCEN3	Does your company include any discussion of external costs, resource shortages, or common resources in the annual report?
SCEN4	My company pursued a government bailout because of a failing business operation.
SCEN5	Does your company engage in activities that cause environmental costs to society?
SCEN6	Previously unresolved external costs are often realized when a change in ownership or use occurs. For example, if a company sells an abandoned factory site environmental liabilities may be discovered.
SCEN7	A company may reduce harmful environmental impacts by adopting new "Green" manufacturing processes, installing anti-pollution control devices and/or other methods. They may do this to contribute to the well-being of society-or perhaps in anticipation of government regulation, but not as a response to a current regulation or court decision.
SCEN8	A pharmaceutical company's popular drug was shown to deliver a much higher and potentially harmful amount of active ingredient than was shown on its label. Because this drug had already been approved by the FDA (Food and Drug Administration) rather than accept responsibility, the company's court defense focused on the "pre-emption doctrine," that is, that the FDA's decisions should not be second-guessed by the courts.
SCEN9	Companies sometimes ask for help from the government to change laws or regulations in order to reduce costs or reduce the regulatory burden (hiring a lobbyist or working with trade associations, contributions to politicians)
SCEN10	Companies often ask for help from the government to reduce the cost of developing new sites or businesses. This may be in the form of subsidies, direct or indirect, tax relief, debt relief, land consolidation, etc.
SCEN11	A company can better understand its social and environmental impacts by developing annual reports that address these issues. Does your corporation prepare a sustainability report as part of the annual reporting process?
SCEN12	A company can better manage its environmental impacts by developing an effective environmental management system (EMS) that addresses these issues. The company may prepare an EMS report as part of the annual reporting process under the ISO14000 guideline.
EXT14	Governments license corporations with the expectation that net social benefits will be derived e.g. jobs, tax income, economic development, etc.

EXT15	Corporations have created externalities with negative health, social, and environmental consequences.
EXT16	I am concerned about off shore outsourcing of American businesses to developing countries.
EXT17	I am concerned about the cost of externalities created by corporations and their effect on society.
EXT18	Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.
PR19	I am concerned about the overuse/exploitation of public resources.
PR20	Increasing demands on public resources without restraint is a serious problem now.
PR21	We need to regulate the use of public resources.
PR22	Corporations should use their power and influence responsibly in keeping with a broad social contract (this is often described as corporate social responsibility)
PR23	Overuse is the main concern for preserving common resources.
PR24	I believe that to make more profit, corporations must exploit the environment and utilize common resources as much as possible.
PR25	I consider the broad social impact of every decision I make regarding resources.
PR26	If my company despoils the commons (i.e., makes disproportionate use “beyond normal wear and tear”), it is the company’s responsibility to remediate the damage.
PR27	A company should lobby government bodies to forestall or eliminate penalties for making disproportionate use of the commons.
PR28	My company practices corporate social responsibility even if it sometimes decreases profitability.
PR29	The social responsibility of business is to increase its profits.
PR30	My company tries to help preserve the environment by creating new products and services that conserve resources and that are environmentally friendly.
PR31	I am concerned about the environment, pollution and global warming and the legacy we are leaving to our children.
PR32	It is expected that a business will cause some harm to the environment because it is a normal function of the business process.
PR33	My corporation tries to reduce the environmental problem created by its business process.
PR34	My company is trying to be more environmentally responsible and continues to head in that direction.
ENV35	Corporations have created externalities to help economic growth.
ENV36	My company reneged on a promise to create a certain number of jobs in a municipality in exchange for tax breaks or similar considerations.
ENV37	If a state refused to charter my corporation or license a business activity, I would shop around for a state that would grant the desired permissions.

APPENDIX C: Consumer Questions and Abbreviations

Abbreviation	Question
EXT1	I am concerned about offshore outsourcing of American businesses to developing countries.
EXT2	I am concerned about the loss of American jobs in favor of cheaper labor.
EXT3	Corporations are still creating many environmental and social external costs, such as pollution.
EXT4	I am concerned about the cost of externalities created by corporations and their effect on society.
EXT5	Corporations bear responsibility for reducing and/or eliminating the negative externalities they create.
EXT6	The government should regulate corporations to reduce the creation of pollutants.
EXT7	Externalities created by corporations are more harmful and collectively more damaging than ever.
PR8	I am concerned about the overuse/exploitation of public resources.
PR9	I feel personally responsible for preserving public resources.
PR10	I am concerned when I hear about public resources being exploited, ruined or destroyed.
PR11	Increasing demands on public resources without restraint is a serious problem now.
PR12	Corporations continue to use public resources without compensating the public.
PR13	Corporations are overusing public resources at a much greater rate now.
PR14	We need to regulate the use of public resources.
PR15	I try to preserve public resources to provide better opportunities for future generations.
PR16	Overuse is the main concern for preserving common resources.
PR17	I study the possible impact before I use public resources, as described in the introduction.
PR18	I only utilize public resources when I really need them.
PR19	Large corporations drive our economy and they have the right to exploit public resources.
PR20	Some part of common resources must be privatized and be subject to a price in order to best protect and utilize them.
PR21	The use of common resources should be on a first come first served basis.
PR22	Everyone should be free to use common resources as much as they want before others do, even if it hurts the common good.
PR23	Individual, corporate and government responsibility is even more important now to protect and preserve our common resources.
ENV24	I get upset when I learn that people or corporations create harmful environmental pollution intentionally or by accident.
ENV25	Developing awareness in all of us can help protect and preserve our resources
ENV26	Increasing consumption demands are depleting the world's natural resources.
ENV27	I think now before putting something harmful into the environment – e.g. sewage, chemical, radioactive, or heat wastes into water, noxious or dangerous fumes into the air.
ENV28	We worry too much about the future of the environment and not enough about prices and jobs today.

ENV29	I am concerned about our ability to halt or reverse global warming.
ENV30	I believe environmental protection is more important than economic growth.
ENV31	I do not believe that the environment is as polluted as people say.
ENV32	People worry too much about economic progress harming the environment.
ENV33	Natural resources have finite limits.
ENV34	Massive changes in climate will occur because of human misuse of natural resources.
ENV35	The world climate will probably change massively if carbon dioxide continues to be emitted into the atmosphere in as huge amounts as it is now.
ENV36	I believe that information is increasingly necessary to be aware of the effects of our actions have on the environment.

APPENDIX D: Hypotheses and Variables Used

Hypothesis	Variables (Questions) Used
H1a ( <i>corporation</i> ) Externalities	EXT14, EXT15, EXT16, EXT17, EXT18, EXT35, EXT36, EXT37
H1b Public Resources	PR19, PR20, PR21, PR22, PR23, PR24, PR25, PR26, PR27, PR28
H1c Environment	CSR29, ENV30, ENV31, ENV32, ENV33, ENV34
H2a ( <i>consumer</i> ) Externalities	EXT1, EXT2, EXT3, EXT4, EXT5, EXT6, EXT7
H2b Public Resources	PR8, PR9, PR10, PR11, PR12, PR13, PR14, PR15, PR16, PR17, PR18, PR19, PR20, PR21, PR22, PR23
H2c Environment	ENV24, ENV25, ENV26, ENV27, ENV28, ENV29, ENV30, ENV31, ENV32, ENV33, ENV34, ENV35, ENV36
H3, H5,	<i>Corporation:</i> EXT15, EXT16, EXT17, EXT18, EXT35, <i>Consumer:</i> EXT1, EXT4, EXT5, EXT7, EXT23
H4, H6	<i>Corporation:</i> PR19, PR20, PR21, PR23, PR25 <i>Consumer:</i> PR8, PR11, PR14, PR16, PR17
H7 ( <i>cluster</i> )	<i>Corporation</i> Externality: EXT14, EXT15, EXT16, EXT17, EXT18, EXT35, EXT36, EXT37, Public resources: PR19, PR20, PR21, PR22, PR23, PR24, PR25, PR26, PR27, PR28, Environment: CSR29, ENV30, ENV31, ENV32, ENV33, ENV34 <i>Consumer</i> Externality: EXT1, EXT2, EXT3, EXT4, EXT5, EXT6, EXT7, Public resources: PR8, PR9, PR10, PR11, PR12, PR13, PR14, PR15, PR16, PR17, PR18, PR19, PR20, PR21, PR22, PR23, Environment: ENV24, ENV25, ENV26, ENV27, ENV28, ENV29, ENV30, ENV31, ENV32, ENV33, ENV34, ENV35, ENV36
H8 ( <i>industries</i> )	EXT14, EXT15, EXT16, EXT17, EXT18, EXT35, EXT36, EXT37 PR19, PR20, PR21, PR22, PR23, PR24, PR25, PR26, PR27, PR28
H9 ( <i>corporations</i> )	EXT18, PR28, ENV33, ENV34 SCEN3, SCEN7, SCEN12, ENV30,
H10 ( <i>corporations</i> )	EXT1, ENV32, ENV35, ENV36 SCEN9, SCEN4, PR27, ENV37

## APPENDIX E: Survey Comments

### Some Comments of Consumer Respondents on the Surveys

1. Good luck with your research!
2. Need more possibilities in the above categories. Questions tend to be leading. Was there any consideration to the recent political change in the U.S. as it impacts the questions in the second section (5 years +/-)?
3. Even I do not believe in Global Warming issue that the people are now starting to concern. I disagreed with Mr. Gore. But I strongly agreed with the problem issues that we're facing on the Climates and environmental situations. Yes, most corporations have major parts to create all these and making it evens more concerns for the next and next generations to come.
4. I think it's the time for us to plan ahead about the environment before our children grow up with unhealthy. Because they have to breath the bad air and have food poison from plants. We should help nature by stop wasting overuse from nature like water or tree and help saving wild animals' life from extinguishment.
5. I think the issue is more a world wide problem than just a US of A problem. I think the whole world needs to wake up, particularly where the industrial base now is, which is not the US of A.
6. Some of the questions were a little ambiguous, but I answered as best as I could. I hope this helped. Good luck with your doctoral.
7. I believe the questionnaire is a little biased against corporations in general. There are other very important confounds in this issue. The following is why I believe consumers are equally responsible for the misuse of resources and creating greed.
  1. Consumers are fickle. They make the decision to BUY AND SELL or throw away. THE ARTIC AND SOUTH POLE are FULL OF CONSUMER PRODUCTS WASTE such as PLASTICS.
  2. Consumers can decide not to work with corporations that pollute and ruin the environment.
  3. Countries around the world do not have recycling systems in place that is a government issue of not caring about the environment. For example: 1) Japan has a very good system because they want to make sure there is not a problem with pollution around their islands or in their seas. They are very strict. 2) California has a recycling system on merit, and faith. Most people who care about the future and the immediate environment do recycle here in California. Counties and cities have implemented recycling systems however,

neighborhoods AND demographics with degrees of income come into play here. Unlike Japan, California does not have laws to force recycling. TAKE A WALK ON THE BEACH IN LA JOLLA AND SEE HOW MANY THINGS FROM CONSUMERS HAVE WASHED ASHORE IN ONE DAY. YOU have to also understand that everyday the beaches are cleaned of the consumer waste products.

4. R&D's in corporations have not been paid to find ways of saving the environment through innovations in packaging of products. One of the worst problems is plastic bottled water. The plastic is made from Petroleum (oil) and the consumer buys the products. If you have ever tasted the bottled water that has been in the heat or sun you will know what I am saying.

5. If consumers decided not to buy a product then the company no longer has a demand and will have to find another way to stabilize their profits and loses with another product.

6. Most products are now coming from China, a country that has no thought to the environmental concerns of the world as a whole. So sorry to be using this country as an example... however, truthfully speaking they have been producing Pollutants to the air, in massive forms; to the rivers, killing all life; and, to the seas, where the pollution eventually reaches. Most of the world buys products plus outsources to this country and India, because of lower costs of materials and labor. Eventually, this country will run out of natural resources like the rest of the world is now facing.

**Reflection:**

I have been researching these issues for many years. Having a BS in International Business from this school (2003), has been quite enlightening. Professors introduced and addressed the issues you have stated in your survey to their students as part of the ethical and unethical outcomes of Global businesses. Leadership effectiveness and change was their platform.

Thank you for the opportunity to be part of this Questionnaire. I hope you found my input of value in some way. I know your field was narrow and accountable only for corporations however, that does not give the whole picture or to me the real truth. We, you and I have the choice to stop the crisis by not using the products that create the loss of fresh air, loss of life, loss of drinkable life saving water, and rich fertile soil.

8. I cannot remember how I felt 5 year ago.
9. Do NOT assume that there is global warming (still scientific evidence that we could be going into a cooling trend) and that human activity is largely responsible, as there is much scientific evidence to the contrary.

10. For the past 20 years I have always had an interest in issues related to environmental pollution, hazardous material use, and resource depletion. In most of these issues, the situation is better than it was 20 years ago (or 5 years ago), except for carbon dioxide emissions and the ability of the earth to assimilate and regulate its use.
11. Your questions are confusing because you've identified defined terms "commons" and "externalities" and then use "public resources" which is not defined in the introduction. Were public resources both commons and externalities? Air and soil are listed under both, so my only conclusion was that they were.
12. I have been concerned about this for years and am happy to live in a political climate like the SF Bay area where others are similarly concerned and educated.
13. Great job, Joy! It looks like you were able to make Survey Monkey work.
14. I feel that this form of survey could be even more valuable if it were accessible to more of the masses from around the globe. The results no doubt would offer a more clear understanding as to whom believes what and at what cost. Good luck.
15. Some of the questions seemed a little ambiguous. I hope I helped your survey.
16. There seems to be a bias in this survey that assumes "corporations" are the cause of our environmental problems, like a scapegoat for environmental problems, when probably individuals and governments out of our control may be causing the largest damage. You start out with the first 2 questions that large corporations have definitely look to be at fault for - outsourcing of American jobs, and then link them to environmental issues. I'm not sure that is very objective.
17. The environment is a problem, depleting resources is a problem, and radical misunderstanding is even a bigger problem.

The media is controlled and very bias in it's direction. It does not matter your political affiliations we are being told there is no oil and prices will be over \$5.00 per gallon...the economy changes and we art at \$1.69.

Everything you asked is a problem and we should do all we can to be good citizens of the Earth. Common sense is lacking in the political world and the Business world as well.

There must be a balance of knowledge, fear and common sense.

Best of luck to you and to the USA!



When I need help with a product, I need someone that speaks English! I don't want you to have all my personal information so you can only guess how I feel about people in other countries having mine.

18. Unfortunately this comes at a very inappropriate time. We need more jobs and we are in a recession. How can we convince corporations to stay in the states so we can have more jobs and then put more restrictions and financial obligations on them. At this time, I believe we need to encourage our businesses and at the same time give them guidance on how to use our natural resources to the best advantage for them and for us and for our grandchildren.
19. I found the questions skewed toward certain answers that you may be trying to achieve. I didn't particularly like the choices given for the answers; therefore, the answers might not reflect the true belief of the subject matters.
20. I will be a little confused in section two to answer some questions.
21. The last part of your survey is a little confusing: in asking whether the respondents "agree" with those sentences more or less than they did 5 years ago, what if a respondent didn't agree with a few sentences 5 years ago and even now? In this case, they cannot really choose "agree much less than" or "agree much more than" they did 5 years ago.

The first section contains exactly the same sentences and respondents choose from strongly disagree to strongly agree. The second section only focuses on how much more or how much less they "agree" with such and such compared to 5 years ago. This could contradict with their response in the first section.

I didn't mean to criticize your work, but as a former PhD student I think my comments might be useful (I always needed comments from faculty and friends when I did my research). If I misunderstand your survey question, I apologize.

Best of luck on your dissertation! :)

22. Many of the questions were worded such that none of the available answers were exactly accurate.
23. Hi Joy Limprayoon,  
I think you should organize your survey into 4 page (this could make people see the questionnaire shorter).
  - the first page should be introduction
  - the fourth page should be demographic information.I think it is hard to combine part one and part two into one with monkey. even if you combine, it would be complicate for respondents.  
Good luck!

### Some Comments of Corporate Executive Respondents on the Research

1. I'm not an executive and not involved in all aspects of my company so it's hard to answer many questions.
2. Good Luck!
3. This survey is dumb. It pre-supposes some very environmentalist positions as accepted truth and leaves minimal room for respondents who do not share those views. The author seems very familiar with the buzz-talk of the environmentalist community, but has only minimal grasp of corporate charters and the fiduciary chain.
4. No one wants to dump toxins in the river, but I want nothing other than the rule of law from government and I want them to keep their nose out of my business (which is my personal property). I have created dozens of well-paying jobs and I care about my employees as people but I am not their Daddy. I want nothing to do with their healthcare, retirement or any other part of their personal life. I am the buyer of their labor, they are the seller. End of story.
5. This survey was poorly put together and the author's intent is obvious.
6. Whereas these questions apply to perhaps manufacturing companies, I found that for the software industry sector most didn't apply.
7. Should provide other options like "Don't know" or "No idea".
8. Thank you!
9. You did not specify why the company would be turned down.
10. These are biased questions. Corporations build economy and jobs for citizens.
11. I do not see why you investigate my company as we are a good citizens.
12. Question 2 requires you to fill in a position from the drop-down menu even though it gives you a fill-in for "other" (which isn't a choice).
13. Our points of view and opinions on these topics have really changed in the last 5 years; we are all becoming more responsible.

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